

2022

## High School Completion Categories and Post-High School Plans as Predictors of GED Certificate Attainment in a Virginia Alternative Education Program

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# Walden University

College of Education

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Joseph Leon Knight

has been found to be complete and satisfactory in all respects,  
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Walden University  
2022

Abstract

High School Completion Categories and Post-High School Plans as Predictors of GED

Certificate Attainment in a Virginia Alternative Education Program

by

Joseph Leon Knight

MA, Long Island University, 1985

BS, Norfolk State University, 1969

Project Study Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Education

Walden University

May 2022

## Abstract

A state-wide Individual Student Alternative Education Plan (ISAEP) seeks to assist high school (HS) students at risk of not graduating in completing HS credentials. The problem was that there was no formal state-wide process for monitoring the program to understand its impact. The purpose of this quantitative exploratory study was to determine whether the graduation variables that were published by the state could be used to predict ISAEP GED attainment. The Theory of Action proposed by McPartland and Jordan guided two main research questions to see if ISAEP GED attainment could be predicted by categories of HS completion, and if ISAEP GED attainment could be predicted by students' post-HS plans. An archived convenience sample of ISAEP ( $N = 131$ ) and non-ISAEP ( $N = 171$ ) schools was downloaded from a public-access database provided by the state. A weighted least squares regression (WLSR) revealed that two of the six graduation categories; Standard Diplomas and Advanced Studies Diplomas, significantly predicted ISAEP GED attainment,  $F(2, 86) = 10.934, p < .001$ , with Advanced Studies being negatively related. A second WLSR was significant with two of the six post-high school plan variables. Other Continuing Education and Military Service predicted ISAEP GED,  $F(3, 85) = 7.614, p < .001$  better than the mean model alone. Because other variables are collected at the school level and not made available in the public database, it was recommended that a data committee be formed to study alternative variables that could be published by the state to improve the fidelity of future studies and the ability to continue adding to the understanding of how the ISAEP is related to student achievement. Positive social change is achieved when alternative education programs result in greater student success.

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## Dedication

First and foremost, this study is dedicated to my loving deceased mom, Mrs. Adell V. Knight, who always referred to me from childhood as her little “professor.” I also honor my oldest sibling Alice, for encouraging me to stay focus completing this journey again. I am also very grateful to my six siblings who kept me grounded to the charge, continuously reminding me to never give in due to my many collegiate obstructions. My ultimate gratitude is extended to my God for shining the glimmering and now bright light at the end of the tunnel.

## Acknowledgments

I would like to acknowledge unlimited thanks to my doctoral chair, Dr. Richard Hammett for his phenomenal caring guidance and counsel, my true academic hero navigating me out of the storm into the light. Dr. Richard Hammett, Walden University's greatest asset, was always patiently supportive correcting and encouraging me all the way. I am grateful to Dr. Steve Brophy, my methodologist and committee member for his review, suggestions, and recommendations always kind and caring. Thank you, Dr. Laura Siaya, URR committee member for your dedicated support and all Walden University administrative associates and academic advisors, especially Dr. Joshua Bass.

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## Section 1: The Problem

According to the National Center for Education Statistics (NCES) of the U.S. Department of Education (USDOE, 2021), from 2010–2019, 2.1 million high school dropouts between the ages of 16–24 were not enrolled in school and had not earned a diploma or an equivalency credential such as the general education diploma® (GED) certificate. Although not including specific differences between Black, Hispanic, and White students, the NCES (2021) noted that, although the national dropout rate decreased from 9.7% in 2006 to 5.3% in 2018, the rate for Black and Hispanic students, ages 16–24 years, who dropped out of high school was higher than the rate for White students of the same ages who dropped out of high school (NCES, 2021). High school noncompletion is a lingering problem in the United States. Furthermore, not only is the problem significant in size, but it is also associated with many social and economic challenges in addition to being correlated with race and ethnicity.

Weise (2018) suggested that high school students who fail to graduate are more at risk or more likely to be unemployed or underemployed and that they earn little or no income to sustain themselves or their families. Manspile and Hall (2018) reported that individuals who drop out of high school are far more likely to spend their lives periodically unemployed, on government assistance, or cycling in and out of the prison system. The U.S. Bureau of the Census, Child Trends Databank (2018) found that young adults who have not graduated from high school are incarcerated at higher rates than those with higher levels of educational attainment. The dropping out behavior among the nation's students is a critical issue because the demand is increasing for highly skilled

technology workers, skills that are often foundational for high school completion (Şahin et al., 2016). Alternatives to traditional high school completion have been suggested as one solution for mitigating this problem.

A long-standing and integral part of efforts in the United States to address the national declining graduation rate has been the use of alternative schools. According to Raywid (1994), institutional legitimacy was used to question the legality and adoption of alternative schools. Although these schools have proven effective for helping some students graduate from high school, they are not a panacea for the problem of high school dropout. Alternative schools have been touted as warehouses for students of color and low-achieving students, a practice that has negatively affected school accountability and performance outcomes (Fresques & Heather, 2017). In summary, the problem of high school noncompletion in the United States is significant in size, scope, and socioeconomic ramifications. A more recent manifestation of alternative schools has been the creation of alternative education programs within traditional high schools.

Addis et al. (2020) summarized four decades of research-based implications and benefits for leveraging alternative education programs. Three benefits of alternative education programs have been (a) high levels of academic gains, behavioral improvement, and graduation outcomes for even the most at-risk students; (b) the development of strategies, approaches, and solutions that, if implemented properly, significantly improve the effectiveness of existing alternative schools; and (c) improved school accountability (Addis et al., 2020). Attaining the GED<sup>®</sup> certificate is a goal of students and administrators of alternative education programs. Successful alternative

education programs are organized and structured to provide a sense of community, engagement, and learning to students who are at risk of dropping out of school (Addis et al., 2020).

### **The Local Problem**

Different Individual Student Alternative Education Plan (ISAEP; Virginia Department of Education [VDOE], 2019b) program factors indicate disparities in GED certificate attainment across Virginia high schools. The problem addressed in this study was to determine whether the differences in GED certificate attainment were significant between ISAEP program high schools and non-ISAEP high schools and if so, whether a relationship existed between or among ISAEP GED certificates awarded and the other variables collected and reported annually by the Virginia Department of Education (VDOE). If relationships can be found between the ISAEP GED certificate attainment and the collected predictor variables, then recommendations could be made to improve the noted disparities. If no relationships are found, then recommendations could be made to collect different types of data for future analysis.

The ISAEP program prepares high school students who are at risk of not completing high school to earn the GED certificate while developing career and technical education (CTE) skills (VDOE, 2019c). Most high schools in Virginia participate in the ISAEP, a state-funded alternative education program. However, school performance data from 2016–2017 missed the mark of the efficiency of the ISAEP-required, statewide program components for school divisions in:

- Academic preparation for the GED Test,
- Career guidance and counseling (including emerging career opportunities),
- Enrollment in career and technical training, and
- Academic and Career/technical preparation).

The outcome of declining high school completers had become prevalent throughout many Virginia ISAEP program school divisions.

Disparities in educational attainment among population groups have characterized the United States throughout its history. Education is sometimes characterized as the “great equalizer”; however, to date, the country has not found ways to successfully address the adverse effects of socioeconomic circumstances, prejudice, and discrimination that suppress performance for some groups (Edley et al., 2019). Failure to meet students’ educational needs increases disengagement and dropouts, increasing the risk of later court involvement. Even worse, schools might encourage students not to return because of pressures from test-based accountability regimes such as the No Child Left Behind Act of 2001 that generated incentives to push out low-performing students to boost overall test scores (American Civil Liberties Union, 2021).

The state of Virginia formalized procedures for encouraging students to obtain high school credentials, including the GED certificate. The state created the ISAEP program to facilitate GED certificate attainment for qualified students, but it has not evaluated available variables that might be related to actual GED certificate attainment within the state’s schools (VDOE, 2020a). The problem addressed in this study was to identify the variables that are most related to GED certificate attainment so that research-



derived recommendations can be made to improve the ISAEP program in terms of its goal to increase GED certificate attainment for at-risk students. Variables that the state collects and are made available for public scrutiny are outlined in Table 1. If the variables that are most related to GED certificate attainment are not identified, then ISAEP program funding might not be used as judiciously as it should be.

**Table 1**

*Virginia Public Data for High School Graduates and Completers*

Available variable	Variable type
ISAEP GED certificates attained	Continuous
GED <sup>®</sup> certificates attained	Continuous
Advanced studies	Continuous
Standard diploma	Continuous
Total graduates	Continuous
Future plans – attend 2-year college	Continuous
Future plans – attend 4-year college	Continuous
Future plans – other continuing education	Continuous
Future plans – obtain employment	Continuous
Future plans – military service	Continuous
Future plans – no plans	Continuous

### **Rationale**

A recent report of high school performance data showed that for 2020–2021 across the United States, alternative education school programs and classrooms served students who were failing in the traditional educational setting. Often this population of learners exhibits one or more of six traits, including: (a) underperforming academically, (b) possessing learning disabilities, (c) displaying emotional or behavioral issues,

(d) being deliberate or inadvertent victims of the behavioral problems of others, (e) displaying a high risk of potential expulsion, suspension, or dropping out of school, and (f) displaying the need for individualized instruction (Tennessee Alternative Education Association, 2021). Gould and Weller (2015) summed up the problem succinctly, suggesting that students fail to complete school each year because of personal, family, school, and community factors.

Many high schools in Virginia offer the ISAEP program for students at-risk of not graduating. The program is designed to prepare high school students to take the GED test. Variances in the Virginia High School Graduates and Completers data further support the need not only to implement alternative education, but also to determine the efficacy of all of the programs currently in use (VDOE, 2020e). The need for empirical research to explore the effectiveness of the Virginia ISAEP program was further confirmed through conversations with ISAEP program directors beginning in 2015 (Former ISAEP program director, personal communication, August 19, 2015; Current ISAEP program director, personal communication, September 21, 2021). Although the ISAEP program has been operational for several decades in most Virginia high schools, its program effectiveness has rarely been evaluated. To improve the completion data for current, high school students who are at risk of not graduating, school divisions, educators, and parents will benefit from an assessment of the short- and long-term goals of the ISAEP program regarding the GED certificate attainment.

Studies have been conducted in the United States on state-approved and state-funded alternative education programs such as the ISAEP program. However, alternative

education programs are typically viewed as punitive and substandard with exclusionary academic settings and disproportionate enrollment (Schornack & Karlsson, 2021).

Furthermore, I show in the review of the literature later in this section that even fewer studies have been centered on the effects or positive outcomes. One notable exception was Ratanavivan and Richards (2018) who reported that improved student motivation and readiness to learn was engendered by more flexible classroom policies designed to assist students in overcoming their disruptive conduct difficulties. Thus, with less research on the efficacy of alternative education program, school accountability performance indicators that have commonly been used (e.g., attendance, achievement, and test scores) do not adequately reflect student progress in an alternative education context (de Velasco & Gonzales, 2017). Therefore, in my study, I add to the research by addressing the accountability of the ISAEP program, GED certificate attainment outcomes, and public review of data to improve the State of Virginia's overall high school graduation rates.

The purpose of my study was to determine if a significant difference exists in Virginia students' GED certificate attainment based on participation in the state's ISAEP program. Based on the research problem of ISAEP program efficacy, I also wanted to determine which variables, among those that the VDOE reports for all high schools annually, are most associated with ISAEP program completion through the attainment of ISAEP related GED certificates. To ascertain the efficacy of the ISAEP program, after reading the literature on alternative education and GED certificate attainment in the United States and the state of Virginia, I concluded that gathering reviewed, research-

based evidence in the public school environment was necessary. Through this study, I hope to provide ISAEP program coordinators and other decision makers with research-derived findings that can be used to shape decisions to improve alternative GED education, thereby improving graduation rates overall.

### **Definition of Terms**

In this section, I define the terminology that I determined to be relevant to the problem, variables of the study, and conceptual ideas.

*Advanced studies:* Elective courses are those that go beyond the basic requirements that earn college credit for students while they attend high school (Learn.org, 2021).

*At-risk student:* A student who has a higher-than-average probability of dropping out or failing school is an at-risk student (VDOE, 2019a). Personal challenges (e.g., overworked, or absent parents, emotional problems, and drug or alcohol abuse) that prevent at-risk students from doing well in school might affect their academic performance (VDOE, 2019a).

*Certificate of program completion:* This certificate is an additional award bestowed at graduation to recognize the completion of programs to develop practical skills (Anderson Community School Special Education Services, 2020).

*Code of Virginia Compulsory Attendance and Home Instruction Statute of 2017 § 22.1-254* (Commonwealth of Virginia, 2017): According to the Commonwealth of Virginia (2017), the basic requirements of this statute are:

- Parents shall send children to school.
- Students shall attend school.
- Schools shall take specific action when children are not enrolled, or students fail to attend.
- Law enforcement officers shall pick up students who skip school; and Juvenile courts shall act against parents and children for failure to attend.

*Expanded learning opportunities:* These opportunities include after school tutorial classes, employment training, and learning community services that are offered as engagement support for the at-risk student population. Through expanded learning opportunities, all children and youths in Virginia are provided access to high-quality, out-of-school-time programs to help prepare them to be successful in school, work, and life (Arlington Partnership for Children, Youth & Families, 2017).

*Individual Student Alternative Education Plan (ISAEP) Annual Program Report:* The Office of Adult Education and Literacy that aggregates the demographic student data of the ISAEP program submits this report annually (VDOE, 2018a).

*ISAEP coordinator:* Participating schools identify and assign this individual to assume responsibility for all ISAEP program matters (VDOE, 2018a).

*ISAEP GED:* A student who participates in the ISAEP program may earn this high school graduation diploma after completing ISAEP program completion requirements: (a) successful completion of GED Test, (b) successful completion of CTE component, and (c) successful completion personal finance curriculum. Completion of

the program is only received when all ISAEP program components have been met (State ISAEP Program Director, personal communication, November 8, 2021).

*Intentions after high school, 2-year college:* A high school graduate planning to attend a community or junior college after high school (State ISAEP program director, personal communication, November 8, 2021).

*Intentions after high school, 4-year college:* A high school graduate planning to attend a college or university after high school pursuing a bachelor's degree (French & Oreopoulos, 2017).

*Intentions after high school, Employment:* A high school graduate planning to enter the workforce directly after completing high school (Dominican Friars Province of Saint Joseph, 2018).

*Intentions after high school, No plans:* A high school completer with no immediate plans regarding academic study or work after completing high school (Pederson, 2016).

*Intentions after high school, Other continuing education:* A high school graduate with plans to pursue higher education after completing high school (Carrico et al., 2019).

*Other diploma:* First college diploma is earned while attending a high school, dual enrollment program (CareerOneStop, 2022).

*Standard diploma:* This diploma is a high school graduation credential awarded to students who fulfill the basic requirements for graduation without participating in advanced studies, a certificate of program completion, or another diploma program (VDOE, 2021b).

*Social dropout contributors*” The student’s attitudes, values, and behavior such as involvement with high-risk peer groups, and the admiration of students who have dropped out of school are social dropout contributors (Creative Associates International, 2022).

*VDOE PowerSchool Assessment System (Instructional Improvement Systems)*: This system is educational software with cohesive functionality that helps schools to tackle problems and to improve education. The system is designed for school divisions to drive student growth through innovative digital classroom capabilities while engaging families through real-time communications (VDOE, 2022a).

### **Significance of the Study**

In considering the significance of the study, it would be helpful to review alternative education program that was investigated. According to the Virginia Beach Public schools (2019),

The ISAEP is a Commonwealth of Virginia initiative to provide an opportunity for students Ages 16–17 to work toward a General Education Development (GED<sup>®</sup>) Certificate and a vocational or career skills without dropping out of school. Students must be referred and must qualify to be admitted to this program. ISAEP will only be considered for students after all measures to maintain students in a diploma program have been exhausted. (pp. 40-41)

Because the ISAEP program is a last chance initiative to help a very narrowly focused student population, it is important that these criteria are revisited when thinking about who will benefit from this study.

The results of this study, relative to policy that school improvement models drive, demonstrated positive and useful relationships between the roles of local and state division regarding ISAEP GED certificates awarded to and for students in post-high school plans in Virginia. School improvement planning is a systematic, data-driven process for planning and evaluating improvement over time. Distinct from institutional research and auditing, improvement planning aims to reduce the gap between a school's current level of performance and its potential performance (Hanover Research, 2015). In the past, many students had failed to graduate from high school with their GED certificate and as a result, dropped out from school. This study is significant because it found that ISAEP schools do make a difference in terms of how many students attain their GED and avoid dropping out. My findings also affirmed that two other categories of graduation, Standard Diplomas and Advance Studies Diplomas, significantly positively and negatively (respectively) predict GED certificate attainment, as did students' post-high school plans for Other Continuing Education and plans for Military Service.

The outcome of the study was the data-driven analysis and findings that were established for future research to improve the rate for high school completers and to expand support to administrators, policy makers, researchers, and learning community advocates. A base for conducting future research is the Virginia Standards of Learning and Common Core State Standards (VDOE, 2020f), an analysis of alternative education programs. I used relationship questions to seek answers about the degree and magnitude of the relationship between the study variables. Creswell (2019) related the independent variable to the dependent variable to understand an outcome.



Despite collaborative efforts, Creary (2016) suggested that alternative education programs in Virginia have done more harm than good for at-risk students. According to Garcia and Weiss (2017), some educators have ignored poor children, which has resulted in lower grades and higher risks for potential alternative education participants. Students successfully complete the requirements of the high school diploma; however, the state recognizes that, with alternative education programs, a small number of students are still unable to master the regular curriculum even with reasonable modifications and accommodations (VDOE, 2020b).

### **Research Questions and Hypotheses**

The overarching question for this study sought better understand the efficacy of the GED education provided by Virginia public high schools. The following research questions (RQ) and associated hypotheses (*H*) further guided the study.

RQ1: What is the difference in GED certificate attainment between Virginia high schools that have ISAEP GED programs and those that do not have ISAEP GED programs?

$H_01$ : There is no significant difference in GED certificate attainment between Virginia high schools that have ISAEP GED programs and those that do not have ISAEP GED programs.

$H_{a1}$ : There is a significant difference in GED certificate attainment between Virginia high schools that have ISAEP GED programs and those that do not have ISAEP GED programs.

RQ2: Do relationships exist between or among ISAEP GED certificates awarded and the other high school completion categories (advanced studies, standard diploma, non-ISAEP GED certificate, certificate of program completion, or other diploma) in Virginia public schools during the school year 2016–2017?

$H_02$ : There is no significant relationship between or among ISAEP GED certificates awarded and the high school completion categories (advanced studies, standard diploma, non-ISAEP GED certificate, certificate of program completion, or other diploma) in Virginia public schools during the school year 2016–2017?

$H_a2$ : There is a significant relationship between or among ISAEP GED certificates awarded and the high school completion categories (advanced studies, standard diploma, non-ISAEP GED certificate, certificate of program completion, or other diploma) in Virginia public schools during the school year 2016–2017?

RQ3: Do relationships exist between or among ISAEP GED certificates awarded and students' post-high school plans (2-year college degree, 4-year college degree, other continuing education, employment, military service, and no plans) in Virginia public schools during the school year 2016–2017?

$H_03$ : There is no significant relationship between or among ISAEP GED certificates awarded and students' post-high school plans (2-year college degree, 4-year college degree, other continuing education, employment,

military service, and no plans) in Virginia public schools during the school year 2016–2017?

*H<sub>a3</sub>*: There is a significant relationship between or among ISAEP GED certificates awarded and students' post-high school plans (2-year college degree, 4-year college degree, other continuing education, employment, military service, and no plans) in Virginia public schools during the school year 2016–2017.

### **Review of the Literature**

The literature review was framed to determine which variables, among those that the VDOE reports, are most associated with ISAEP program completion through the attainment of the ISAEP GED certificate. Presented first for the literature review is the theoretical foundation, which is followed by a discussion of the broader problem overview and critical review. Next, the state's requirements for a standard diploma are investigated in association to alternative education concepts related to the local problem.

I conducted a literature search on alternative education finding extensive research available. I used the following search terms during my literature search: *general education diploma and general education development, GED, advanced placement, honors, advanced study diploma, competency-based instruction, and industry certification*. I reviewed scholarly books, dissertations, project studies, journals theses, case studies, and local and national conference reports associated with alternative education programs. The following data bases were used in my search for related literature: ERIC, SAGE, ProQuest Central, Education Research Complete, EBSCO host,

Academic Search Complete, and Oxford University press, Child Trends, Dissertations & Theses @Walden University, Education Sources, Google Datasets, and ScholarWorks.

Some students are pulled out of school because of external factors that weigh more heavily in their lives than school. Doll et al. (2013) suggested that family responsibilities, financial responsibilities, and illness often pull students out of the academic environment. The proponents of the fall-out theory suggested that various factors affect the student's propensity to leave school gradually. According to Doll et al. (2013), these factors include poor study habits, lack of parental interest or support, negative student attitude towards school, and overall dissatisfaction with school. In a dropping-out-of-school study, Batini et al. (2017) suggested that external conditions such as withdrawal of commitment, resistance, and rejection to school, along with having the perception of inadequacy could lead to a student dropping out. From their findings, a series of experimental group dropout intervention programs were implemented and successfully encouraged at-risk students so that their cognitive resources and dropout rate were significantly improved.

According to Jordan et al. (1994), the pushed-out theory explains factors that influence students quitting school early. Other researchers have presented school pushed-out factors, including a lack of strong academic support, mismatch between instruction and student ability level, transportation resources, and discipline policies (Doll et al., 2013; Rotermund, 2007; Stearns & Glennie, 2006). From these factors, the pushed-out theory might also help to explain the possible relationships between GED certificate completion, CTE opportunities, and future plans after high school.

## **Theoretical Foundation**

I drew the theoretical framework for the study was from the symbolic interactionist and behaviorist perspectives for social learning. Symbolic interactionists focus on classroom communication patterns, educational practices, students' self-concepts, aspirations, and behavior. The behaviorist perspective is focused on how individuals shape society and are shaped by society through interacting (Colors NewYork, 2021). Theorists of the behaviorist approach assert that humans have no free will and that all human actions, human characteristics, and human personality traits are the results of one's environment and the way that one adapts to one's culture (Lumen Boundless Psychology, 2022). The social learning theory is used to explain the way that people learn within their environments, as well as how and what they learn (Colors NewYork, 2021). According to King and Paufler (2020), social learning continues to be underused in the education evaluation environment and in teacher assessments. Therefore, King and Paufler recommended that social learning theory be more broadly included in teacher and student assessments.

A human climate of caring and support is necessary for all students to engage and succeed. With this understanding in mind, McPartland and Jordan (2001) proposed an action theory consisting of three elements to support alternative education programs. These elements are:

1. Structural, organizational, and governance changes to establish the school norms and interpersonal relations for learning.

2. Curriculum and instructional innovations to give individual students the necessary time and help for success at a high-standards program.
3. Teacher support systems to provide opportunities for faculty input and continuous backing required to implement ambitious changes.

With their theory of action for high school reform, McPartland and Jordan made a compelling argument for incorporating these components in alternative education programs. They suggested that structures and practices (e.g., curriculum and instruction) in the school can be changed to support effective implementation. The Center for Educational Leadership, College of Education, University of Washington (2021) asserted that all state boards of education should establish passing scores as a theory of action to determine eligibility for a standard high school diploma (Giambo, 2017) This component of the theory supports the research questions that were created for this study by connecting the relationship of (a) ISAEP GED certificates awarded, (b) the high school completion categories (advanced studies, standard diploma, non-ISAEP GED certificate), and (c) students post-high school intentions as structures and practices that facilitate high school completion.

### **Review of the Broader Problem**

#### ***GED and Higher Scholastic Education***

In a study of Virginia high school students, Harris et al. (2021) examined the CTE credentials of high school graduates from 2011 through 2017, whether those graduates also had standard or college preparatory advanced diplomas, eventual access to work and career, and follow-on postsecondary education. Students graduating with the standard

diploma were shown to have limited success in postsecondary education. Harris et al. highlighted the need for additional analyses to help CTE stakeholders and policymakers understand the value of students CTE credentials for a wide range of jobs aligned with a specific occupation or industry. The VDOE (2017), began requiring an endorsed state Standard diploma in CTE for graduates to encourage them in career readiness opportunities. Standard diploma graduates have been shown to have limited postsecondary education success. Students who desired to graduate with an honors diploma academically surpassed learning, mastery skills beyond the standard diploma. The VDOE (2022b) established that the higher scholastic, achievement requirement credits were to be introduced in the freshmen year. Schreiner (2018) argued that including GED certificate attainment and standard diploma requirements should be introduce along with advanced diploma and the honors class programs. Introducing higher scholastic and achievement requirement credits early on is an important concept. According to Sienkiewicz (2019), improving high school honors class enrollment (a) strengthened college application information, (b) increased the matriculation of selective future career-related subjects in advanced placement courses, and (c) earned college credits for the students while they were in high school.

### ***Personal Factors Influencing High School Completion***

McDermott et al. (2019) theorized that self-control and persistence of students in high school might predict future employment and used the attainment of GED and standard diploma as mediating variables. McDermott et al. based the theory on data from a national survey of young adults in the United States, examining whether differences

existed in self-control, persistence, and social relationships among youth with a diploma, a GED certificate, or no credential. In addition, the McDermott et al. examined whether social relationships, dropout status, and educational attainment were related to young adults' employment outcomes. McDermott et al. emphasized that the employment outcomes finding highlighted the importance of educational attainment and the personal factors of self-control and persistence. Richards et al. (2021) assessed battering intervention treatment programs for students who were identified as risk takers, no shows (i.e., student with high absenteeism), and dropouts. Richards et al. found that no shows were less likely than completers to have a high school diploma or GED certificate, be employed in a probationary status, have mental health issues, and be dropouts committing property crimes. Such outcomes warranted early treatment (Richards et al., 2021). Therefore, from these findings, one can surmise that other personal factors such as those to be investigated in this study might also be related to GED certificate completion.

### ***General Education Development Certificates and Other Certificates of Completion***

In Virginia, high school students may earn advanced placement honors, an International Baccalaureate, or a dual-enrollment diploma graduating with satisfactory competency-based instruction for the advanced studies diploma (VDOE, 2021a). Ricciardi and Winsler (2021) studied low-income majority-Latin students who graduated with honors controlling for demographics such as school readiness skills, prior academic competence, and free or reduced-price lunch. Ricciardi and Winsler found that the lack of academic success for students enrolled in academically advanced courses was exacerbated by socioeconomic status, poverty, ethnicity, and English-language learner



status. In a prospective validity study, West et al. (2019) investigated the completion of a general education development and predicted peer aspiration factors for GED certificate versus completion of a high school degree for at-risk students. West et al. found that ethnicity was the general factor association between test scores and high school completion. Rossi and Bower (2018) sought to predict which students would attend community college and found that students who were unemployed, single parents, on public assistance, and students of color were more likely to attend college. When I reflected particularly on Rossi and Bower's findings, I saw that a students' postsecondary education plans might be related to high school completion, including GED certificate attainment.

### ***Socioeconomic Influencers***

Johnson (2015) examined associations between GED certificate, adult education, and college or degree pursuit for students living in poverty. Their overall findings indicated that individuals who are widowed, divorced, or separated or who had a lower level of education and could not afford to buy e-cigarettes were also victims of health inequalities. Sloan (2019) studied how teachers could improve strong literacy skills for students coming from families living in poverty or low socioeconomic status while increasing opportunities to achieve and overcome difficult situations effectively. According to Sloan, educators can initiate a change by increasing opportunities for all students. Calder (2019) was interested in the relationship between students living in poverty and low academic achievement and found a significant correlation between student accomplishments and a learning community project partnership with educators

who promoted pride in academics. Cunninghame et al. (2020) explored how to build cognitive and emotional engagement by using students' voices and role play to create a long-term desire to gain university entry and pursue higher education studies. The operationalized voice of the students' self-motivation and involvement were supported by the school and community, which influenced the students' desire to complete their higher education degrees. Although socioeconomic factors might not be a variable for consideration in my study, they clearly play an important role in high school success and beyond. The only reason that these factors cannot be included in my study is that the VDOE does not report them in the public database.

### ***Cultural Influences***

Kang et al. (2018) investigated cultural inequities such as behaviors, attitudes, personal motives, skills, and goals of African American science and math advanced placement students through the lens of cultural-historical activity theory. Kang et al. desired to explain in-part how African American students have historically been discouraged to enroll in science and mathematics classes. Conversely, Tan (2020) was interested in cultural capital theory and found that learning outcomes vary in association when they are not founded solely on student literacy, but also are mediated by parents' cultural capital. Tan's findings were evident in low-achieving schools within differentiated and decentralized education systems, more unequally developed societies, as well as in higher-quality schools. Tan stressed the importance of considering contextual, social inequality differences, and specific student outcomes regarding which cultural capital variables really matter as they relate to educational and social contexts.

Tan balanced GED curriculum-based math and science applications that assisted low-income, public school students in successfully meeting graduation requirements.

Although important in educational attaining, cultural influences cannot be considered in my current research because the VDOE does not report them in the publish database.

### ***Curriculum Influences***

In *Curriculum Guideline for 12-Year Basic Education*, Tseng (2019) noted the importance of a competency-based curriculum. Tseng highlighted that every learner needs to develop key skills and competences for curriculum-based instruction. Tseng also developed a basic strategy for developing 21st century skills. The author recommended that teachers implement key social competencies for students' learning success.

According to McKinney et al. (2019), there was a need for studies to assess the impact of adult education on health literacy. McKinney et al. implemented a quasi-experimental design to explore whether basic adult instruction might constitute a conduit for improving health literacy among Spanish-speaking immigrants. The participants included adults in a high school equivalency program in a United States-Mexico border community who experienced either a standard GED certificate curriculum or a GED curriculum that was enhanced with health literacy content. Participants in the enhanced curriculum group achieved their GED certificate at higher rates than the standard curriculum group.

McKinney et al. also found that African American males who sought their GED certificate were academically underprepared, attended school only part time, had low grade point averages, and had a high dropout rate from high school. To address this problem, McKinney et al. recommended that new students be prescribed academic,

curriculum-based policies, new classroom practices, and a GED curriculum that would be enhanced with health literacy content to reduce course withdrawals and dropouts.

Therefore, the curriculum influences for my study will be the variables of the types of credentials received and postsecondary education plans (McPartland & Jordan, 2001).

### ***Alternative Education Programs***

The broader problem on which I focused in my study was whether to award GED certificates and other high school completion options for requirements met by students who participated in a state, curriculum-based, alternative education program. Phillippi et al. (2021) examined the results of an alternative education program that supported the inclusion of lesbian, gay, bisexual, and transgender (LGBT) youth with nondiscrimination policies. Phillippi et al.'s findings indicated that LGBT youth entered the program with a psychosocial history that differs from their peers, yet they performed equally as well as their non-LGBT counterparts. From these findings, Phillippi et al. suggested that nondiscrimination policies could be incorporated to increase the academic success of other populations that might have psychosocial histories apart from the majority population. Ratanavivan and Richards (2018) explored how teachers' reports of student behaviors changed with students who successfully passed an alternative education school motivational disciplinary counseling program. Their findings indicated a moderate to large improvement in students' behavior, self-motivation, and self-readiness to change. Maillet (2017) theorized an engaging and enriching educational experience as an alternative education program to increase success for students who had challenging behaviors, low motivation, poor attendance, and failing grades, and who were fearful of

entering a school building. Maillet's findings showed that successful, transforming practices were essential for educators who administrate and teach in alternative schools and career and technical education centers so that they can increase students' reengagement as GED certificate and standard diploma seekers.

### ***Relevant Public Data***

Relevant public data provided a general perspective of Virginia high school students regarding graduation classification and postsecondary intentions. Therefore, for my study, public data was downloaded from the VDOE "*Graduation, Completion, Dropout, and Post-Secondary Annual Report.*"

### **Implications**

Comparable to Walden University's (2017) *A Vision for Social Change*, this study could affect Virginia school divisions by influencing the policies that support best practices, partnerships, and continued research designed to improve the ISAEP program. My findings have shown the need for a policy paper with recommendations for more measures that could lead to a better understanding of the ISAEP program.

Social, economic, and political disparities are challenges for many high school students often deterring successful completion outcomes. When a successful alternative education program decreases the dropout rates, which increases high school completion outcomes, both the school division and the community benefit. When more high school students are graduating, college enrollment increases, improving regional socioeconomic demographics, including crime, teenage pregnancy, domestic violence, illegal drug usage, and unemployment. When such challenges are met and controlled, communities,

students, staff, and stakeholders become involved as a team to help to stabilize the social environment for future generations.

The findings from this exploratory correlational study provided implications to support development of a deeper understanding of the ISAEP program in terms of GED certificate attainment and the variables that the VDOE collected and made publicly available. The VDOE is quietly implementing changes in response to a federal report that found serious deficiencies in how programs monitor and enforce compliance with special education laws. I focused this exploratory study using federal findings and recommendations. Without understanding how the variables that are reported are actually related to the criterion program outcome of GED certificate attaining, recommendations for improving the ISAEP program cannot be made with confidence.

Social change is pursued by working with policymakers, researchers, educators, community groups, and others, seeks to advance evidence-based policies that support empowering and equitable learning for each child (Darling-Hammond et al., 2017). Gale and Edenborough (2021) noted that involving more stakeholders to work with marginalized youth improved the socioeconomic status within the local community and greater society. According to Bünzli and Eppler (2019), public communication organizations that were involved in social change efforts often mobilized greater involvement to support better the engagement of youth in positive ways. Using the results of this study, one project outcome might be to make policy recommendations to the VDOE to increase the fidelity of data collection and analysis regarding the ISAEP and its

goal to increase GED certificate attainment for students who might, otherwise, attrite from the education system.

### **Summary**

In the past decade, nearly one-third of the Nation's states have not enacted new laws aimed at increasing graduation rates Almeida et al. (2010). However, 14 states, including Virginia, have moved toward adopting comprehensive alternative education and recovery policies. In Virginia, on-time completion and graduation index scores affect school accreditation (Musu-Gillette et al., 2016). Nevertheless, inequities persist among high schools within Virginia, including some schools within the same division. Primarily, emphasis has been placed on students who earn verified credits by completing core classes and passing end-of-course assessments. Concerted efforts to address students who lag or fail to graduate have been given less attention. Contrasting views in the literature supported the notion that inconsistencies in alternative education programs warrant investigation to ensure that these programs are designed to increase high school completion, to function effectively, and to reduce disparities.

In Section I, I introduced the problem, purpose, research questions, and theoretical framework for the study. I also completed a review of the extant literature on the topic. In Section 2, I detailed the methodology used in the study. Topics in this section included research design and approach, setting and sample, instrumentation, data collection and analysis, assumptions, limitations, scope, and delimitations of the study. In Section 3, I discussed the project study that was developed from the data analysis and provided a review of the literature related to developing policy papers. Finally, Section 4

mirrors the project strengths and limitations, recommendations for alternative approaches, scholarship, leadership and change, reflections on the importance of the work, implications, applications, and directions for future research, which I followed with the Conclusion.



## Section 2: The Methodology, Research Design, and Approach

### **Introduction**

According to the VDOE (2020c), disparities exist across the state in ISAEP program factors regarding student attainment of the GED. According to (Maillet, 2017), alternative education programs provide an enriching educational experience of engagement for students with low self-esteem, poor grades, poor attendance, and socioeconomic challenges.

The purpose of my study was to determine which variables, among those that the VDOE reports, are most associated with ISAEP program completion through the attainment of the ISAEP GED certificate. The Walden University Institutional Review Board approval number for my study was 02-18-20-0187992. By examining these variables in relation to ISAEP program completion, my hope was to improve the state alternative education program outcome for at-risk students in the state's high schools. For RQ1, Quantitative data were accessed from the state database on student GED certificates awarded using the independent variable of post-high school plans (2-year college degree, 4-year college degree, other continuing education, employment, military service, and no plans) in Virginia public schools during the school year 2016–2017. For RQ2, I sought to evaluate the relationship between or among ISAEP GED certificates awarded and the high school completion categories (advanced studies, standard diploma, non-ISAEP GED certificate, certificate of program completion, or other diploma) in Virginia public schools during the school year 2016–2017. For RQ3, I sought to evaluate the relationship among ISAEP GED certificates awarded and students' various post-high school plans

(i.e., 2-year college degree, 4-year college degree, other continuing education, employment, military service, and no plans) in Virginia public schools during the school year 2016–2017.

Significant correlations for this research question could suggest that a school's focus on some completion options might predict GED certificate attainment.

In Section 2, I present the research design and explain why quantitative data collection with the applicable methodology was necessary to collect and test the research questions and hypotheses. The study's setting and sample, instrumentation and materials, data collection and analysis, assumptions, limitations, scope and delimitations, and protection of participants rights are discussed. In the final sections, I detail the data collection and analyses process, research questions, hypotheses, and measurement methods used for each variable, and research findings discussion.

### **Research Design and Approach**

I used a quantitative non-experimental exploratory correlation design to access the ISAEP archival data that pertained to GED certificate attainment. A quantitative design was appropriate because the variables to be evaluated were numerical representations in columnar form (Creswell, 2019). Qualitative methods were inappropriate because the research problem did not originate from a need to understand a phenomenon from the perspectives of research participants. For example, in a similar study, Martin et al. (2019) explored the consequences and predictors of how students' growth goals and mindset improved with the application of correlational statistical methods. They showed how

correlational data and multivariate correlational analyses were effective in answering their research questions.

The correlational, exploratory design was used to access student-related, archival data from the Virginia school database that reports graduation statistics for programs, including the alternative education ISAEP program. Correlational and quantitative research trends and patterns determine variable relationships (Lodico et al., 2010). The correlational exploratory design allowed me to examine the alternative education ISAEP program factors that were related to GED certificate attainment.

### **Setting and Sample**

The local population for the study was Virginia high schools and their consolidated graduation report for the 2016-2017 school year. The graduation data for the school year 2016–2017 were obtained from the VDOE website using the annual, archived “*High School Graduates and Completers Reports*” (VDOE, 2020e). In this study, I analyzed the graduation statistics for schools rather than for individuals because the variables of interest were only available at the school level. I accessed publicly available statewide data; therefore, my sample was a convenient census sample consisting of the graduation statistics for all the secondary schools in the state ( $N = 318$ ). As part of the data preparation process, I removed any institutions in the dataset that were correctional facilities, as well as one ISAEP alternative academy high school that claimed exceptionally high ISAEP GED certificates awarded. Of the remaining 300 high schools in the dataset, 169 were ISAEP and 131 were non-ISAEP high schools.

My planned statistical test to determine whether a significant difference existed in GED certificates awarded when comparing ISAEP and non-ISAEP high schools (RQ1) was the independent samples  $t$  test. In theory, ISAEP high schools should award more GED certificates because, in addition to the regular GED certificates pursued by students who have no individual educational plans (IEPs) in the non-ISAEP high schools, the ISAEP high schools have an additional program in place to help obtain the GED if that objective is part of a student's IEP. To estimate the sample needed for the independent samples  $t$  test, I entered the relevant criteria into the G\*Power calculator. As demonstrated in Figure 1, an estimated sample size of  $N = 220$  ( $n = 110$  in each group) was needed for the test.

**Figure 1**

*G\*Power Sample Estimation for Independent Samples  $t$  Test*

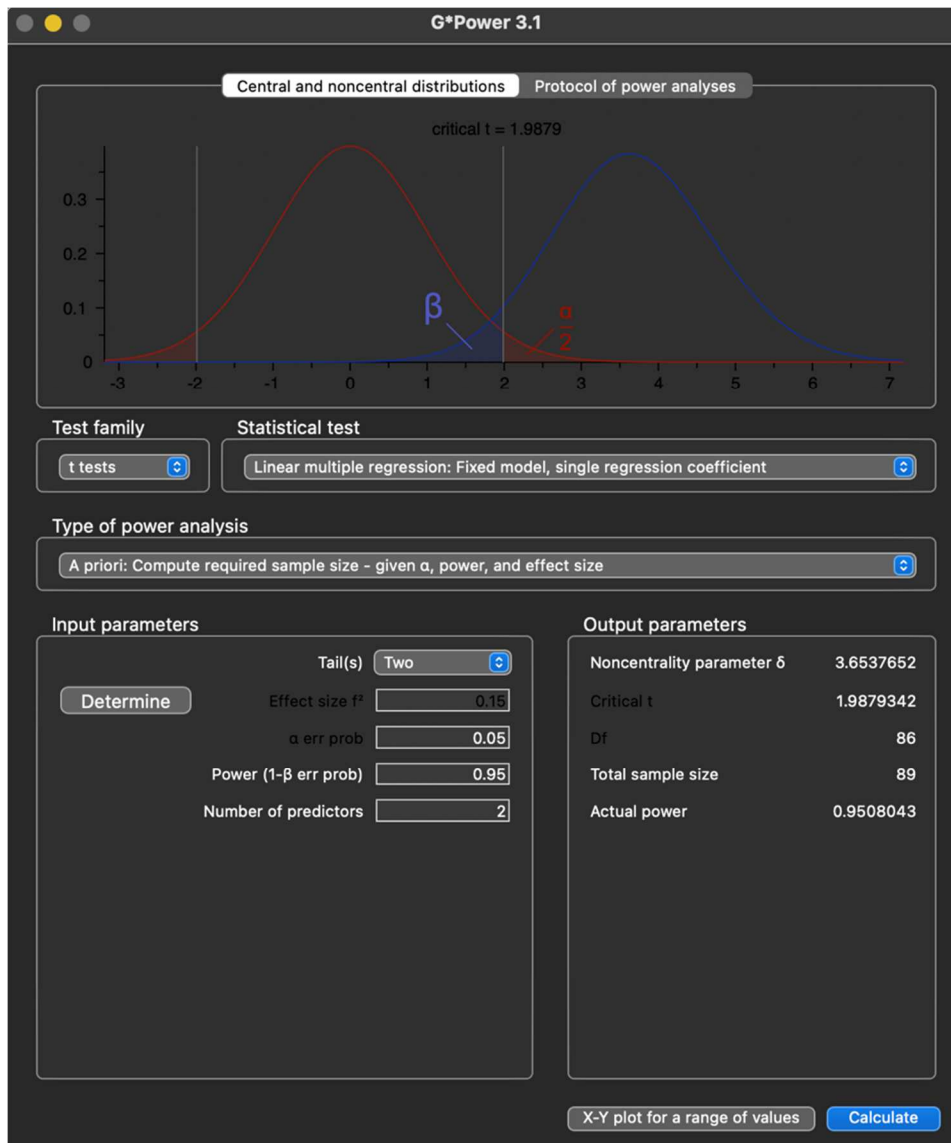
The screenshot displays the G\*Power calculator interface for an independent samples  $t$  test. The 'Type of power analysis' is set to 'A priori: Compute required sample size - given  $\alpha$ , power, and effect size'. The 'Input parameters' section includes: Tail(s) set to 'Two', Parent distribution set to 'Normal', Effect size  $d$  set to 0.5,  $\alpha$  err prob set to 0.05, Power ( $1-\beta$  err prob) set to 0.95, and Allocation ratio  $N2/N1$  set to 1. The 'Output parameters' section shows: Noncentrality parameter  $\delta$  as 3.6235732, Critical  $t$  as 1.9714300, Df as 208.0845, Sample size group 1 as 110, Sample size group 2 as 110, Total sample size as 220, and Actual power as 0.9502040. Buttons for 'Options', 'X-Y plot for a range of values', and 'Calculate' are visible at the bottom.

Input parameters		Output parameters	
Tail(s)	Two	Noncentrality parameter $\delta$	3.6235732
Parent distribution	Normal	Critical $t$	1.9714300
Effect size $d$	0.5	Df	208.0845
$\alpha$ err prob	0.05	Sample size group 1	110
Power ( $1-\beta$ err prob)	0.95	Sample size group 2	110
Allocation ratio $N2/N1$	1	Total sample size	220
		Actual power	0.9502040

The planned statistical treatment for the variables and data in this study was regression analysis, a statistical process that includes the Pearson Product Moment. This statistic is used to calculate the bivariate relationships between two variables. It is used to measure the magnitude of correlation between two numerical variables (Bujang & Baharum, 2016). For social science research, the level of significance is typically set to 0.05. This level of significance results in a 5% probability, meaning that only 5 in 100 instances might occur because of chance. According to Complete Dissertation (n.d.), an acceptable maximum sample size for bivariate correlations is 10% of the population, as long as the sample does not exceed 1000. With the population for this study of 310 schools, a 10% sample would be only 31 if the Pearson Product Moment were the only statistical analysis being used. However, I used multiple linear regression; therefore, I consulted the G\*Power calculator for guidance. As shown in Figure 2, for two predictor variables, a total sample size of 89 was needed. Adjusting the predictor variables up to six did not change the estimated sample size computed by the G\*Power calculator.

Figure 2

G\*Power Sample Estimation for Multiple Linear Regression



The eligibility criterion for inclusion was the submission of a report of the high school’s graduation statistics according to the VDOE requirement for reporting. The only schools that I excluded from the data analysis were the Virginia correctional institutions that awarded GED certificates. I excluded these schools because they did not have data

for many of the variables of interest, including advanced and other kinds of diplomas or postsecondary plans. The data used in this study came from a public domain database; therefore, I did not actually recruit participants. However, I did speak on the phone on numerous occasions with the state director of the ISAEP program to gain clarity from the state's perspective on the variables reported in the database.

I developed the study variables from the ISAEP report questions about schools and GED certificate completion. I used the statistical procedures contained in the Statistical Package for the Social Sciences (SPSS) to create and collect the descriptive statistics and test relationships among the variables to answer RQ2 (ISAEP GED certificates awarded and high school completion certificates) and RQ3 (ISAEP GED certificates awarded and students' post-high school plans; Creswell, 2019).

According to Buldur and Gokkus (2021), alternative education program opportunities should be made available for all grade level students, including students in public and private Montessori early childhood programs. The authors also recommended correlational research when alternative programs are offered in order to assess and improve educational outcomes. Bhandari (2022) used a cross-sectional and correlational research design to determine whether relationships existed between available variables and testing outcomes among schools (see also Deakin University, 2021). In another study, Rice (2019) used a quantitative comparison design to examine the relationship among graduation, retention, and GED certificate completers for low-income adults. In similar research, Almond et al. (2017) investigated the equity of high school diploma relationships to a GED certificate recovery program in an alternative education

program. Finally, Marsh (2017) used restorative practices, allowing at-risk participants unlimited attempts to be successful in a positive alternative high school climate. These studies combine to provide a research base that justifies the current research and design to determine what variables may be related to ISAEP GED completion in Virginia.

### **Instrumentation and Materials**

The data collection instrument that I used was the annual report, the annual, archived *High School Graduates and Completers Reports* (VDOE, 2020e). Because the annual report used in this study was publicly available, there was not permission sought or granted to use the data. However, on numerous occasions, I had phone meeting with the state's director of the ISAEP program to clarify the variables and their meanings so that meaningful research questions and hypotheses could be formulated based on the available data. During these conversations, both the previous and current program directors acknowledged the need for this study and expressed interest in reviewing the research findings once they are available (Former ISAEP program director, personal communication, August 19, 2015; Current ISAEP program director, personal communication, September 21, 2021). The concepts measured and presented in the annual, archived *High School Graduates and Completers Reports* (VDOE, 2020e) are presented in Table 1. The measurements are frequency counts that represent the number of students who completed the type of diploma awarded and expressed their post-high school intentions based on the categories provided in Table 1. The validity and reliability of the data were based on the data accountability policies in place and enforced by the VDOE.



The data collection instrument that I used was created by the VDOE by combining each school's *Annual Program Report* that the ISAEP coordinator completes and submits each year for their school (VDOE, 2018a). The ISAEP *Annual Program Report* for each school contains 22 items measuring concepts such as student demographics, admission and enrollment, instruction, and GED certificate attainment served by the program (VDOE, 2018a). The data are then combined by the state and provided in a public-domain report called the annual, archived *High School Graduates and Completers Reports* (VDOE, 2020e).

The raw data were initially provided by the VDOE for this study in Excel format, where were then verified for accuracy and converted to SPSS format for data analysis. Both formats of the data will be retained on my password protected computer for a period of five years after the completion of the study. Data may be provided upon request to interested individuals after obtaining permission from the VDOE to share that data.

### **Data Collection and Analysis**

The VDOE data used in this study were provided from the VDOE website and are known as the annual, archived *High School Graduates and Completers Reports* (VDOE, 2020e). The three research questions sought to (a) determine the relationships between or among ISAEP GED certificates awarded and the high school completion categories (advanced studies, standard diploma, non-ISAEP GED certificate, certificate of program completion, or other diploma) and (b) determine the relationship between or among ISAEP GED certificates awarded and students' post-high school plans (2-year college degree, 4-year college degree, other continuing education, employment, military service,

and no plans) in Virginia public schools during the school year 2016–2017. Accordingly, the variables downloaded from the VDOE website matched those provided in the two RQs and all were provided as continuous measures (see Table 1).

The annual, archived *High School Graduates and Completers Report* (VDOE, 2020e) was downloaded in its entirety from the VDOE website and is publicly available to anyone who has computer and internet access. I downloaded the data and decided to use it in this study after several communiques with VDOE officials about the data and the variables it represents. No specific permissions were obtained because the data are publicly available to anyone. All variables measured are represented by interval (i.e., continuous) numbers which represent frequency counts of the numbers of students who fall into each category or variable.

There were no research questions related to descriptive statistics that could be generated from the collected data. Descriptive statistics generated in the normal process of doing the inferential data analysis, however, were reported as appropriate in terms of assumptions that were evaluated for conducting the regression analyses. For the inferential statistics, each RQ was addressed using the IBM SPSS software for correlation and regression analyses to answer the two research questions related to (a) the relationship or association between the ESAEP GED certificates awarded and other certificates awarded by VDOE high schools and (b) the relationship or association between ISAEP GED certificates awarded and post-high school plans. Because I was interested in learning if and how the variables might be statistically related, I used the

$p$  value of .05 or less for demonstrable statistical significance. Multivariate regression was used to analysis each RQ.

### **Assumptions, Limitations, Scope, and Delimitations**

#### **Assumptions**

According to Creswell (2013) all studies have assumptions and limitations that are inherent and required to be acknowledged by the researcher to improve the transparency and credibility of the research. Similarly, Lodico et al. (2010) acknowledged that limitations allow other researchers and consumers of the research to make judgments regarding the generalizability of their findings to other environments. The first assumption in the study dealt with an assumed negative relationship between ISAEP GED certificates awarded and the other kinds of methods of successfully completing the high school credential. For example, ISAEP GED completion also included a career and technical training component to help ensure that students exit the program with the skills necessary to find entry-level employment or continue their education in other workforce training programs. A related second assumption dealt with the future plans independent variable collected by the VDOE. I assumed that, while focusing on developing career and technical skills, ISAEP GED completers would be less likely to have plans beyond immediate employment while the other categories of high school completers would be more likely to have post-secondary education plans. Finally, at a more basic level, it was assumed that the data provided on the VDOE website were accurate and correct.

**Limitations**

This study was not an experimental design and did not use random probability sampling. Further, the nature of the research design was exploratory; therefore, it would not be generalizable to other states or their alternative education programs. This observation also helped to define the scope of the study.

**Scope and Delimitations**

The scope of the study was delimited to one state's statewide public data that were collected annually to report the number of high school graduates in four categories of high school completion and six categories of post-high school plans.

**Protection of Participants' Rights**

The researcher completed the National Institutes of Health online training course for the protection of human participants in research studies. This study was focused on the institutional level because the data reported by the VDOE were institutional-level data. Furthermore, because the VDOE website reports archival, institutional-level data, the nature of the research required no contact with any of the research participants.

**Data Analysis Results**

The measures obtained from the VDOE website included the dependent and independent variables for both research questions for the 318 schools and institutions within the state that had high school diploma awarding authority. Of these, 16 correctional facilities were deleted because although they awarded GED certificates, they did not participate in the ISAEP GED program, which was the program of interest for this study. Of the remaining 302 high schools, 171 were ISAEP schools and 131 were not

ISAEP participating schools. The final data file used in the data analyses is provided in Appendix B. The original data file included 21 column headings. Table 2 presents 21 the heading names and the type of measure for each. The data file included in Appendix B is redacted of any information that could potentially identify a participating school, as well as for any data that were not used in the data analyses. The resulting data file, therefore, has the first seven columns redacted by deletion (compare to Table 2).

**Table 2**

*VDOE High School Graduates and Completers Annual Reports*

Variable name	Type of measure
1. Number of schools in the division	Continuous (by district)
2. Division number	Categorical
3. Division name	Alphanumeric
4. School number	Categorical
5. School name	Alphanumeric
6. Low grade (serviced by the school)	Categorical
7. High grade (all were grade 12)	Categorical
8. ISAEP GED certificates	Continuous
9. ISAEP participant school	Categorical (Y/N)
10. Regular GED certificates	Continuous
11. Standard diplomas	Continuous
12. Advanced studies diplomas	Continuous
13. Other diplomas	Continuous
14. Certificate of program completion	Continuous
15. Total grads-completers (summation of Numbers 8, 10, 11, 12, 13, & 14)	Continuous
16. Attending 2-year colleges	Continuous
17. Attending 4-year colleges	Continuous

Variable name	Type of measure
18. Other continuing education plans	Continuous
19. Employment	Continuous
20. Military	Continuous
21. No plans	Continuous

### **Research Question 1: The Difference for Awarded GED Certificates**

#### ***Assumptions***

With RQ 1, sought to determine whether there was a significant difference in total GED certificates awarded when comparing ISAEP and non-ISAEP high schools. To begin, I prepared the data file by using the SPSS Compute Variable function to create a new dependent variable called Combined GED certificates. The new variable was the summation of the ISAP3 GED Certificates and the Non-ISAEP GED (i.e., Regular) Certificates. Guided by the power analysis for the independent samples  $t$  test, I then used SPSS's Select Cases function to randomly select 110 schools from each of the two levels of the independent variable. Before running the test, however, the assumptions of the test must be evaluated to ensure credible results (Laerd Statistics, 2020).

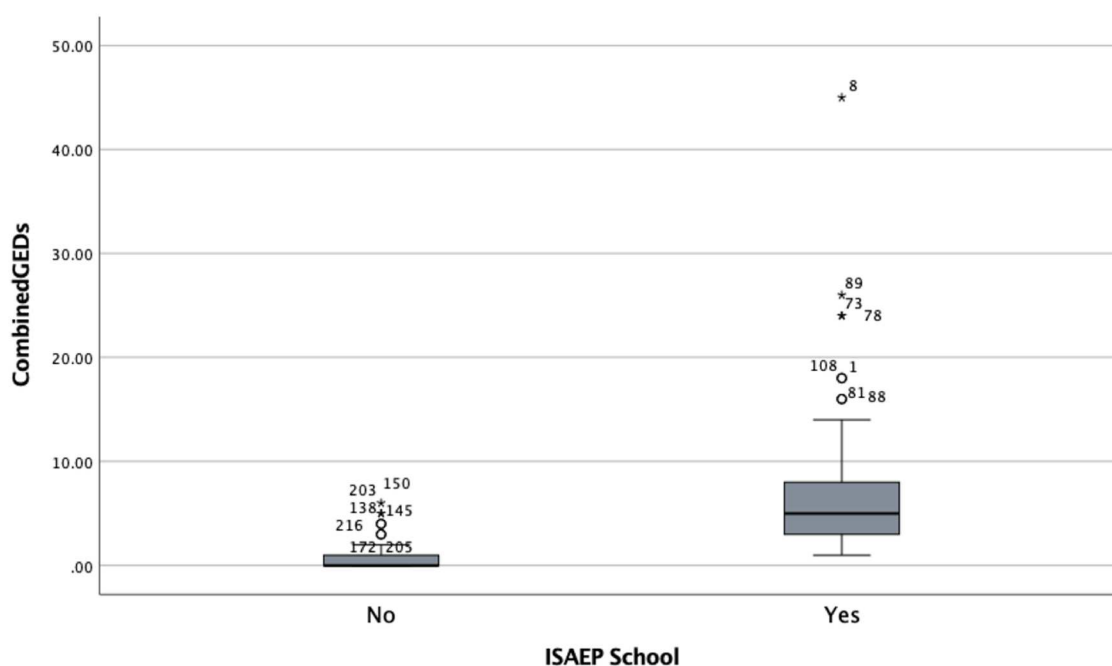
**First Three  $t$ -Test Assumptions.** The first three assumptions for the independent  $t$  test have to do with the quantitative design of the study. The three assumptions include that (a) the dependent variable is continuous, (b) that the independent variable is categorical with two levels, and (c) there is independence of observations (Laerd Statistics, 2020). The dataset met the first three assumptions for the independent  $t$  test.

**Assumption 4: No Significant Outliers.** To evaluate this assumption, I used the Analyze, Descriptives, and Explore functions in SPSS. I unchecked the Stem-and-Leaf

option and checked the Normality Plots with Tests option to generate box plots for the two levels of the independent variable. As assessed by inspection of the boxplots provided in Figure 3, both the ISAEP and non-ISAEP high schools possessed numerous outliers at both the minimum (1.5 box-lengths from the edge of the box) and extreme (3 box-lengths) ranges.

**Figure 3**

*Box Plots of the Independent Variable on the Dependent Variable*



The data were downloaded directly from a public website; therefore, I had no way to verify their accuracy in terms of possible data entry or measurement errors. According to Laerd Statistics (2020), there are four options for dealing with outliers when the researcher believes the data are accurate and genuine. The first option was to retain the

outliers and run the nonparametric Mann-Whitney  $U$  test (MWUT), and this was the option I chose. The MWUT also has assumptions that must be evaluated.

**Evaluating the First Three MWUT Assumptions.** Before proceeding, I verified using the G\*Power calculator that 110 instances for each level of the independent variable ( $N = 220$ ) was an acceptable sample size estimate for the MWUT. The first three assumptions for the MWUT are the same as for the independent samples  $t$  test, except that for the MWUT the dependent variable can be either continuous or ordinal. The dependent variable for this study was a continuous measure, the independent variable is categorical with two groups, and the observations to collect the data were independent of one another. Therefore, the dataset met the first three assumptions for the MWUT.

**MWUT Assumption 4.** As a nonparametric procedure, the MWUT compares either difference in medians or the difference in mean ranks to determine if there is a statistically significant difference in the dependent variable for the two groups (Laerd Statistics, 2020). Determining which is the appropriate interpretation depends on the fourth MWUT assumption, which deals with the shape of the distributions of the dependent variable for the two groups. If the shapes are similar, then a median comparison may be conducted and if they are dissimilar, then the mean ranks comparison is required (Laerd Statistics, 2020).

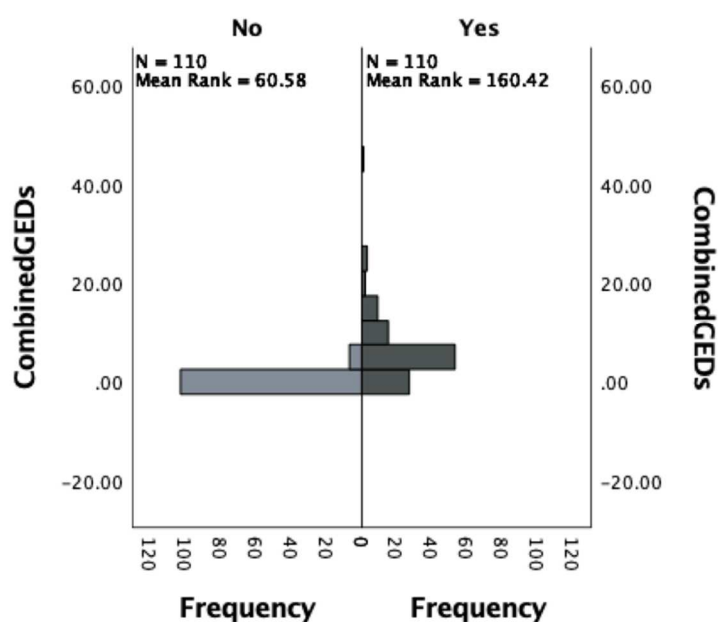
I followed the new (as opposed to legacy) procedure in SPSS for conducting the MWUT provided by Laerd Statistics (2020) to evaluate the shapes of the two distributions of the Combined GED certificates dependent variable for the randomly selected ISAEP ( $n = 110$ ) and non-ISAEP ( $n = 110$ ) high schools. The initial procedure



of generating the MWUT output was followed by a second procedure to generate medians prior to analyzing any results. As shown in Figure 4, the dissimilar shapes of the two groups necessitated a comparison of mean ranks rather than medians (Laerd Statistics, 2020). Because there are only four assumptions for the MWUT, I then moved to the data analysis results.

**Figure 4**

*Dependent Variable Distributions for the ISAEP and non-ISAEP Schools*



### ***Research Question 1 Data Analysis Results***

A Mann-Whitney U test was run to determine if there was a significant difference in the number of GED certificates awarded comparing ISAEP and non-ISAEP high schools. The distributions of the GED certificates awarded were not similar, as assessed by visual inspection of the distributions in Figure 4. The GED certificates awarded for ISAEP high schools (mean rank = 160.42) were statistically significantly higher than for

the non-ISAEP high schools (mean rank = 60.58),  $U = 558.5$ ,  $z = -11.93$ ,  $p < .001$ , using the asymptotic (2-tailed) distribution for  $U$ . The null hypothesis of no significant difference in the number GED certificates awarded between ISAEP and non-ISAEP high schools was rejected in favor of the alternate. Among 110 randomly selected schools for both groups, 712 GED certificates were awarded for ISAEP high schools compared to only 60 GED certificates awarded by the non-ISAEP high schools.

### **Research Question 2: Relationship Between Graduation Categories and ISAEP GED Certificate Attainment**

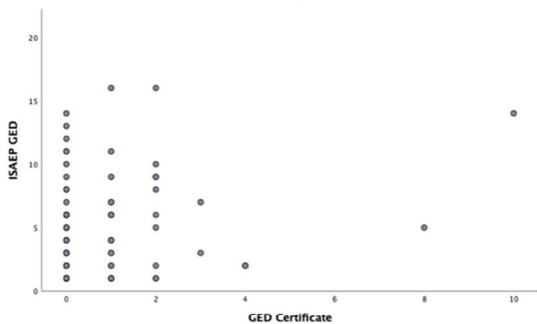
The second research question sought to evaluate the relationship between the dependent variable, ISAEP GED certificates completed and the six independent variables of (a) Regular GED Certificates, (b) Standard Diplomas, (c) Advanced Studies Diplomas, (d) Other Diplomas, (e) Certificates of Program Completion, and (f) Total Grads-Completers. To visually inspect for possible relationships between the dependent and independent variables for RQ1, I generated scatterplots using SPSS for each of the dependent-independent variable pairs. The six scatterplots are shown in Figure 5. A visual inspection of the plots revealed that only three independent variables demonstrated a potential linear relationship with ISAEP GED certificates while retaining a somewhat random pattern. A best-fit straight line could be overlaid on the Panel D, but the pattern is less random, and so it was not included for regression. As a result, the three independent variables of (a) Standard Diplomas (Panel B), (b) Advanced Studies (Panel C), and (c) Total Graduates (Panel F) were selected for inclusion in the regression analysis for RQ2.

***Evaluating the Multiple Linear Regression Assumptions for Research Question 2***

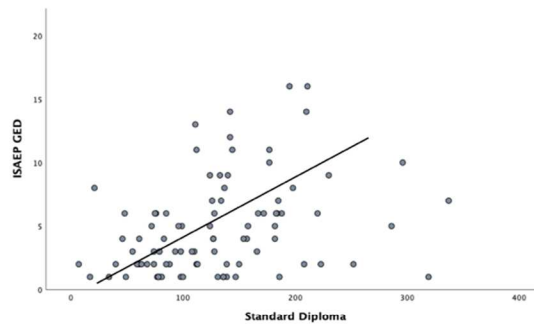
A multiple linear regression was run to determine if the number of ISAEP GED certificates awarded could be predicted by a combination of the three independent variables. Before regression results can be interpreted, the researcher must evaluate the data relative to the eight assumptions for running multiple linear regression (Fox, 2016).

**Figure 5**

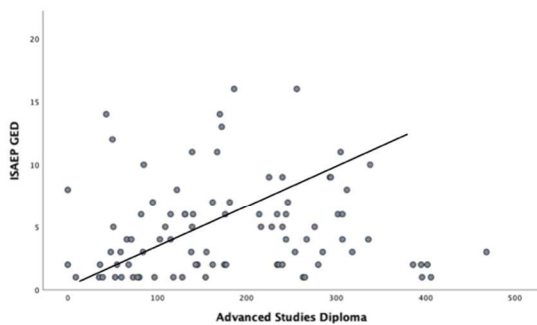
*Scatter Plots of the Dependent and Independent Variables for Research Question 1*



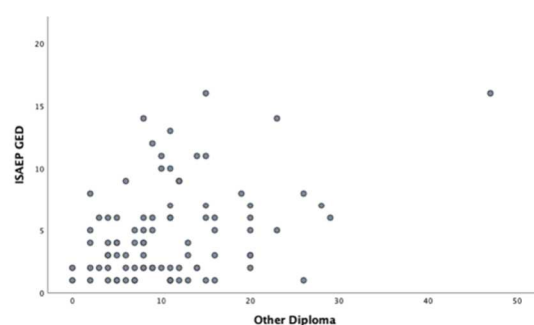
Panel A: Scatterplot of ISAEP GED and Non-ISAEP3 GED



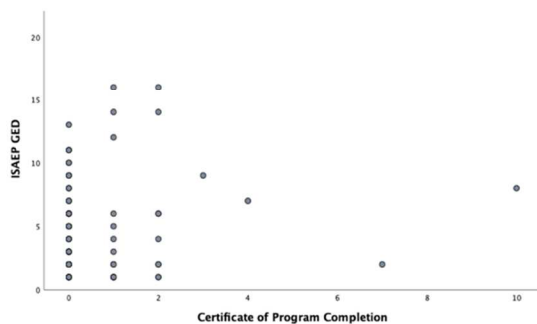
Panel B: Scatterplot of ISAEP GEDs and Standard Diplomas



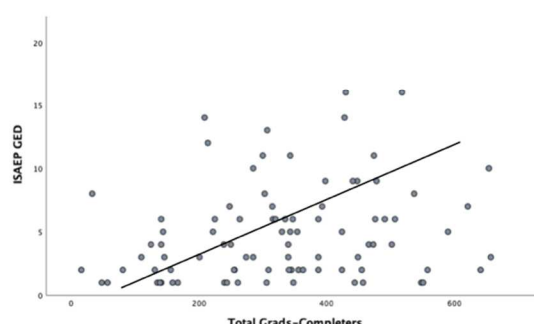
Panel C: Scatterplot of ISAEP GED and Advanced Studies Diplomas



Panel D: Scatterplot of ISAEP GED and Other Diplomas



Panel E: Scatterplot of ISAEP GED and Certificates of Program Completion



Panel F: Scatterplot of ISAEP GED and Total Graduates

**The First Two Assumptions.** The first two assumptions for multiple linear regression require that (a) the dependent variable is a continuous measure (interval or ratio) and (b) there are two or more independent variables measured as either continuous

or nominal (Fox, 2016). Because the dependent variable and three independent variables all possessed continuous measurements, the first two assumptions were met. As explained in the following paragraphs, to test the remaining six assumptions, I ran the multiple linear regression with the three selected variables and then evaluated the remaining assumptions using the new output variables generated by SPSS during the multiple linear regression process.

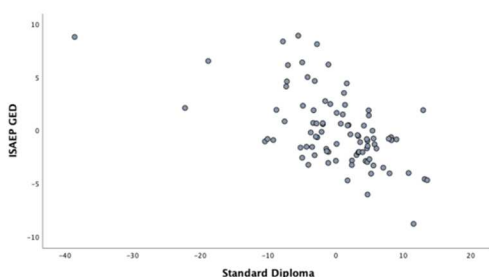
**Assumption 3: Independence of Observations (Residuals).** The independence of observations assumption was checked by consulting the Durbin-Watson statistic, a numeric value that was selected for inclusion when I ran the multiple regression. If the independence of observations assumption is violated, meaning the adjacent observations' errors are correlated, then a statistical test other than regression would be required. The Durbin-Watson statistic was located in the last column of the Model Summary table of the SPSS output. According to Laerd Statistics (2020), the closer the Durbin-Watson value is to 2, the more likely the Independence of Observations assumption is met. The Durbin-Watson value was 1.61, approaching 2, and therefore the third assumption was met.

**Assumption 4: Linear Relationships Between the Variables.** This assumption was partially tested by visual inspection of scatter plots in the previous section, which provided the rationale for including the selected independent variables in the regression. The assumption of linearity, however, must be formally tested using two criteria. First the dependent variable must be linearly related to each independent variable independently and second, it must also have a linear relationship with each of the independent variables

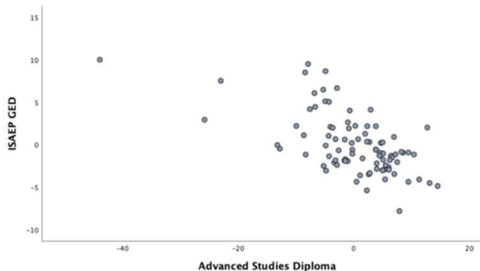
collectively (Fox, 2016). Presented in Figure 6, partial regression plots and the plot of studentized residuals by unstandardized predicted values were generated when I ran the multiple regression. The partial regression plots for the three independent variables confirmed their independent linear relationship with the dependent variable (Figure 6, Panels A-C). The scatter plot for evaluating the collective linear relationship to the dependent variable (Figure 6, Panel D); however, was suspect because it did not present the expected horizontal band to reveal linearity (Fox, 2016). The increasing funnel shape was also a challenge for the fifth assumption, homoscedasticity, and that challenge was partially overcome by my decision to delete the Total Grads-Completers independent variable during my evaluation of the sixth assumption, multicollinearity.

**Figure 6**

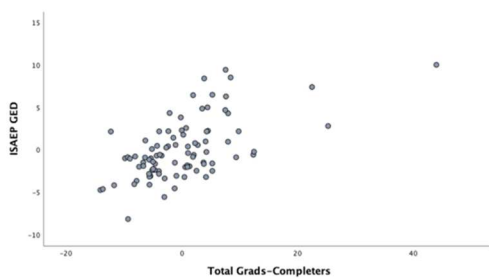
*Scatter Plots for Assessing the Variables' Linear Relationships for Research Question 2*



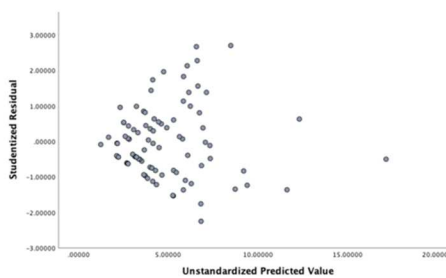
Panel A: Partial Regression Plot of Standard Diplomas to the Dependent Variable (ISAPE GEDs)



Panel B: Scatterplot of ISAPE GEDs and Advanced Diplomas



Panel C: Scatterplot of ISAPE GEDs and Total Graduates



Panel D: Scatterplot of Studentized Residual by Unstandardized Predicted Value of ISAP GEDs

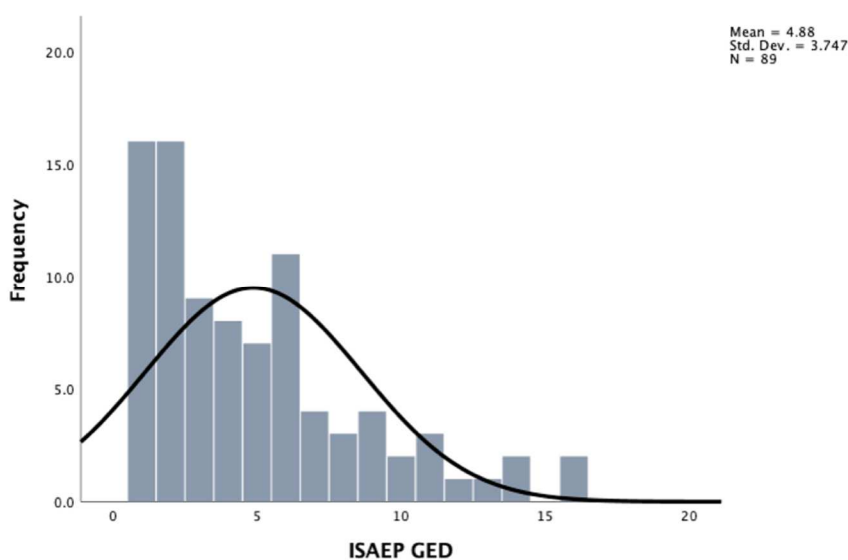
**Assumption 5: Homoscedasticity.** The *homoscedasticity* assumption is met when the variance is equal for all the values of the predicted dependent variable. It is checked by visual inspection of the scatter plot of the studentized residuals against the unstandardized predicted values (Figure 6, Panel D). When the plot reveals a spread of the residuals with no increasing or decreasing pattern across the predicted values, then the data are homoscedastic (Fox, 2016). The increasing funnel shape (Figure 6, Panel D); therefore, suggested heteroscedasticity, a data condition that required corrective action.

Heteroscedasticity occurs when data are not normally distributed, and normal distribution is an assumption for parametric statistical tests (Fox, 2016). The data values

for the dependent variable, ISAEP GED certificates, were strongly positively skewed (Figure 7). Two methods of dealing with heteroscedasticity include (a) transforming the variables' data to gain a more normal distribution and if that method fails, (b) running a weighted least-squares regression ([WLSR]; Laerd Statistics, 2020).

**Figure 7**

*Histogram of ISAEP GED Certificates With Normal Curve Overlay*



According to Laerd Statistics (2020), there are multiple methods for transforming skewed data, and the method selected depends on the severity and direction (positive or negative) of skewness. I followed the reciprocal transformation method for extremely positively skewed data, by transforming the ISAEP variable into its inverse by dividing its raw values into 1. The transform function in SPSS was used to create the new variable ISAEP\_Inverse (i.e.,  $ISAEP\_Inverse = 1 / ISAEP$ ). The Kolmogorov-Smirnov and Shapiro-Wilk tests of normality were computed to see if the resulting dependent variable could be considered normally distributed after the transform function was completed. The



null hypothesis for both statistics is that ISAEP\_Inverse would be normally distributed. The Kolmogorov-Smirnov statistic was  $D(89) = .208, p < .001$  and the Shapiro-Wilk statistic was  $W(169) = .788, p < .001$ . Because both tests were significant at  $p \leq .05$ , I rejected the null hypotheses that the new values for ISAEP Inverse were normally distributed and moved to the next recommended solution for handling skewed data, running a weighted least-squares regression ([LSR]; Laerd Statistics, 2020).

**Assumption #6: Multicollinearity.** Before running the WLSR, I consulted the Coefficients output table from the MLR to check for multicollinearity among the dependent and independent variables. When two or more independent variables are highly correlated, the result is *multicollinearity*. Multicollinearity is a challenge because it becomes difficult to determine which variable contributes most to the variance in the dependent variable. It also presents technical challenges for calculating multiple regression (Laerd Statistics, 2020). Multicollinearity can be evaluated using the collinearity statistic, *tolerance*. When tolerance is less than 0.1, collinearity likely exists (Hair et al., 2018). The Collinearity columns (Tolerance and VIF) obtained from the MLR Coefficients output table are provided in Table 3. The tolerance statistic for each independent variable was less than 0.1, indicating multicollinearity and the need for additional data manipulation (Laerd Statistics, 2020).

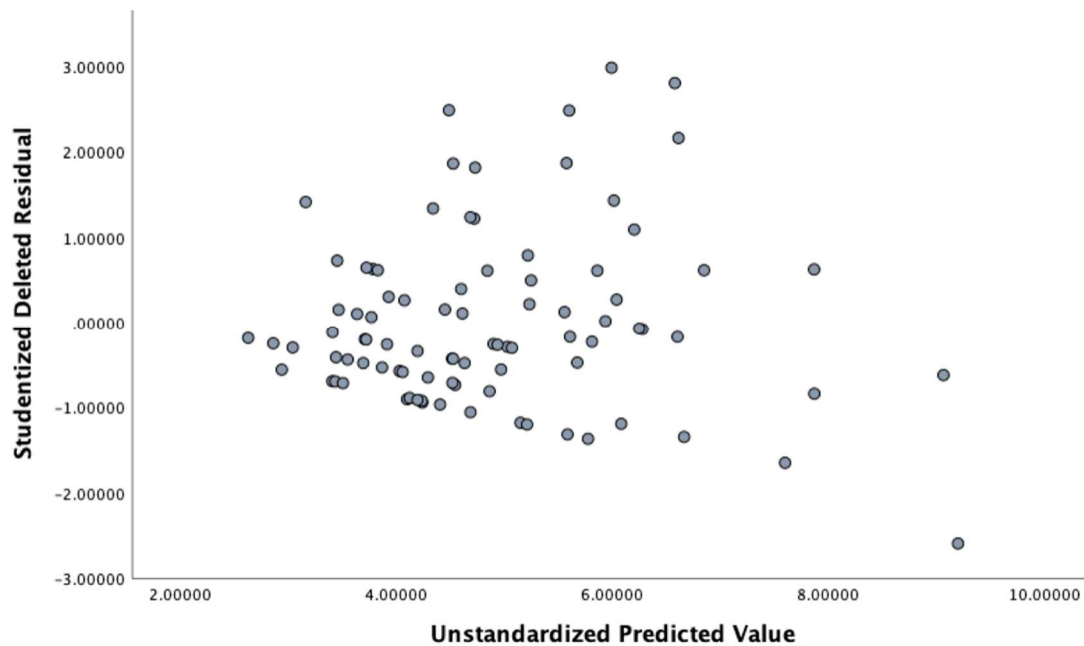
**Table 3***Multicollinearity Statistics for the Independent Variables*

Independent variable	Collinearity statistics	
	Tolerance	VIF
Standard diploma	.013	76.90
Advanced studies	.006	166.27
Total grads-completers	.003	329.55

Laerd Statistics (2020) suggested several methods for dealing with multicollinearity, but the most straightforward is to delete one or more independent variables (as long as at least two are retained for MLS). This method was selected because it made the most logical sense. The independent variable, Total Grads-Completers, was a summation the other five independent variables, including the dependent variable, ISAEP GED graduates. This was a confounding and possibly contaminating characteristic of the independent variable; therefore, I decided to delete the Total Grads-Completers variable and re-run the test. Not only did this process yield two independent variables that passed the test of multicollinearity (see Table 4), it also partially addressed the heteroscedastic challenge observed under Assumption 5. As shown in Figure 8, the new scatter plot of studentized residuals against the unstandardized predicted values with the removal of the Total Grads-Completers variable resulted in a scatterplot that retained an increasing funnel shape, but less so than with the Total Grads-Completers variable included, somewhat improving homoscedasticity (Fox, 2016). However, the distribution of the dependent variable remained positively skewed, indicating the need for a WLSR statistical treatment.

**Table 4***Multicollinearity Statistics for the Revised Independent Variables*

Independent variable	Collinearity statistics	
	Tolerance	VIF
Standard diploma	.954	1.05
Advanced studies	.954	1.05

**Figure 8***Revised Studentized Residuals by Unstandardized Predicted Value*

**Assumption 7: Outliers.** When following the Laerd Statistics (2020) procedures for running MLR, the Casewise Diagnostics option is checked to produce the standardized residual statistic for each case of the independent variable. A standardized residual value of  $\pm 3$  standard deviations is considered an outlier. If no Casewise Diagnostic table is generated with the SPSS output, then no cases had a standardized

residual value of  $\pm 3$  standard deviations, meaning no outliers were identified (Laerd Statistics, 2020).

**Assumption 8: Normality.** An underlying assumption for all inferential statistics is the normal distribution of the dependent variable. As shown in Figure 7 and discussed briefly under Assumption #5, the dependent variable demonstrated a strong positive skew, which was confirmed by inspection of the normal P-P plot of standardized residuals in the SPSS MLR output. According to Laerd Statistics (2020), regression analyses are fairly robust to non-normality.

### ***Research Question 2 Data Analysis Results***

Weighted least squares regression is used when there is evidence of heteroscedastic errors associated with initial regression results and other attempts to gain homoscedasticity are unsuccessful (Laerd Statistics, 2020). Through a series of data transformations to create a new weighted variable, the *MLR* is run on the original dependent variable with new weighted variable created to adjust each case by the amount of prediction error associated with each case (Omar & Bushby, 2015). The SPSS procedures outlined below were conducted to create the weights necessary for running the *WLSR*.

1. The *MLS* was re-run to generate the prediction errors for each case by selecting Unstandardized Residuals (*US*) within the Save dialogue. The results of the new variable contained both negative and positive numbers that needed to be converted to their absolute values.

2. The SPSS Transform – Compute functions were then used to create a new variable, Absolut Residuals ( $AR$ ), which used SPSS's ABS function such that  $AR = ABS(US)$
3. Unstandardized predicted values based on the AR were needed to compute the Weighted variable for each case. To accomplish this task, an auxiliary regression was run to using the AR as the dependent variable with the same dependent variables as before (i.e., Standard Diploma & Advanced Studies Diploma). This time, under the Save dialogue, Unstandardized Residuals was deselected, and Unstandardized Predicted Values ( $USP$ ) was selected.
4. The SPSS Transform – Compute functions were used a last time to create the new Weight ( $W$ ) variable which was 1 divided by the USP squared. The SPSS notation was:  $W = 1/(USP ** 2)$ .
5. Finally, as shown in Figure 9, the WLSR was then run using the dependent variable (ISAEP GED), the two independent variables, (Standard Diploma & Advanced Studies Diploma), and the variable Weight for the WLS Weight variable option.

Figure 9

SPSS Dialogue Window for Research Question 2's Weighted Least Squares Regression

The image shows the SPSS Linear Regression dialog box. The title bar reads "Linear Regression". The "Dependent:" field contains "ISAEP GED [ISAEPGED]". Below it, "Block 1 of 1" is shown with "Previous" and "Next" buttons. The independent variables listed are "Standard Diploma [StandardDipl...]" and "Advanced Studies Diploma [Adv...]", with a "Method:" dropdown set to "Enter". The "Selection Variable:" field is empty with a "Rule..." button. The "Case Labels:" field is empty. The "WLS Weight:" field contains "Weight [Weight]". On the right side, there are buttons for "Statistics...", "Plots...", "Save...", "Options...", "Style...", and "Bootstrap...". At the bottom, there are "Paste", "Cancel", and "OK" buttons.

A WLSR was run to determine to what extent, if any, the number of ISAEP GED certificates awarded could be predicted, above and beyond the mean model, by adding Standard Diplomas and Advanced Studies Diplomas. The results of  $R^2$  for the overall model was 20.3% with an adjusted  $R^2$  of 18.4%, a very small effect size according to Cohen (1998). While the effect size was very small, the addition of the Standard Diploma and Advanced Studies Diploma variables statistically significantly predicted ISAEP GED— $F(2, 86) = 10.934, p < .001$ —better than the mean model alone. Using the Coefficients table from SPSS output, Table 5, the regression equation for this model was:

$$ISAEP\ GED = 2.401 + (.028 \times Standard\ Diplomas) - (.006 \times Adv.\ Studies\ Diplomas)$$

**Table 5**

*SPSS Coefficients Output for Predicting ISAEP GED Certificate With Standard Diploma and Advanced Studies Diplomas*

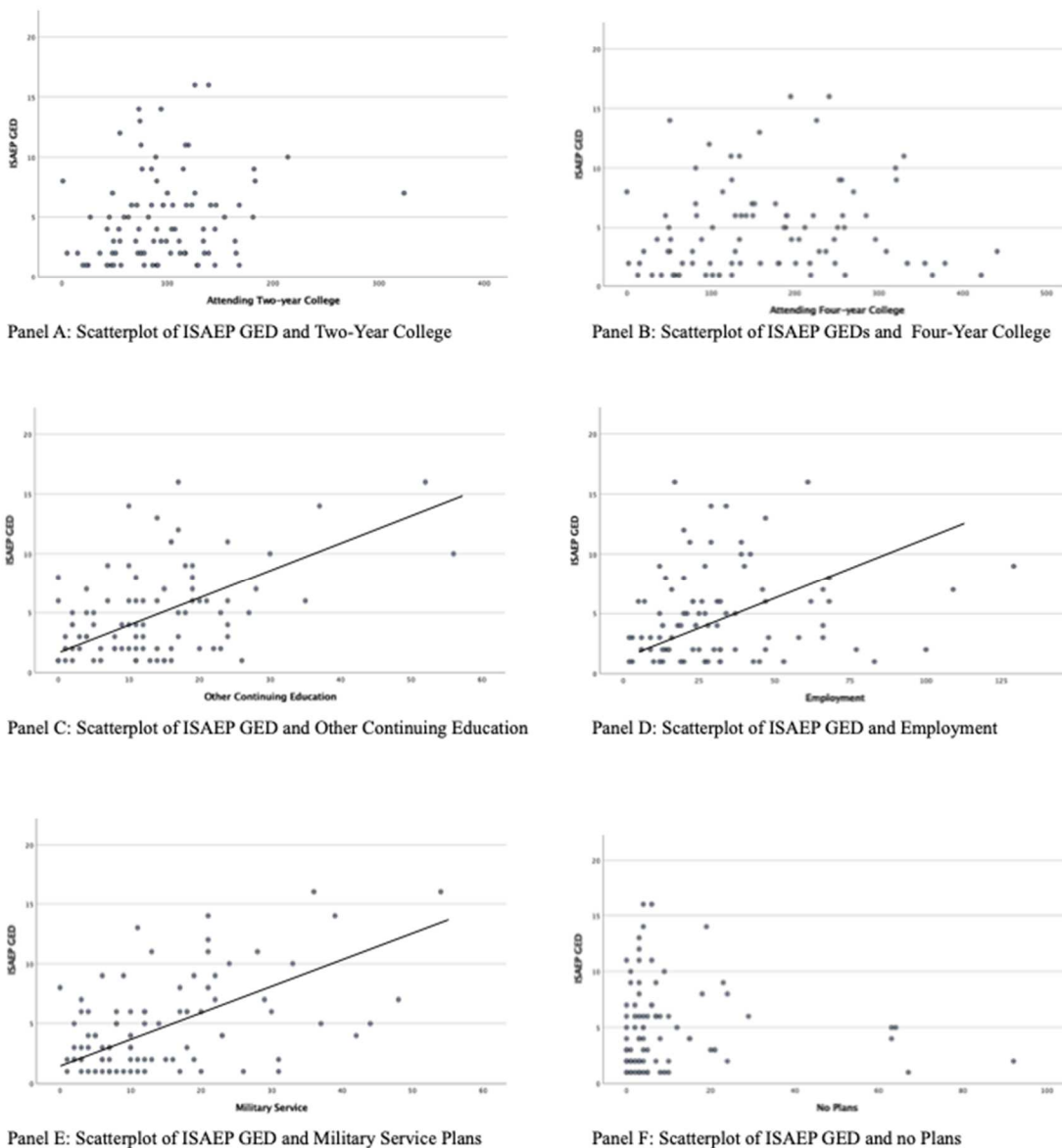
Model 1	Unstandardized coefficients		Standardized coefficients	<i>t</i>	Sig.	95% conf. interval	
	<i>B</i>	Std. error	Beta			Lower Bound	Upper Bound
Constant	2.401	.759		3.163	.002	.892	3.911
Standard diploma	.028	.006	.466	4.584	<.001	.016	.040
Adv. studies diploma	-.006	.003	-.238	-2.345	.021	-.011	-.001

### **Research Question 3: Relationship Between Post-High School Plans and ISAEP GED Certificate Attainment**

The third research question sought to evaluate the relationship between the dependent variable, ISAEP GED Certificates completed and the six independent variables of post-high school plans including, (a) 2-year college, (b) 4-year college, (c) other continuing education, (d) employment, (e) military service, and (f) no plans. To visually inspect for possible relationships between the dependent and independent variables for RQ3, I generated scatterplots using SPSS for each of the dependent-independent variable pairs. The six scatterplots are shown in Figure 10. A visual inspection of the plots revealed that only three independent variables demonstrated a potential linear relationship with ISAEP GED certificates while retaining a somewhat random pattern. The three independent variables of (a) other continuing education (Panel C), (b) employment (Panel D), and (c) military service (Panel E) demonstrated potential correlation with ISAEP GED certificate attainment.

**Figure 10**

*Scatterplots of Independent and Dependent Variables for Research Question 3*



**The First Two Assumptions.** The first two assumptions for multiple linear regression require that (a) the dependent variable is a continuous measure (interval or ratio) and (b) there are two or more independent variables measured as either continuous or nominal (Fox, 2016). Based on the best-line fits in Figure 10, it appears that there were



three candidate independent variables including Other Continuing Education, Employment, and Plans for Military Service. All these variables possessed continuous measurements; therefore, the first two assumptions were met. As explained in the following paragraphs, to test the remaining six assumptions, I ran the multiple linear regression with the three selected variables and then evaluated the remaining assumptions using the new output variables generated by SPSS during the multiple linear regression process.

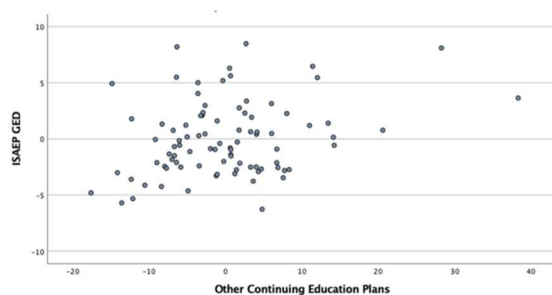
**Assumption 3: Independence of Observations (Residuals).** The independence of observations assumption was checked by consulting the Durbin-Watson statistic, a numeric value that was selected for inclusion when I ran the multiple regression. If the independence of observations assumption is violated, meaning the adjacent observations' errors are correlated, then a statistical test other than regression would be required. The Durbin-Watson statistic was located in the last column of the Model Summary table of the SPSS output. According to Laerd Statistics (2020), the closer the Durbin-Watson value is to 2, the more likely the Independence of Observations assumption is met. The Durbin-Watson value was 1.70, approaching 2, and therefore the third assumption was met.

**Assumption 4: Linear Relationships Between the Variables.** This assumption was partially tested by visual inspection of scatter plots in the previous section, which provided the rationale for including the selected independent variables in the regression. The assumption of linearity, however, must be formally tested using two criteria. First the dependent variable must be linearly related to each independent variable independently

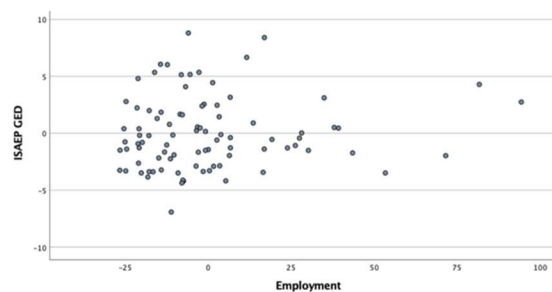
and second, it must also have a linear relationship with each of the independent variables collectively (Fox, 2016). Presented in Figure 11, partial regression plots and the plot of studentized residuals by unstandardized predicted values were generated when I ran the multiple regression. The partial regression plots for the three independent variables confirmed their independent linear relationship with the dependent variable (Figure 11, Panels A-C). The scatter plot for evaluating the collective linear relationship to the dependent variable (Figure 11, Panel D); however, was suspect because it did not present the expected horizontal band to reveal linearity (Fox, 2016).

**Figure 11**

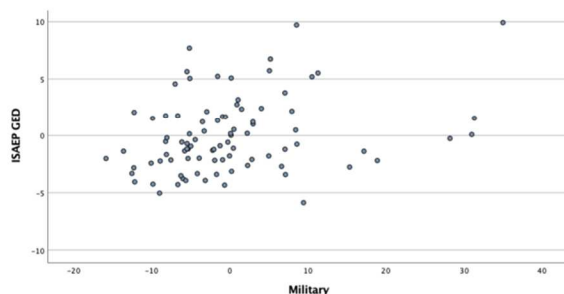
*Scatter Plots for Assessing the Variables' Linear Relationships for Research Question 3*



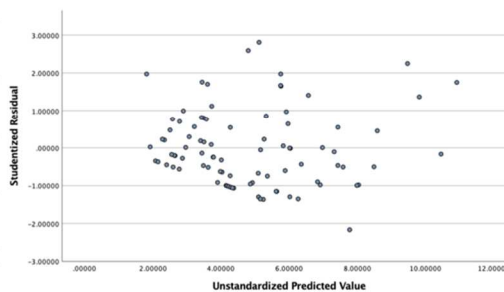
Panel A: Partial Regression Plot of Other Continuing Education Plans to the Dependent Variable (ISAPE GEDs)



Panel B: Scatterplot of Employment Plans to the Dependent Variable



Panel C: Scatterplot of Plans for Military Service to the Dependent Variable



Panel D: Scatterplot of Studentized Residual by Unstandardized Predicted Value of ISAP GEDs

**Assumption 5: Homoscedasticity.** The *homoscedasticity* assumption is met when the variance is equal for all the values of the predicted dependent variable. It is checked by visual inspection of the scatter plot of the studentized residuals against the unstandardized predicted values. When the plot reveals a spread of the residuals with no increasing or decreasing pattern across the predicted values, then the data are homoscedastic (Fox, 2016). The increasing funnel shape (Figure 11, Panel D); therefore, suggested heteroscedasticity, a data condition that required corrective action.

Heteroscedasticity occurs when data are not normally distributed, and normal distribution is an assumption for parametric statistical tests (Fox, 2016). As in my analysis for RQ2, the data values for the dependent variable, ISAEP GED certificates were strongly positively skewed (Figure 7). Because I had already attempted and failed to transform the dependent variable data to gain homoscedasticity in my RQ2 data analysis, I skipped this step for RQ3 and assumed the need to run a WLSR (Laerd Statistics, 2020).

**Assumption 6: Multicollinearity.** Before running the WLSR, I consulted the Coefficients output table from the MLR to check for multicollinearity among the dependent and independent variables. When tolerance is less than 0.1, then collinearity likely exists (Hair et al., 2018). As shown in Table 6, the tolerance values for all three independent variables were greater than 0.1, indicating that the data for the independent variables passed the test for multicollinearity for the RQ3 data analysis. Even though the data passed the test of multicollinearity, the scatter plot of studentized residuals against the unstandardized predicted values (Figure 11, Panel D) still retained the increasing

funnel shape, a condition that when combined with the non-normal distribution of the dependent variable data (Figure 7), confirmed the need for a WLSR analysis for RQ3.

**Table 6**

*Multicollinearity Statistics for the Independent Variables*

Independent variable	Collinearity statistics	
	Tolerance	VIF
Other Continuing Education Plans	.716	1.40
Employment	.958	1.04
Plans for Military Service	.692	1.45

**Assumption 7: Outliers.** When following the Laerd Statistics (2020) procedures for running MLR, the Casewise Diagnostics option is checked to produce the standardized residual statistic for each case of the independent variable. A standardized residual value of  $\pm 3$  standard deviations is considered an outlier. If no Casewise Diagnostic table is generated with the SPSS output, then no cases had a standardized residual value of  $\pm 3$  standard deviations, meaning no outliers were identified (Laerd Statistics, 2020).

**Assumption 8: Normality.** An underlying assumption for all inferential statistics is the normal distribution of the dependent variable. As shown in Figure 7, the dependent variable demonstrated a strong positive skew. However, according to Laerd Statistics (2020), regression analyses are fairly robust to non-normality.

### ***Research Question 3 Data Analysis Results***

The WLSR SPSS procedures outlined in Steps 1 – 5 were followed to conduct the WLSR for RQ3 regressing the independent variables of Other Continuing Education,

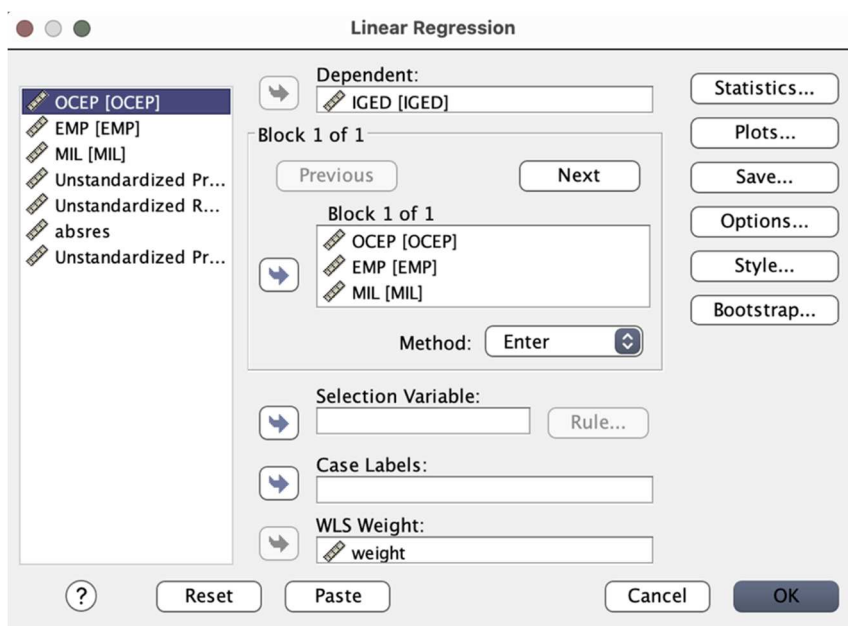
Employment, and Military Service on the dependent variable of ISAEP GED certificates.

The final SPSS dialogue window producing the WLSR output for RQ3 is shown in

Figure 12.

**Figure 12**

*SPSS Dialogue Window for RQ3's the Weighted Least Squares Regression*



A WLSR was run to determine to what extent, if any, the number of ISAEP GED certificates awarded could be predicted, above and beyond the mean model, by adding students' plans after high school, including the three variables of (a) Other Continuing Education, (b) Employment, and (c) Military Service. The results of  $R^2$  for the overall model was 21.2% with an adjusted  $R^2$  of 18.4%, a very small effect size according to Cohen (1998). While the effect size was very small, the addition of the Other Continuing Education and Military Service variables statistically significantly predicted attainment of the ISAEP GED certificate— $F(3, 85) = 7.614, p < .001$ —better than the mean model alone. The independent variable, Employment, did not statistically significantly

contribute to the model. Using the significant predictors from the Coefficients in the SPSS output (see Table 7), the regression equation for this model was:

$$ISAEP\ GED = 2.097 + (.087 \times Other\ Continuing\ Ed.) + (.089 \times Mil\ Service)$$

**Table 7**

*SPSS Coefficients Output for Predicting ISAEP GED Certificate With Other Continuing Education, Employment, and Military Service*

Model 1	Unstandardized coefficients		Standardized coefficients		
	<i>B</i>	Std. error	Beta	<i>t</i>	Sig.
Constant	2.097	.616		3.404	.001
Other continuing education	.087	.043	.233	2.003	.048
Employment	.010	.014	.068	.690	.492
Military service	.089	.040	.266	2.238	.028

### **Conclusion and Project Implications**

In my study, I compared the number GED certificates awarded between ISAEP participating high schools and non-ISAEP participating high schools (RQ1), assessed the relationship between ISAEP GED certificates awarded and the high school completion categories (advanced studies, standard diploma, non-ISAEP GED certificate, certificate of program completion, or other diploma) (RQ2), as well as the relationship between ISAEP GED certificates awarded and students' post-high school intentions in Virginia public schools during the school year 2016–2017. These items were chosen because they were the only publicly available variables that the VDOE publishes for all schools. Only institutional data were available for analysis; therefore, the logical choice for a research project was a policy recommendation (see Appendix A) based on my findings to be

offered to the VDOE that may be used to better monitor and improve ISAEP high school performance related to ISAEP GED completion in the future. In accordance with the Walden University Doctor of Education (EDD) Project Study Checklist, in the next section I present policy recommendation based on a second review of literature.

## Section 3: The Project

### **Executive Summary**

This policy recommendation is the result of a doctoral project study that attempted to evaluate the efficacy of the VDOE's ISAEP program. The main findings from the quantitative study were that the annual data collected and shared by the state in its public databased related to high school graduation contained insufficient variables to correlate ISAEP graduation with what schools are doing to prepare these students for graduation. In addition to presenting an overview of the study and its findings, this paper recommends additional variables that could be included to better correlate and predict the annual graduation of ISAEP students. This policy recommendation includes the following sections:

1. Executive Summary
2. Review of the Research
3. Project Description
4. Project Evaluation Plan
5. Project Implications

In Section 3, I present a brief description of the proposed project, a rationale for the project genre I selected based on my data analysis results, a literature review on the selected project genre, a more in-depth project description, project evaluation plan, and project implications. The project included with this study is a policy recommendation to adjust the variables published in the state's annual database so that better metrics about the ISAEP program can be shared for future research and assessment of the program's



efficacy about monitoring ISAEP GED fulfillment goals. An evaluation report would not be an appropriate project for this study because the study did not evaluate any program. Likewise, recommendations for either a new curriculum or professional development training would not be appropriate because the study did not consider curricula or professional development of staff or faculty. The policy recommendation proper is contained in Appendix A and will be shared with the VDOE as a recommendation to adjust variables that are currently collected and distributed for public consumption.

### **Rationale**

The problem for this study was the ISAEP factors that indicated disparities in GED certificate attainment across Virginia high schools. The data analysis results revealed statistically significant differences in the number of total GED certificates awarded when comparing ISAEP and non-ISAEP high schools, with the ISAEP schools clearly outpacing the non-ISAEP schools. The other two findings from the study were (a) that ISAEP GED certificates could only be moderately predicted by two of the five variables related to the categories of graduation, and (b) ISAEP GED certificates could only be moderately predicted by two of the five variables related to students' post high school plans. The finding related to RQ1 affirmed that the ISAEP program is helping to address the problem of high school graduation for students with IEPs and is noteworthy for state-level policy makers in its own right. The findings from RQ2 (categories of high school completion) and RQ3 (categories of post-high school plans) indicated gaps in the data collected by the state and shared in its annual report and these gaps need to be

identified and shared along with the positive finding about the ISAEP program from RQ1.

### **Review of the Research**

The doctoral project capstone consists of four sections. In Section 1, I reviewed existing research on alternative education and alternative education programs. I described the local problem that prompted the study situating the problem within the larger population. Alternative education is often associated with students who are at risk of not completing high school or display extreme misconduct different from the usual or conventional. Robinson (2021) acknowledged that alternative education students thrive when creativity is used to build programs that address the barriers to their success. Alternative education programming provides more customized options for alternative education at-risk students to achieve a high school diploma and prepare for college and careers. Alternative education programs have multiple means to earn credit with differentiated instruction, flexible scheduling, and creative uses of hands-on learning technology (Rennie Center for Education Research and Policy, 2014). The purpose of my study was to determine if a significant difference exists in Virginia students' GED certificate attainment based on participation in the state's ISAEP program. Based on the research problem to better understand ISAEP program efficacy, I also wanted to determine which variables, among those that the VDOE reports for all high schools annually, were most associated with ISAEP program completion through the attainment of ISAEP related GED certificates.

The project study rationale presented justification for the local problem based on national alternative education programs failing performance data relative to the state of Virginia's ISAEP program. The significance of the study described how studying the project study problem relates to the local educational setting. Special terms associated with the study problem variables were also presented and defined in Section 1. Research questions that were developed to focus the data collection and analyses are provided as follows:

- RQ1: What is the difference in GED certificate attainment between Virginia high schools that have ISAEP GED programs and those that do not have ISAEP GED programs?
- RQ2: Do relationships exist between or among ISAEP GED certificates awarded and the high school completion categories (advanced studies, standard diploma, non-ISAEP GED certificate, certificate of program completion, or other diploma) in Virginia public schools during the school year 2016–2017?
- RQ3: Do relationships exist between or among ISAEP GED certificates awarded and students' post-high school plans (2-year college degree, 4-year college degree, other continuing education, employment, military service, and no plans) in Virginia public schools during the school year 2016–2017?

The review of literature identified the study's theoretical foundation and how theory related to the study, review of the broader problem, relevant public and research data, as well as McPartland and Jordan's (2001) characteristics for creating a climate of

caring and support for high school reform (CCCSHSR). The CCCSHSR guided a second review of literature related to creating policy statements based on my initial review of literature. Implications were discussed for possible, project directions depending on what was found during the data analysis portion of the study. One of those possible projects included a policy statement, which was eventually selected for this study. Section 1 ended with a summary of important learnings from the initial review of literature and an overview of the content of the remaining three sections.

Section 2 of the project study included the methodological approach for the study, including the data collection and analysis, the data analysis results, interpretations of the data analysis and results, and appropriate tables and figures related to the statistical processes used. The methodology for the study was a quantitative designed using independent samples  $t$  test for RQ1, and multiple regression analysis for RQ2 and RQ3. The criterion measure of interest was the ISAEP GED graduation levels for the state of Virginia during the 2016 academic school year. The only variables available from the annual state report were classified in one of two categories: (a) type of high school completion used for RQ2 or (b) post-high school graduation plans used for RQ3. For RQ1, the number of GED certificates awarded was compared for all Virginia schools based on the school's membership as either an ISAEP program participant school or non-ISAEP program participant school. Table 8 presents the annual, archived *High School Graduates and Completers Reports* (VDOE, 2020e) data that were used in the study.

**Table 8***High School Graduates and Completers Reports*

Variable name	Variable type	Type of measure
ISAEP program school	Grouping	Categorical (Y/N)
ISAEP GED Certificates	Dependent	Continuous
Regular GED Certificates	Independent (RQ2)	Continuous
Standard Diplomas	Independent (RQ2)	Continuous
Advanced Studies Diplomas	Independent (RQ2)	Continuous
Other Diplomas	Independent (RQ2)	Continuous
Certificate of Completion	Independent (RQ2)	Continuous
College (2-Year)	Independent (RQ3)	Continuous
College (4-Year)	Independent (RQ3)	Continuous
Other Education	Independent (RQ3)	Continuous
Employment	Independent (RQ3)	Continuous
Military	Independent (RQ3)	Continuous
No Plans	Independent (RQ3)	Continuous

For RQ1, a Mann-Whitney  $U$  test was run to determine whether a significant difference existed in the number of GED certificates awarded comparing ISAEP and non-ISAEP high schools. The distributions of the GED certificates awarded were not similar, as assessed by visual inspection of the distributions. The GED certificates awarded for ISAEP high schools (mean rank = 160.42) were statistically significantly higher than for the non-ISAEP high schools (mean rank = 60.58),  $U = 558.5$ ,  $z = -11.93$ ,  $p < .001$ , using the asymptotic (2-tailed) distribution for  $U$ . The null hypothesis of no significant difference in the number GED certificates awarded between ISAEP and non-ISAEP high

schools was rejected in favor of the alternate. Among 110 randomly selected schools for both groups, 712 GED certificates were awarded for ISAEP high schools compared to only 60 GED certificates awarded by the non-ISAEP high schools.

After evaluating the available variables for the category of type of graduation for RQ2, it was determined that only the standard diploma and advanced studies variables had sufficient correlation with ISAEP GED certificate to be included in the regression analysis. Therefore, a weighted least squares regression (WLSR) was run to evaluate the extent to which Standard Diplomas and Advanced Studies Diplomas predicted ISAEP GED certificates. The results of  $R^2$  for the overall model was 20.3% with an adjusted  $R^2$  of 18.4%, which was a very small effect size according to Cohen (1998). Although the effect size was very small, the addition of the Standard Diploma and Advanced Studies Diploma variables statistically significantly predicted ISAEP GED— $F(2, 86) = 10.934$ ,  $p < .001$ —better than the mean model alone. The regression equation for this model was:

$$ISAEP\ GED = 2.401 + (.028 \times Standard\ Diplomas) - (.006 \times Adv.\ Studies\ Diplomas)$$

After evaluating the available variables for the students' plans after high school for RQ3, it was determined that only the Other Continuing Education, Employment, and Military Service independent variables had sufficient correlation with ISAEP GED to be included in the regression analysis. A WLSR was run to determine to what extent, if any, the number of ISAEP GED certificates awarded could be predicted, above and beyond the mean model, by adding the three independent variables. The results of  $R^2$  for the overall model was 21.2% with an adjusted  $R^2$  of 18.4%, a very small effect size according to Cohen (1998). While the effect size was very small, the addition of the

Other Continuing Education and Military Service variables statistically significantly predicted ISAEP GED— $F(3, 85) = 7.614, p < .001$ —better than the mean model alone.

The independent variable, Employment, did not statistically significantly contribute to the model. Using the significant predictors from the Coefficients in the SPSS output (see Table 5), the regression equation for this model was:

$$ISAEP\ GED = 2.097 + (.087 \times Other\ Continuing\ Ed.) + (.089 \times Mil\ Service)$$

Section 3 of the Final Project Study included the project description; this policy recommendation, with detail including background of existing policy problem summary of analysis and findings; literature and research evidence; outline recommendations connected to the evidence; and goals description.

### **Review of Literature Related to the Project**

The problem that prompted this study was the observed disparate ISAEP GED certificate attainment across VA high schools that offered ISAEP GED programs.

Because data were insufficient to examine ISAEP GED high schools by themselves, the entire graduation dataset for the state that included non-ISAEP high schools was

examined to see what could be learned about GED certificate attainment by looking at both the between groups (ISAEP and non-ISAEP) and within the ISAEP group itself.

While the data analysis and results lacked effect size, the statistically significant findings using the statewide dataset of high school completion for the 2016-2017 school year suggested the need for a systemic approach for recommending changes to improve the ability to track and empirically test the efficacy of high school completion programs.

The project proper was developed based on McPartland and Jordan's (2001) characteristics for creating a climate of caring and support for high school reform (CCCSHR). The three major findings from the data analysis were that (a) there was a statistically significant difference in GED certificates awarded when comparing ISAEP and non-ISAEP high schools, (b) the number of ISAEP GED certificates awarded could be predicted by the number of Standard Diplomas (positively related) and Advanced Studies Diplomas (negatively related), and (c) the number of ISAP GED certificates awarded could be predicted by post-high school plans for Continuing Education and Military service (both positive). Although the policy recommendation provided in my paper might not address all the criteria identified by the authors of the CCCSHR theory, those criteria clearly point to the need to address issues through policy to facilitate better high school completion rates. The principal characteristics of the CCCSHR theory are provided as follows:

1. Structural, organizational, and governance changes to establish the school norms and interpersonal relations for learning.
2. Curriculum and instructional innovations to give individual students the necessary time and help for success in a high-standards program.
3. Teacher support systems to provide opportunities for faculty input and continuous backing required to implement ambitious changes.

The policy recommendation provided in Appendix A was guided by the steering characteristics of CCCSHR to incorporate the empirical findings from the study.



I conducted a literature search on policy development and implementation related to alternative education and found extensive research available on this topic. The terms I used during my literature search included structural and organizational governance, interpersonal relations related to policy implementation, characteristics for creating a climate of caring and support for high school reform, curriculum and instructional policy innovations, high-standards program, establishing new norms, teacher support systems, and the implementation of ambitious changes. I reviewed scholarly books, dissertations, project studies, journals theses, case studies, and local and national conference reports associated with alternative education programs. The following data bases were used in my search for related literature: ERIC, SAGE, ProQuest Central, Education Research Complete, EBSCO host, Academic Search Complete, and Oxford University press, Child Trends, Dissertations & Theses @Walden University, Education Sources, Google Datasets, and ScholarWorks.

### **Changes to Establish New School Norms**

Efforts to establish new school norms through policy changes have provided states with domestic violence guidelines to better protect children and adults. Victor et al. (2021) studied child protective service guidelines for substantiating children exposure to domestic violence. Findings suggested that child welfare systems offer a recommended set of state quality policy indicators that promote the safety and wellbeing of children. The study reviewed how black youth who violated school division Code of Conduct regulations were more susceptible to their own victimization and out-of-school suspensions that contributed to school dropout. As a result of their findings, Victor et al.

examined and recommended a range of policy recommendations to implement changes to establish new norm approaches.

There were also many economic policies that addressed new school norms during COVID-19 to support educators, education leaders, and families. The mobilization of bipartisan federal legislation resulted in a \$500 million competitive grant initiative that expanded the current teacher workforce and impacted changes to licensure, clinical requirements, program approvals, and entry and exit assessments. It also resulted in a new study of how states should confront the educational challenges of COVID-19 (Deans for Impact, 2022). The Deans for Impact (2022) study offered three recommendations for states responding to COVID-19. Those recommendations included: (a) states should provide unlimited virtual education resources to satisfy clinical teaching requirements, (b) states should provide science learning to new teachers, and (c) states should adopt policies that allow more online tutoring for all teachers. A recommended teacher-state partnership would create leveraging initiatives to counter teacher shortages while strengthening student personnel services (Deans for Impact, 2022).

Evidence has shown how successful changes to establish new norms through policy recommendation always included thorough analysis and the application of good theory. In another policy initiative, The Policy Circle (2020) recommended ambitious change that support schools as they adapt to social, economic, and political education policy reform. Policy recommendations that reduce inequality by providing equal opportunities for members of society impacts social and economic supports that help sustain the economy (Policy Circle, 2020). Theory and research come together in this

project study to offer systemic policy recommendations to improve the probability of high school graduation by while minimizing social economic disempowerment (Engbers & Rubin, 2018).

### **Structural Economic Considerations**

Alternative education programs provide enriching educational experiences that are designed to engage students with low self-esteem, poor grades, poor attendance, and insurmountable socioeconomic challenges. According to Bardach and Patashnik (2019), structural economic consideration is a major fiscal control driver of the health and wellbeing of the American economy, a situation that drives federal- and state-level policy conversations related to local education policy decisions. Structural economic considerations can impact high school graduation rates. Students who do not graduate from high school require social services at a higher rate than high school graduates. Yet, students who graduate from high school contribute more economically to the American economy than students who do not graduate from high school.

Loayza and Woolcock (2020) considered the impact of successful structured economic development policies in terms of the measures required to make the chosen policy effective. Failure to improve the institutional environment often resulted in negative economic and social outcomes that adversely affected the well-intended policy reform. The study showed how policy developing communities have long championed programs that sought to diminish political barriers, reduce business formalities, increase new school construction, improve educational opportunities, fund alternative education programs, empower program directors, and increase police protection to reduce crime.

When these policy implementation goals were achieved, new policies improved community stability and safety.

According to Hudson et al. (2019) new policies must be connected to community economic development interventions to ensure successful approaches in the new policy outcomes. There has always existed the awareness that failure or success of new policies was related to economic considerations. Subsequently, the idea of design and implementation to ensure policy efficacy is addressed through economic considerations. This process allows the government to continue to explore the potential of strengthening policy support programs to increase new policy success.

According to Frieden (2020), policymakers continue to debate their policy recommendations' impacts on future political agenda priorities. To illustrate, Frieden emphasized international governments' political impacts on economic policy based on the intersection of politics, economics, and other COVID-19 pandemic factors. Policy responses continue to be tempered by political realities. This study acknowledged how pressured policymakers are reluctant to invest the time, money, and political capital to address future crises that have yet to happen. Nevertheless, policy responses to the global pandemic have required policymakers to take appropriate accountability measures to make decisions to preserve the stability of policies according to economic considerations.

According to the Rural Health Information Hub (2022), the Health in all Policies (HIAP) program provides a structurally sound protocol for research related to healthcare policy development and implementation. This program examines government initiatives based on economic considerations related to healthcare, including the cost and financial

gains and losses of implementing new policies in the healthcare arena. The HIAP research has been described by policy makers as challenging based on the need for collaboration with nonhealth and diverse health sectors. HIAP interventions may serve as a means of controlling health care costs and preventing diseases. The study presented a thematic analysis of how economic considerations affected HIAP policies exploring actions to safeguard effective public policy programs through governmental legislative decisions (Rural Health Information Hub, 2022).

Structural economic considerations for policy may include the concept of aggregate support and capacity. In the initiative presented by Williams (2021), researchers sought to understand the implications of bureaucratic goals for new policy reform efforts by including the aggregate support concept of capacity. The study recommended that researchers advance bureaucratic quality to understand the bureaucratic implications, collective economic security, contextual specificity, contingencies in policy implementation, measurement of reform focus, and government economic politicized performance. Viewing policy implementation using the political spectrum provides an additional way to monitor the success of new policies.

The impact of policy recommendations during the unprecedented health and economic crisis of COVID-19, multifaceted economic policy responses to human suffering, global economic recession, and corporate sector distress necessitated a mitigating economic policy framework. According to the Izvorski et al. (2020), prolonged economic suffering has an impact on all people but is especially burdensome for the poor and highly indebted. There were also correlations to reduced nutrition and

educational outcomes for these populations. An important recommendation was that immediate government policy should prioritize funding for social welfare and education, and that the funding should include both fiscal and financial policy measures.

Arviv and Navon (2021) addressed teacher attrition from an economic policy perspective. The study explored how teachers' resources and terms of employment correlated with attrition behavior. The researchers found that highly educated new teachers were leaving the profession despite reward-for-performance initiatives. This situation suggests that employment rewards do not play as important a role as some policy makers would suggest. The findings also suggested that at lower salaried ranges, the rewards-attrition association differed based on teacher higher-education levels. The results also indicated that attrition rates of highly educated teachers drop sharply as salaries increase independent of reward-for-performance policies.

### **Social Considerations of Policy Implementation**

Social capital theorists, like Engbers and Rubin (2018) have long debated the need for civic life to increase social capital while contributing to the vitality of the economic health of communities. As a result, social capital must be considered in terms of job creation and is an important aspect of CCCSHRF. Social capital theory provides two theoretical explanations for how social capital affects economic development throughout the lifespan of economic development initiatives. As a result, the researchers recommended that policy makers include social capital theory and its implications for economic development when constructing new policies (Engbers & Rubin, 2018).

Social considerations of policy implementation include attribution of responsibility, territorial infrastructure, policy legacies, and political alignments. Niedzwiecki (2018) suggested that the national government could gain politically by addressing social policy interests, including compatibility national social interest affiliates, consistently. The role of social policy documentation can complex and multifaceted and should fill gaps between policy promises and policy outcome services to citizens. According to Bullock and Lavis (2019), many researchers have focused on important factors of social policy considerations and without understanding how to construct and operate the system resources to support the social policy implementation process. Policy makers and leaders consider the intrinsic expertise embedded within organizations in order to deliver health and social services to citizens.

Politics always in play when social policy is designed and implemented. According to Hemker (2017), social policy implementation is often characterized as a political economic factor wherein right-wing executives politicize labor market policies with left-wing executives creating policy conflicts hampering social policy recommendation. The researcher acknowledged that social policy implementation and financing is often delegated to the government wherein wealthier jurisdictions benefit by decreasing public outlays. The solution, from Hemker's perspective, was to increase government decentralization and decrease alignment with social welfare beneficiaries (Hemker, 2017).

Low-income families, their children, and adults of color have often been the topic of social policy considerations and development. Melkman and Benbenishty (2018)

examined the relationship between childhood adversity and functioning adults with their past socioeconomic challenges and outcomes. Children's emotional, practical, and information guidance supports were paired with adult post-high school settings. Findings indicated significant negative social outcomes due to low social class status. The study remedy for social policy consideration was increased federal funding appropriations and additional government equity practices focusing on social network interventions.

School leaders become arbiters for social policy consideration implementation to expand education opportunities. Mavrogordato and White (2020) examined the many roles of school leaders and social policy. The study focused on school leader's lack of training and awareness of policy interpretation. Findings revealed a lack professional development among school leader in the topic of policy development and implementation, negatively impacted the basic human rights of students and staff due to ineffective policy management. Research findings provided a school leaders' policy implementation framework to improve diversity and social equity.

In the United States, social consideration of policy implementation is embedded in the American democratic culture. According to Pharris and Natale (2020), students who are familiar with the workings of school policies possess increased skills that contribute to their success in school. Political culture theory provides a framework for teachers to use to help student better comprehend federal and state social welfare policy and use that knowledge to their advantage. Social consideration of policy implementation should be leveraged to engage students in policies related to the skills of learning and development (Pharris & Natale, 2020)



Another social consideration of policy implementation has to do with intraorganizational coordination. Frank et al. (2015) were concerned with the idea of teaching and testing organizational behavior in professional development sessions with potential new policy recipients in 21 different schools. They included a step-by-step know-how discussion on the implementation of policies. The researchers found stronger support for leaders who administered policies using the step-by-step know-how flow for organizational change during policy implementation as opposed to leaders who varied from that process (Frank et al., 2015).

The Centre for Effective Services (2022) addressed social consideration of policy implementation categories as a cycle of policy review, policy development, and policy implementation. Political and technical components in policy development include data collection and analysis, evidence-based findings, implementation planning, government mandates, and public consultation. The study suggested that policy makers and proficient enablers enacting the political and technical components policy initiatives should understand the context for policy implementation, be aware of policy priorities and actions, ensure legislative policy coherence, and display policy accountability interests for policy usefulness.

International policy implementation research results are not incongruent with policy research finding in the United States. A South American study of social policy (Breyner & Daroit, 2020) considered the policy implementation of the Brazilian Bolsa-Familia Program (BFP). The BFP included a school attendance monitoring analysis that benefitted 13.8 million families. The BFP is operated in an extreme poverty region by

street level bureaucrats who are connected to other social policies' benefits, schools, health clinics, and social assistance centers, all of which combine to create multi-sectoral and intersectoral networks. The analysis showed how the implementation of social and educational policy connections positively strengthened the impoverished people it served.

### **Governance and Interpersonal Considerations of Policy Implementation**

Doyle (2019) explored the impact of private sector leaders responding to the role of corporate governance and interpersonal consideration of policy implementation. The consensus was a new activist movement that scrutinized the politicization of corporate governance through the lens of public policy business practices. Activists were prompting more Americans to take leading roles in policy debates on environmental protection of human rights. The results of this movement have publicly enhanced human rights and education, improved wages, improved public health, and positively impacted gun safety, all while respecting the legitimate views of competing interests. Yet, the library of the Organization for Economic Cooperation and Development (2019) examined further impact trends on education governance policy priorities throughout several education systems in terms of refining the formal structure of education systems. Education governance goals included engaging stakeholders in education decision making processes to allow professional input in organizational planning. According to Schein and Schein (2017), including a theory of organizational culture underscored the role of political leaders as catalysts in shaping the culture and learning climates of schools.

The National Education Association (NEA) policy governance legislative and policy-making body proposes, amends, and eventually adopts public education policy

recommendations. The NEA legislative body prioritizes federal laws that support public K-12 schools and post-secondary institutions. Federal legislative policy recommendations impact four areas of concentration, including: (a) high quality public education for schools and classrooms, (b) support for student success by creating learning environments for children in support of their development, (c) a voice in the workplace linked directly to all employee issues, and (d) good public policy addressing national issues to NEA members and the nation. National support implementing the policy governance recommendations resulted in stronger support of K-12 schools (NEA, 2020).

The impact of governance state laws, regulations, and COVID-19 policy recommendations, such as Title I, are currently under federal review. The pandemic continues to challenge the public-school policy calendar 180-day year, lagging academics, traditional school schedules, proficient low reading and math scores, and lack of school and family schedule alignment. Policy recommendations have included the need for school officials to better understand the needs of families. State departments of education are making efforts to ensure the availability of more flexible scheduling, rethinking their roles in communities, and providing funding streams to support innovative school schedules (Kuzmich, 2021).

Education policy and social policy are inseparable governance variables that impact communities through policy recommendations. Early learning centers', colleges', and schools' academic outcomes are affected by social, economic, and political conditions. Access to healthcare, housing policy, teacher training, and retention all play roles in student learning due to educators and policy makers impacting the educational

experiences of students and their families. Policy recommendations help fund operational education and research projects examining ways that state and local governments support schools (University of Delaware, 2018). Governance and interpersonal considerations of policy implementation impact organizations for schools. The superintendent of schools begins public instruction governance, acts as secretary to the school board, implements its policies, and performs duties it assigns. Local school divisions have jurisdictional boundaries that are concurrent with county or city boundaries. Local school boards make policies and approve regulations within the authority accorded them by the state code. Boards of education have no independent revenue authority. Some boards are elected, and some are appointed by boards of supervisors or city councils. Their budgets come from taxes collected by the local political jurisdiction and allocated through the local city council or board of supervisors' budget processes (National Center for Safe Supportive Learning Environments, 2020). Once appointed, the division superintendent is a state officer who can be removed by the board only for cause (i.e., failure to perform legal duties or for a removable offense specified in law). The division superintendent is responsible for carrying out the policies enacted by the division and state boards (Mountford & Richardson, 2021)

Governance and interpersonal relationships can refer to strong association of individuals sharing through positive relationships and rapport with each other for social change (Management Study Guide, 2022). High school students participating with interpersonal relations often encounter unique and adverse peer-related social and economic issues. Interpersonal relations quality and quantity are impact drivers of the

personal well-being. It should not be assumed that public policy, higher incomes, and economic growth equates with good interpersonal relations. On the contrary, good public policy takes in consideration that negative impacts may be possible and plans for contingencies as needed (Rojas, 2019).

Public policy governance regulates personal relations by establishing public education services and systems of support such as child protection and health care, social relationship frameworks, making rules that people must follow, and the maintenance of social order norms and values encouraged by the education system (Spicker, 2022). Rucinski et al. (2018) completed a teacher–child relationship study that showed how children are embedded in a web of policy decision making. Takeaways include how policy decisions impact the social field relationships of teachers and children, as well as contribute to learning and social-emotional development outcomes. Policy recommendations’ impact on economic integration, an indicator of globalization, has created the need for considering interpersonal relationships of the stakeholders within and among those who craft and implement new policies. A study by Kan et al. (2021) found that globalization disrupted community social cohesion which adversely affected interpersonal relationships within communities. The study concluded that education, gender, background, age, and income influenced peoples’ thinking relative to state-controlled political boundaries. As social cohesion is lost, people are less willing to support state- and political-boundaries.

### **Policy Recommendations for High-Standard Programs**

Policy recommendations for high standard programs in curriculum and instruction reform can be categorized into five areas. These include, (a) state infrastructure, (b) textbooks and other instructional materials, (c) curriculum, (d) teaching, and (e) assessments (McNutt et al., 2018). The overall goal for policies that seek to effect high standards is that all students learn and master standards-based subject content knowledge skills. State policy recommendations require strong leadership contributing to improved curriculum, instructional tools, fundamental learning resources, and the organization and delivery of content while always promoting high-quality standards. State policy outcome standards help to ensure the continuous improvement of education programs (McNutt et al., 2018).

Another perspective of high standards policy recommendations related to curriculum and instructional innovations seek to develop exceptional teachers and learners. Professional special educators follow the Code of Ethics to ensure that ethical principles, standards, practices, and professional policies respect diversities and needs of children and their families. Maintaining student challenging expectations, professional competence and integrity, meaningful inclusive participation, exceptionality services, family relationships, using high standard instructional research data, protecting, and supporting the physical and psychological safety, and advocating improvements in the laws, regulations, and policies are important goals of special educators who advocate for their students (Council for Exceptional Children, 2022).

One important way to advocate for students is by addressing student absenteeism. Şahin et al. (2016) investigated the relationship between student absenteeism and dropouts at the primary and secondary levels in North Turkey's Duzce Province. They suggested that many factors contribute to student absenteeism. Among those reported were inadequate childcare, children who did not wake up on time for school, unpreparedness regarding school resources, missing the school bus, working parents, poor child-parent communications, and lack of social cultural activities. Although this study was conducted in Turkey, many of the same challenges ring true in the United States, especially for families of low socioeconomic means.

High standards curriculum and instructional innovation programs are impacted when state policymakers target new resources for the students who need those most; a process that creates a degree of federal investment to improve our education system. The positive roles of stakeholders, including community members, student families, educators, and advocates, should include that they should ensure that federal funds are used equitably. High and low wealth districts should also engage equally in alleviating funding disparities while promoting resource students with highly qualified support teachers, needed curricular resources, and support services that can address the social and economic needs of the students. High standards affirming individual identities, social, emotional, mental, and physical health services will contribute to addressing funding loopholes while solidifying education program with additional federal revenue (Education Trust, 2021).

Evans and Keating (2016) discussed one such program, the *Every Child Matters* movement. This movement is based on earlier policy decisions that were focused on the safety of children. Specifically addressing prevention, the policy makers sought to ensure that all children would be safeguarded from harm, for the policy would create a culture of safety within the community. According to Evans and Keating, safeguarding children can and should be a community driven initiative that helps to sustain meaningful family relationships, communities, and other stakeholders who are interested in the welfare children.

Although Evans and Keating (2016) work originated in Canada, similar initiatives have been noted in the United States For example, the National Center for Safe Supported Learning Environments is located in Virginia and is funded by the USDOE and the American Institute for Research. A goal of this collaboration includes the cultivation of partnerships between school administrators, teachers, and school boards to help cultivate positive policy programs for the healthy development of children (National Center for Safe Supported Learning Environments, 2020).

The USDOE, NCEES (2021) provided curriculum and instructional data that suggested innovations to address overcrowded classrooms; a situation that was identified as a key challenge for high standard education programs. In short, teachers are spread too thin, students do not receive the attention required, students lose interest (many of whom dropout), and students and teachers become increasingly stressed. Policy recommendations may impact high standards education programs when policy makers draft ongoing master plans with dedicated task force lawmakers who consistently monitor



and evaluate annually program outcomes. When school officials and policy makers partner to attract and retain teachers, students' greater educational needs are met (American University, 2019).

High standards policies are more effective when implement by a supportive, trained stable staff to implement policies effectively within a quality program management team. Under these circumstances, high standards policies help children to feel more secure, encourage them to thrive physically, and help them learn from their curricular experience. To maintain the vitality of education programs, written public policies and procedures are shared with families to help address issues and concerns through the program's philosophy and curriculum goals. The National Association for the Education of Young Children (2020) program promotes and encourages positive relationships among all children and adults to encourage a deep sense of individual worth.

The National Center for Learning Disabilities (2021) is in alignment with research and other agencies with regard to effective education policy implementation. They too endorse policymakers and school administrators work together to effect high standards programs. The monitoring of student progress and proficiency using data driven research results can help assure positive educational trajectories for students with disabilities and help them achieve their highest levels of success, all while adhering to federal accountability assessment standards.

### **Policy Recommendations and Level of Change**

Policy recommendations to implement ambitious changes must have established goals, rules, and procedures to create standards of quality for education, safety, expectations, and accountability. The Rand Corporation (2022) documented education policy strategies and efforts to reform former low marks in the state of Louisiana. The restructuring of the early childhood education programs and high school graduation requirements successes throughout the school system with the adoption of high-quality curricula, improvements in professional development, and improved communication increased the graduation and college enrollment rates for high and low performing students (Rand Corporation, 2022).

Another impactful policy recommendation to implement ambitious changes was the concept of federal economic funding for free breakfast and lunch for all students regardless of income. The Center for American Progress (2018) reported that, when children have access to healthy food, their achievement levels increase. Therefore, according to the Center for American Progress (2018), many school leaders intend to provide meals free for students who need it most. Expanding the federal school breakfast and lunch program year-round reduces childhood hunger, improves the health of children, and positively impact their academic success (Center for American Progress, 2018).

Education policy recommendations implementation of ambitious changes, determinants, and processes involve complex educational systems to support policy reform. Viennet and Pont (2017) acknowledged four concrete dimensions for effective

implementation. The four dimensions included: (a) smart policy design, (b) inclusive stakeholder engagement, (c) conducive context, and (d) a coherent implementation strategy. The findings concluded that a policy maker framework that includes a set of questions and principles for action will guide policy makers to design, analyze, and carry out the processes of implementing supportive policy recommendations.

Educational policy recommendations for curriculum and instruction innovations should strive to resolve identified issues that are preventing students and schools from being as successful. Such identified issues have historically been related to levels of financial support, substandard economic condition, racial disparities, and social inequalities. Mahiri (2017) published a report that addressed critical education issues with associated recommendations. Educational advocates and policy makers highlighted several impactful education policy disparities that were highlighted in the report. Similar to the aforementioned disparities, the five factors that challenge successful educational policy included (a) fiscal disinvestment inequities, (b) mitigating educational inequities, (c) educational inequities limiting student's access to healthy learning environments, (d) adequate tracking practices, and (e) teachers and administrators' racial biases that impair learning for students. To positively impact policy recommendation, the study advised the federal government to support more equitable learning resources by expanding funding allocations based on pupil needs rather than states spending levels (Darling-Hammond et al., 2017).

### **Project Description**

Although the study findings were statistically significant, in the case of RQ2 the effect size was so small that it is difficult to recommend any policy change from this finding. The confluence of the findings from RQs 1-3, suggest that the variables that are reported in the annual, archived *High School Graduates and Completers Reports* (VDOE, 2020e) are not sufficient to evaluate the efficacy of the ISAEP program in a very meaningful way. From the study, two categories of recommendations were be made as follows:

Category 1: Better Data would be the focus of the first short-term recommendation.

Category 2: New Initiatives would be the focus of the second, longer-term recommendation.

One of the significant findings from this study was that, although individual schools collect and report some variables that could be highly related to ISAEP program efficacy, those variables are not included in the current VDOE annual report. The variables already included in individual school reports, but not included in the annual report are (a) GED Ed Trust instructional hours, (b) career and technical training instructional hours, (c) number of suspended students, (d) number of expelled students, (e) reasons for entry, and (f) number of special needs students. From perspective of Category 1 needs, I recommended that a Better Data Committee be formed to study and determine how to include these variables in future VDOE annual reports.

From my extended review of literature, other variables were also identified that could not only facilitate future explorations of the efficacy of alternative high school education programs like the ISAEP program, but also could help to improve directly alternative education program initiatives. Some of these identified variables include curriculum hours devoted to CTE (Harris et al., 2021); social-emotional skills ((McDermott et al., 2019; e.g., self-control, persistence, and social relationships); health literacy (McKinney et al., 2019); nondiscrimination policies related to the inclusion of LGBT youth (Phillippi et al., 2021); and research-derived alternative education school motivational disciplinary counseling programs to improve students' behavior, self-motivation, and self-readiness to change (Maillet, 2017; Ratanavivan & Richards, 2018). Therefore, from these research findings I recommend a second committee be established. The New Initiatives Committee could be a longer term or even permanent body to study alternative education improvements related to the variables that were identified in the recent research literature as important for the success of alternative education programs, once those variables are added to the annual report. Once the ISAEP program can be more meaningfully monitored, additional alternative education program initiatives could be implemented over time using the research-derived recommendations of the New Initiatives Committee.

### **Needed Resources and Existing Supports**

An acceptable method for solving complex challenges that include the perspectives of different stakeholders is to create committees to study the problems and then to make recommendations to central authorities according to the findings of the

committee members (Boaz, 2018). Therefore, the initial needed resource to improve the data that are reported in the *ISAEP Annual Program Report* (VDOE, 2018a) is to create a VDOE Annual Report Committee for the Improvement of the ISAEP Program Data Collection and Reporting System. This VDOE Annual Report Committee would entail the short-term (approximately one year) focus effort referred to in the previous section (i.e., Better Data Committee). Once the ISAEP program can be more meaningfully monitored, a second, longer-term New Initiatives Committee for the improvement alternative education programs in the state should focus on and investigate additional alternative education program initiatives. Existing supports for both committees include (a) data that already exist in the *ISAEP Annual Program Report* (VDOE, 2018a) provided by individual schools but not currently included in the larger statewide report, (b) the state-level ISAEP program director, (c) existing technical support personnel, and (d) school administrators familiar with the campus ISAEP and alternative education programs. The Instructional Resource Center Research Offices for each district would be an important point of contact for the ISAEP data located within each school district. Existing schools and central office locations would be used as existing infrastructure supports. To the extent that these stakeholders already have existing duties and responsibilities, release time or overtime compensation would be a needed as an additional resource to sustain the effort. Regarding additional budgetary support, one potentially powerful stakeholder could be the Virginia senator who is a graduate of one of the local schools that prompted this study. Along these same lines, school administrators, teachers, and state-level stakeholders who believe in the importance of ISAEP program

accountability and alternative education improvements could be important advocates for the implementation of these VDOE improvement policy recommendations.

Maillet (2017) suggested that alternative education can resolve challenging at-risk student behaviors (e.g., low motivation, failing grades, poor attendance, and feeling unsafe in school buildings) and improve graduation data. Existing external supports might be resources related to First College, a Virginia education effort to increase the junior and senior college enrollment and success of students. Once implemented, guest lecturers from local law enforcement and the military could be invited to create excitement for the student participants. The director of the state ISAEP program has offered to review external and internal existing support and provide guidance suggestions based on that review. In addition, many of my colleagues and associates are cognizant of the current study, are willing to share my research findings, and want to promote greater achievement and education outcomes for our at-risk high school students. In conclusion, I consider these interested colleagues as important available resources in any efforts to improve alternative education policies.

### **Potential Barriers and Solutions**

Three potential barriers to implementing this policy recommendation include (a) lack of an active, participatory, on-going professional development staff who are involved with reporting; (b) a limited-funds stipend paid staff who have to add new duties to their existing duties; and (c) the need for school leader partnerships with family and community participation. The first potential barrier involves staff members who may not realize that the local problem is a critical problem. Staff support of intervention efforts is

paramount to the success of the alternative education programs. To overcome this challenge, training will be key.

The second potential barrier is the limited-funds program stipend typically paid to full-time, division-level, salaried staff. There is the need for a budgetary commitment beyond stipend funding to commensurate with the duties required of the involved personnel required to intact the new policy. To meet the needs of at-risk students, a framework of accountability that ensures the reporting of key variables is needed to track and evaluate the efficacy of the ISAEP program (Center for American Progress, 2018).

The third potential barrier is the need for school leaders to partner with community leaders. Administrators and teachers must advocate for student achievement by providing guidance and support for the student individual program goals, while providing community team opportunities with students learning and practicing skills (Vander Ark, 2019). However, the school leaders' inability to collaborate with community stakeholders and parents will expose any policy initiative to additional risks.

Duke and Tenuto (2020) described the need for school leaders to practice roles as navigating between policy and meeting the needs of alternative education students with four steps that included: (a) creating a culture of high standards, (b) adopting a personalized caring approach in leadership, (c) implementing and exploring innovative practices for teaching and learning, and (d) managing students with an individualized collaborative approach. Staff must be made aware and agree that assessment and staff development are pertinent to improve student outcomes.



### **Implementation and Timetable**

The anticipated timetable for implementation began with my capstone research approval in the spring of 2022. After Walden University's acceptance and approval of this doctoral project study, I contacted the local district superintendent and scheduled a meeting to review my study and discuss the project proposal (Appendix A). During the review, I will follow the superintendent's guidelines and procedures for the new policy presentation to appointed personnel and, if approved by the superintendent, to school Board of Education for consideration as soon as possible during the summer 2022 school board meetings. If approved by the school Board of Education, I will work in the best ways to implement the new policy so that better data can be collected for review and analysis during the following summer. A copy of the project study and policy recommendation will be delivered to the local division's Instructional Resource Center Research Office. The policy recommendation will be considered fully implemented when better metrics are collected and shown, through empirical research, to be highly related to ISAEP program measures of efficacy. The timeline for implementation is two-pronged with 1 year available for the Better Data Committee and more than 1 year available for New Initiatives Committee (see the Project Evaluation Plan section).

### **Project Evaluation Plan**

You and Chung (2021) suggested eight evaluation criteria for policy recommendations. The eight evaluation criteria that are planned and detailed in Appendix A include (a) the setting of objectives, (b) determining needs (c) determining content, (d) selecting participants, (e) setting a schedule, (f) selecting a location, (g) selecting

professional staff, and (h) selecting a program coordinator. As laid out in Appendix A, the project evaluation plan includes the establishment of the first committee (Better Data Committee) whose charter will be to pursue the eight evaluation criteria and objectives included under each criterion (see Appendix A). By the end of the first year, the Better Data Committee will have completed the policy evaluation plan and come to a decision about the need to recommend or not recommend standing up the second, longer-term New Initiatives Committee.

### **Project Implications Including Social Change**

Possible social change implications in the project study will support and enhance renewed public education commitment to increasing the number of high school graduates in the state of Virginia. In *Walden 2020: A Vision for Social Change*, Walden University (2017) sought to influence educational policies that would support best practices, partnerships, and continued research that would be designed to improve student academic outcomes. The policy recommendations from this study offer the possibility of positive social change by increasing the quality of the data available for monitoring and improving the ISAEP program outcomes and Virginia's alternative education overall. Positive social change is achieved when academic programs result in better student success.

The importance of the project study to local stakeholders involves a larger context reflection on socioeconomic factors. When more high school students are graduating, college enrollment increases, thereby, improving regional socioeconomic demographics, including reductions in crime, domestic violence, drug abuse, and unemployment. When

these challenges are improved, communities, students, staff, and all stakeholders become more involved as a team and as a stabilizing force for the social and economic environment for future generations.

## Section 4: Reflections and Conclusions

In Section 4, I discuss project strengths and limitations, project deliverables, recommendations for alternative approaches, scholarship, project development, leadership and change, my reflections, implications, applications, directions for future research, and I provide a project conclusion.

### **Project Strengths and Limitations**

The ISAEP program, a state-funded alternative education program, prepares at-risk high school students to earn the GED certificate while developing CTE skills (VDOE, 2019d). From the research findings, a strength of this study was that I identified and investigated the variables that were being reported on the VDOE annual completion report relative to their association to the ISAEP GED certificate completion data. Previously, the variables that were reported at the state level had not been investigated in this manner. Another strength of the study was that I discovered that the ISAEP performance variables that the state requires the schools to report were not available statewide; therefore, they could not be used in institutional-level statistical analyses. The design of my study was a nonexperimental exploratory correlation approach. Although my policy recommendations to create state-level committees focused on (a) better data and (b) new initiatives could assist other states in addressing similar challenges, the nonprobability sampling combined with the unique variables under study combined to limit my study findings so that they cannot be directly generalized to other states or their alternative education programs. This observation also helped to define the scope of the study.

The project deliverable was also a strength of the study. In review, the project was a policy recommendation to create two committees that would focus on improving the ISAEP and future alternative education programs. The first committee, called the Better Data Committee, would be a temporary body whose charter would be to improve the ISAEP data collection and reporting by individual VDOE high schools. I suggested that the term of the Better Data Committee should be approximately 1 year. The second committee, called the New Initiative Committee, would be formed later and act in a more permanent fashion to collect ISAEP data and use that data to monitor program efficacy and to study and recommend ISAEP modifications and new alternative education programs according to their data analyses and findings.

One finding was that ISAEP program schools graduated significantly more students with GED certificates than the non-ISAEP program schools. Among 110 randomly selected schools for both groups, 712 GED certificates were awarded for ISAEP high schools compared to only 60 GED certificates awarded by the non-ISAEP high schools. West et al. (2019) investigated the completion of a general education development and predicted peer aspiration factors for GED certificate versus completion of a high school degree for at-risk students. West et al. found that ethnicity was the general factor association between test scores and high school completion. A strength of the ISAEP program proper is that the state requires ISAEP schools to collect variables that have good potential to help evaluate the ISAEP program efficacy, but those variables are not included in the ISAEP program annual report. The research strength related to this finding connects to the recommendation of the formation of the Better Data Committee to

help pull those data to the state level. Although the data collected and analyzed in this study was not the same data identified at the beginning of the study, this limitation resulted was also a strength in the identification of a gap in available data that can be used to evaluate the ISAEP program efficacy.

### **Recommendations for Alternative Approaches**

Essentially, the problem for this study included a perceived disparity in GED certificate completion among VDOE high schools that participate in the ISAEP program. A quantitative approach was initially pursued because it appeared at face value that ISAEP high schools reported sufficient variables to clarify through statistical analyses the factors that related most to ISAEP program efficacy. Although I discovered that those variables were not available at the state level, they are collected by most ISAEP program high schools and for some reason are not included in the state-wide annual report. Therefore, one recommendation is to replicate this study when the additional data are provided and available on the statewide annual report.

Watkins (2020) acknowledged that curriculum-based alternative education programs that aim to reach all alternative education goals must address all student-related factors that classify them as at-risk. Different alternative education programs provided professional development with follow-up training. Therefore, one alternative approach to studying ISAEP program efficacy would be a qualitative evaluation of the experience of students who participated in the program to understand better their follow-on training. Follow-on training could then be lauded as effective or suggested improvements could be made depending on the qualitative themes that would be unpacked from the research.

Another alternative study could incorporate a qualitative approach to understand better and mitigate the challenges that school administrators and teachers face who are primarily responsible for the ISAEP program success. Maillet (2017) sought to transform a local alternative education program into an effective service-delivery system with six alternative education program practices that included (a) proactive and more creative instruction, (b) integration of service learning opportunities, (c) acceleration of student learning, (d) scheduled time for the purpose of connecting more meaningfully with students, (e) contingency instructional plans for every student every day, and (f) volunteers, like college students and community members to help engage and encourage students who are in the program. Ratanavivan et al. (2018) explored how the improvement of teacher-reported disciplinary task factors resulted in a positive change in student motivation as reported from counseling interviews. Students' self-reported motivational statements and reported readiness to change were related to actual teacher-rated behavioral changes. In a similar fashion, future research into ISAEP program efficacy could include a collegial initiative between high school teachers and counselors designed to improve motivation and readiness to change among the ISAEP students.

One alternative definition for the local problem extends from the original problem that prompted this study but was unfeasible because only institutional-level data were available. The original problem for the study was that some ISAEP high schools seemed to be awarding GED certificates at lower rates than their sister ISAEP high schools within the same division. One finding from this study, therefore, was that without student-level data, a meaningful comparison between only a few high schools is not

possible. One way to investigate this alternative conceptualization of the problem would be for the aforementioned Better Data Committee to design a protocol for generating and collecting individual student data for the purpose of comparing the ISAEP program effectiveness between high schools within the same division.

### **Scholarship, Project Development and Evaluation, and Leadership and Change**

Conducting research on alternative education was an extensive and thorough undertaking. The topic of alternative education includes a plethora of research and media opinions including thousands of programs, case studies, interviews, journals, videos, podcasts, news specials, and even movie coverages. It became apparent to me that I needed to learn to be more selective and specific when narrowing my selection of research outlets to review. An unexpected lesson was experienced through two separate reviews of literature required for project studies. The first, as expected from learnings in my core course studies, focused on the local problem and recent research related to the problem of alternative high school education programs. The second review of literature was on the project study that was selected for development based on my study findings. An unexpected takeaway from the second review of literature was the amount of current research available on the process of creating policy recommendations and if approved, then implementing and evaluating them.

An important lesson I learned as a scholar-practitioner was that the results might not turn out as expected. In my case, the basic study had to change in order to adapt to the data that were available for all institutions at the state level. In the research community, it is acceptable to have outcomes that are different than what the researcher originally



planned because the data not only must be allowed to speak accurately about the research problem, at times they must also guide the direction of the research. I also learned, as a practitioner, that in data presentation it is always important to link results with existing research to determine where and how the study fits into the larger academia spectrum of alternative education research. Although my study has some limitations, it provides valuable information about the current ISAEP program, recommendations based on that information, and suggestions for future research based on the implementation of the recommended policies.

As a novice researcher, I became more experienced and able to conduct scholarly research. Research is more than writing a paper, creating a case study or survey, collecting data, analyzing the results, and presenting the information. I learned the importance of navigating the critical elements of the research in a process that ensures those elements remain aligned. I learned that at times, the process can be overwhelming and frustrating, and that few important works come from easy challenges or shortcuts. From this process, I am excited to contribute my research to the world of academia.

The challenge of becoming a project developer was an eye-opener for me. Through my project design phase I was involved in conceptualizing a system of processes that could result in an alternative education support plan that was very different from anything I could have imagined prior my capstone experience. This challenge was not an impossible venture because of my position as teacher, department head, subject matter specialist, and assistant principal. I have created and facilitated hundreds of professional staff development seminars consistent with the research of my study. My

challenge was to apply my credible and reliable research findings consistently and to create a relevant the project recommendation that would address the problem beyond my immediate abilities as an education influencer. I learned to allow existing research to guide and support my comprehensive study of the ISAEP and alternative education programs.

### **Reflection on Importance of the Work**

At the start of this project, I began researching high school alternative education programs, but quickly realized that each of these programs was unique and connected to my project study in different ways. As I began the research phase of my study and began to develop ideas about how to investigate ISAEP program efficacy, I began to understand that I would have to analyze institutional-level data because student-level data were not available in open-source data files. One result of this realization was the recommendation of the formation of the Better Data Committee to investigate and create a protocol for including student-level data in public domain databases.

The finding related to RQ1 affirms that the ISAEP program is helping to address the problem of high school graduation among students with IEPs and for this reason is noteworthy for state-level policy makers in its own right. The findings from RQ2 (categories of high school completion) and RQ3 (categories of post-high school plans) indicate gaps in the data collected by the state and shared publicly in its annual report. These gaps need to be refined and shared along with the positive finding about the ISAEP program. The VDOE ISAEP program is a research-derived alternative education initiative that can be studied and improved when more meaningful data are made

available to those who have the research knowledge and interest in improving the program. I feel that one of the most important reflection lessons for me was the realization that, as a researcher, I must allow the research process to be flexible and must adapt when necessary, based on the available data.

### **Implications, Applications, and Directions for Future Research**

The VDOE ISAEP program has the potential to have a significant impact on social change. This program offers school leaders the opportunity to significantly improve GED completers data since the state is not giving enough variables to allow an in-depth evaluation on the efficacy of the ISAEP program. The ISAEP program has the potential to make the educational environment more conducive to learning, minimizing the local problem, and proactively intervening with community partners (e.g., mental health providers for children at home and at school).

Through the completion of this scholarly journey, I have learned to rely on data to help identify the breadth of the problem, relying on the research to provide guidance toward solutions. The applications of staff development sessions might help to identify school site issues.

### **Conclusion**

In Section 4, I have discussed conclusions and reflections of my research and resulting project study. Also, the strengths, limitations, and suggested areas of future research were presented. As a significant result of data analysis in this study and through extensive literature reviews problem addressed in this study was to determine whether the differences in GED certificate attainment were significant between ISAEP program high

schools and non-ISAEP high schools and if so, whether a relationship existed between or among ISAEP GED certificates awarded and the other variables collected and reported annually by the VDOE. Archival data was analyzed and correlated from the local school division. The quantitative correlational exploratory analysis findings supported existing research indicating a need to clarify through statistical analyses the factors that related most to ISAEP program efficacy. Correlational quantitative research is based on the assumption that trends and patterns are somewhat related to each other and attempts to determine the strength of the relationship (Lodico et al., 2010). Although I discovered that those variables were not available at the state level, new variables might be available in the future because of my project policy recommendation. Therefore, for future research, I recommend repeating my study using the new variables once they become available from the VDOE. I determined that the correlational design was the most appropriate method to answer the research questions.

The theoretical foundation of the study was derived from, McPartland, and Jordan (2001) proposed action theory consisting of three elements supporting alternative education programs. Raw data were initially provided by the VDOE for this study. The strength of the ISAEP Program exist in the program design. This program provides educators with the tools needed to effectively address the local problem.

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## Appendix A: Policy Recommendation for the VDOE ISAEP

### **Executive Summary**

This policy recommendation is the result of a doctoral project study that attempted to evaluate the efficacy of the Virginia Department of Education's (VDOE) Individual Student Alternative Education Plan (ISAEP) program. The main findings from the quantitative study were that the annual data collected and shared by the state in its public databased related to high school graduation contained insufficient variables to correlate ISAEP graduation with what schools are doing to prepare these students for graduation. In addition to presenting an overview of the study and its findings, this paper recommends additional variables that could be included to better correlate and predict the annual graduation of ISAEP students. This policy recommendation includes the following sections:

6. Executive Summary.
7. Review of the Research.
8. Project Description.
9. Project Evaluation Plan.
10. Project Implications

Please direct questions to Joseph Knight using email address.

### **Review of the Research**

The doctoral project capstone consists of four sections. In section 1, I reviewed existing research on alternative education and alternative education programs. I described the local problem that prompted the study situating the problem within the larger population. Alternative education is often associated with students who are at risk or display extreme misconduct different from the usual or conventional. Robinson (2021) acknowledged that alternative education students thrive when we use our creativity to build programs that address the barriers to their success. Alternative education programming provides more customized options for alternative education at-risk students to achieve a high school diploma and prepare for college and careers. Alternative education programs have multiple means to earn credit with differentiated instruction, flexible scheduling, and creative uses of hands-on learning technology (Rennie Center for Education Research and Policy, 2014). The purpose of my study was to determine if a significant difference exists in Virginia students' GED certificate attainment based on participation in the state's Individual Student Alternative Education Plan (ISAEP) program. Based on the research problem to better understand ISAEP program efficacy, I also wanted to determine which variables, among those that the VDOE reports for all high schools annually, were most associated with ISAEP program completion through the attainment of ISAEP related GED certificates.

The project study rationale presented justification for the local problem based on national alternative education programs failing performance data relative to the state of Virginia's ISAEP program. The significance of the study described how studying the

project study problem relates to the local educational setting. Special terms associated with the study problem variables were also presented and defined in Section 1. Research questions that were developed to focus the data collection and analyses are provided as follows:

- RQ1: What is the difference in GED certificate attainment between Virginia high schools that have ISAEP GED programs and those that do not have ISAEP GED programs?
- RQ2: Do relationships exist between or among ISAEP GED certificates awarded and the high school completion categories (advanced studies, standard diploma, non-ISAEP GED certificate, certificate of program completion, or other diploma) in Virginia public schools during the school year 2016–2017?
- RQ3: Do relationships exist between or among ISAEP GED certificates awarded and students' post-high school plans (2-year college degree, 4-year college degree, other continuing education, employment, military service, and no plans) in Virginia public schools during the school year 2016–2017?

The review of literature identified the study's theoretical foundation and how theory related to the study, review of the broader problem, relevant public and research data, as well as McPartland and Jordan's (2001) characteristics for creating a climate of caring and support for high school reform (CCCSHSR). The CCCSHSR guided a second review of literature related to creating policy statements based on my initial review of

literature. Implications were discussed for possible project directions depending on what was found during the data analysis portion of the study. One of those possible projects included a Policy State, which was eventually selected for this study. Section 1 ended with a summary of important learnings from the initial review of literature and an overview of the content of the remaining three sections.

Section 2 of the project study included the methodological approach for the study, including the data collection and analysis, the data analysis results, interpretations of the data analysis and results, and appropriate tables and figures related to the statistical processes used. The methodology for the study was a quantitative designed using independent samples  $t$  test for RQ1, and multiple regression analysis for RQ2 and RQ3. The criterion measure of interest was the ISAEP GED graduation levels for the state of Virginia during the 2016 academic school year. The only variables available from the annual state report were classified in one of two categories: (a) type of high school completion used for RQ2 and (b) post-high school graduation plans used for RQ3. For RQ1, the number of GED certificates awarded was compared for all Virginia schools based on the school's membership as either an ISAEP program participant school or non-ISAEP program participant school. Table A1 presents the annual, archived *High School Graduates and Completers Reports* data that were used in the study.

**Table A1**

*High School Graduates and Completers Reports*

Variable name	Variable type	Type of measure
ISAEP program school	Grouping	Categorical (Y/N)

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ISAEP GED Certificates	Dependent	Continuous
Regular GED Certificates	Independent (RQ2)	Continuous
Standard Diplomas	Independent (RQ2)	Continuous
Advanced Studies Diplomas	Independent (RQ2)	Continuous
Other Diplomas	Independent (RQ2)	Continuous
Certificate of Completion	Independent (RQ2)	Continuous
College (2-Year)	Independent (RQ3)	Continuous
College (4-Year)	Independent (RQ3)	Continuous
Other Education	Independent (RQ3)	Continuous
Employment	Independent (RQ3)	Continuous
Military	Independent (RQ3)	Continuous
No Plans	Independent (RQ3)	Continuous

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For RQ1, a Mann-Whitney  $U$  test was run to determine if there was a significant difference in the number of GED certificates awarded comparing ISAEP and non-ISAEP high schools. The distributions of the GED certificates awarded were not similar, as assessed by visual inspection of the distributions. The GED certificates awarded for ISAEP high schools (mean rank = 160.42) were statistically significantly higher than for the non-ISAEP high schools (mean rank = 60.58),  $U = 558.5$ ,  $z = -11.93$ ,  $p < .001$ , using the asymptotic (2-tailed) distribution for  $U$ . The null hypothesis of no significant difference in the number GED certificates awarded between ISAP and non-ISAEP high schools was rejected in favor of the alternate. Among 110 randomly selected schools for both groups, 712 GED certificates were awarded for ISAEP high schools compared to only 60 GED certificates awarded by the non-ISAEP high schools.

After evaluating the available variables for the category of type of graduation for RQ2, it was determined that only the standard diploma and advanced studies variables had sufficient correlation with ISAEP GED to be included in the regression analysis. Therefore, a weighted least squares regression (WLSR) was run to evaluate the extent to which Standard Diplomas and Advanced Studies Diplomas predicted ISAEP GED certificates. The results of  $R^2$  for the overall model was 20.3% with an adjusted  $R^2$  of 18.4%, which was a very small effect size according to Cohen (1998). While the effect size was very small, the addition of the Standard Diploma and Advanced Studies Diploma variables statistically significantly predicted ISAEP GED— $F(2, 86) = 10.934$ ,  $p < .001$ —better than the mean model alone. The regression equation for this model was:

$$ISAEP\ GED = 2.401 + (.028 \times Standard\ Diplomas) - (.006 \times Adv.\ Studies\ Diplomas)$$

After evaluating the available variables for the students' plans after high school for RQ3, it was determined that only the Other Continuing Education, Employment, and Military Service independent variables had sufficient correlation with ISAEP GED to be included in the regression analysis. A WLSR was run to determine to what extent, if any, the number of ISAEP GED certificates awarded could be predicted, above and beyond the mean model, by adding the three independent variables. The results of  $R^2$  for the overall model was 21.2% with an adjusted  $R^2$  of 18.4%, a very small effect size according to Cohen (1998). While the effect size was very small, the addition of the Other Continuing Education and Military Service variables statistically significantly predicted ISAEP GED— $F(3, 85) = 7.614$ ,  $p < .001$ —better than the mean model alone. The independent variable, Employment, did not statistically significantly contribute to the

model. Using the significant predictors from the Coefficients in the SPSS output (see Table 5), the regression equation for this model was:

$$ISAEP\ GED = 2.097 + (.087 \times Other\ Continuing\ Ed.) + (.089 \times Mil\ Service)$$

Section 3 of the Final Project Study included the project description; this policy recommendation, with detail including background of existing policy problem summary of analysis and findings; literature and research evidence; outline recommendations connected to the evidence; and goals description.

### **Project Description**

Although the study findings were statistically significant, in the case of RQ2 the effect size was so small that it is difficult to recommend any policy change from this finding. The confluence of the findings from RQs 1-3, suggest that the variables that are reported in the annual, archived *High School Graduates and Completers Reports* (VDOE, 2020) are not sufficient to evaluate the efficacy of the ISAEP program in a very meaningful way. From the study, two categories of recommendations can be made. Category 1: Better Data would be the focus of the first short-term recommendation. Category 2: New Initiatives would be the focus of the second, longer-term recommendation.

One of the significant findings from this study was that, although individual schools collect and report some variables that could be highly related to ISAEP program efficacy, those variables are not included in the VDOE annual report. The variables already included in individual school reports, but not included in the annual report are (a) GED instructional hours, (b) career and technical training instructional hours,

(c) number of suspended students, (d) number of expelled students, (e) reasons for entry, and (f) number of special needs students. From the need for better data (Category 1), I recommended that a Better Data Committee be formed to study and determine how to include these variables in future VDOE annual reports.

From my extended review of literature, other variables were also identified that could not only facilitate future explorations of the efficacy of alternative high school education programs like the ISAEP program, but also could help to improve directly alternative education program initiatives. Some of these identified variables are curriculum hours devoted to career and technical education ([CTE];Harris et al., 2021); social-emotional skills (e.g., self-control, persistence, and social relationships; McDermott et al., 2019); health literacy (McKinney et al., 2019); nondiscrimination policies related to the inclusion of LGBT youth (Phillippi et al., 2021); and research-derived alternative education school motivational disciplinary counseling programs to improve students' behavior, self-motivation, and self-readiness to change (Maillet, 2017; Rantanavian & Richards, 2018). Therefore, from these research findings I recommend a second policy be implemented to establish a second, longer-term, New Initiatives Committee to study alternative education improvements related to the variables that were identified in the recent research literature as important for the success of alternative education programs. Once the more meaningful variables that are related to the ISAEP program measures and that have already been collected by individual schools are included in the VDOE annual report from the work of the Better Data Committee, additional research could then be conducted to further and to evaluate more meaningfully



the efficacy of the ISAEP program. Furthermore, I recommend that the additional variables that are related to effective alternative education programs be considered for development and inclusion in the ISAEP annual report in the future. Once the ISAEP program can be more meaningfully monitored, additional alternative education program initiatives could be implemented over time using the work of the New Initiatives Committee.

### **Needed Resources and Existing Supports**

An acceptable method for solving complex challenges that include the perspectives of different stakeholders is to create committees to study the problems and then to make recommendations to central authorities according to the findings of the committee members (Boaz, 2018). Therefore, the initial needed resource to improve the data that are reported in the VDOE annual report is to create a VDOE Annual Report Committee for the Improvement of the ISAEP Program Data Collection and Reporting System. This VDOE Annual Report Committee would entail the short-term focus effort referred to in the previous section (i.e., Better Data Committee). Once the ISAEP program can be more meaningfully monitored, a second, longer-term New Initiatives Committee for the improvement alternative education programs in the state should focus on and investigate additional alternative education program initiatives. Existing supports for both committees include (a) data that already exists in the *ISAEP Annual Program Report* (VDOE, 2019) but that are not currently included in the larger report, (b) the state-level ISAEP program director, (c) existing technical support personnel, and (d) school administrators familiar with the campus ISAEP and alternative education

programs. The Instructional Resource Center Research Offices for each district would be an important point of contact for the ISAEP data located within each school district. Existing schools and central office locations would be used as existing infrastructure supports. To the extent that these stakeholders already have existing duties and responsibilities, release time or overtime compensation would be a needed as an additional resource to sustain the effort. Regarding additional budgetary support, one potentially powerful stakeholder could be the Virginia senator who is a graduate of one of the local schools that prompted this study. Along these same lines, school administrators, teachers, and state-level stakeholders who believe in the importance of ISAEP program accountability and alternative education improvements could be important lobbyists for the implementation of these VDOE improvement policy recommendations.

Maillet (2017) suggested that alternative education can resolve challenging at-risk student behaviors (e.g., low motivation, failing grades, poor attendance, and feeling unsafe in school buildings) to improve graduation data. Existing external supports might be resources related to First College, a Virginia education effort to increase the junior and senior college enrollment and success of students. Once implemented, guest lecturers from local law enforcement and the military could be invited to create excitement for the student participants. The director of the state ISAEP program has offered review and guidance of external and internal existing support. In addition, many of my colleagues and associates are cognizant of the current study, are willing to share my research findings, and want to promote greater achievement and education outcomes for our at-risk high school students. Thus, I look forward to presenting my research and policy

recommendations to the school Board of Education and to interested community stakeholders.

### **Potential Barriers and Solutions**

Three potential barriers to implementing this policy recommendation include (a) lack of an active, participatory, on-going professional development staff who are involved with reporting; (b) a limited-funds stipend paid staff who have to add new duties to their existing duties; and (c) the need for school leader partnerships with family and community participation. The first potential barrier involves staff members who may not realize that the local problem is a critical problem. Staff support of intervention efforts is paramount to the success of the alternative education programs. To overcome this challenge, training is the key.

The second potential barrier is the limited-funds program stipend typically paid to full-time, division-level, salaried staff. There is the need for a budgetary commitment beyond stipend funding to commensurate with the duties required of the involved personnel required to intact the new policy. To meet the needs of at-risk students, a framework of accountability that ensures the reporting of key variables is needed to track and evaluate the efficacy of the ISAEP program (American Progress, 2018).

The third potential barrier is the need for school leaders to partner with community leaders. Administrators and teachers must advocate for student achievement by providing guidance and support for the student individual program goals, while providing community team opportunities with students learning and practicing skills

(Vander Ark, 2019). However, the school leaders' inability to collaborate with community stakeholders and parents will expose any policy initiative to additional risks.

The Center for American Progress (2018) recommended seven progressive education equity policies in which economic growth, mobility, and opportunity to high waged jobs and careers would stimulate racial wealth equality. The focus would address community school partnerships using existing policy recommendation federal funds.

Duke and Tenuto (2020) described the need for school leaders to practice roles as navigating between policy and meeting the needs of alternative education students with four steps that included: (a) creating a culture of high standards, (b) adopting a personalized caring approach in leadership, (c) implementing and exploring innovative practices for teaching and learning, and (d) managing students with an individualized collaborative approach. Staff must be made aware and agree that assessment and staff development are pertinent to improve student outcomes.

### **Proposal for Implementation and Timetable**

The anticipated timetable for implementation begins with my capstone research approval in the spring of 2022. After Walden University's acceptance and approval of this doctoral project study, I will contact the local district superintendent and schedule a meeting to review my study and discuss the project proposal (Appendix A). During the review, I will follow the superintendent's guidelines and procedures for the new policy presentation to appointed personnel and, if approved by the superintendent, to school Board of Education for consideration as soon as possible during the summer 2022 school board meetings. If approved by the school Board of Education, I will work in the best

ways to implement the new policy to that better data can be collected for review and analysis during the follow summer (i.e., 2023). A copy of the project study and policy recommendation will be delivered to the local division's Instructional Resource Center Research Office. The policy recommendation will be considered fully implemented when better metrics are collected and shown, through empirical research, to be highly related to ISAEP program measures of efficacy. The timeline for implementation is two-pronged with 1 year available for the Better Data Committee and more than 1 year available for New Initiatives Committee (see following Project Evaluation Plan section).

### **Project Evaluation Plan**

You and Chung (2021) suggested eight evaluation criteria for policy recommendations. The eight evaluation criteria are provided as follows:

1. Set Objectives: The policy recommendation includes short-term and longer-term special committees; therefore, the respective committees would establish and manage the committee working objectives according to their charters.
  - a. The charter for the short-term Better Data Committee would be to explore and determine how the six ISAEP program variables that the individual schools currently report can be included in the *ISAEP Annual Program Report* (VDOE, 2019).
  - b. The charter for the longer-term, New Initiatives committee would be to identify creative, new, alternative education initiatives to improve ISAEP student performance, according to the peer-reviewed research from the recent literature. Some of these creative, new initiatives were identified in

the initial Project Description section of my report from my capstone research review of literature.

2. Determine Needs: The needs for the committees' involvement were established as exploring and managing the efficacy of the ISAEP program by forming the special New Initiatives Committee to improve alternative education in the state of Virginia.
3. Determine Content:
  - a. The focus of the Better Data Committee and the content it will review are the variables that the individual schools currently provide but that are not currently included in the VDOE (2020) Annual Report.
  - b. The content and focus for the New Initiatives Committee would be established by the committee according to its review of the recent peer-reviewed literature for increasing student success through alternative education programs. However, some of the suggested areas of content focus are already provided in the Project Description section of my capstone research in my review of the literature.
4. Select Participants:
  - a. I anticipate that the selection of participants for the Better Data Committee could be accomplished quickly once the decision is made to form the committee, as long as the needed supports are put into place.

- b. The formation of the New Initiatives Committee would likely be pursued after the formation of the first committee; therefore, I anticipate that many committee personnel would serve on both committees.
5. Set a Schedule:
    - a. The timeline for the Better Data Committee should be less than 1 year following the committee's formation. The timeline of 1 year seems sufficient, given that the data for improving the VDOE (2020) Annual Report already exists at the individual high school level. Once the VDOE Annual Report is made to include the existing ISAEP data (gathered at the school level, but not currently included in the VDOE Annual Report), the Better Data Committee should be disbanded as having fulfilled its charter role.
    - b. The timeline for the New Initiatives Committee would be longer, both in the time to form it and the length of its existence. Research on and the accumulation of knowledge that is reported in the peer-reviewed literature on alternative education is an ongoing process; therefore, I conceive that the New Initiatives Committee could become a permanent fixture within the VDOE system.
  6. Select a Location: Although the committees could be decentralized for meetings, a centralized reporting process would need to be established so that the committees' progress could be monitored and accounted. If committee progress were to stall, a reporting and vetting process would need to be

present to get the committee back on track; therefore, it should be established at the outset in case of the need to use it.

7. Select Professional Staff: At a minimum, I recommend the positions of committee chair, secretary, and operations officer be appointed for each committee. Using the needs that the committees identify, subcommittees and additional personnel would be identified and recruited as necessary.
8. Select a Program Coordinator: One of the first steps in implementing this policy recommendation would be to identify of a program coordinator to which the committees would report. Once the decision is made to implement either or both committees identified in this policy recommendation, the program coordinator would be identified immediately. It seems logical that the VDOE ISAEP program coordinator would also serve as the program coordinator for these committees.

### **Project Implications Including Social Change**

Possible social change implications in the project study will support and enhance renewed public education commitment to increasing the number of high school graduates in the state of Virginia. In Walden University's (2017) *A Vision for Social Change*, there is impetus to influence educational policies that would support best practices, partnerships, and continued research that would be designed to improve student academic outcomes. The policy recommendations from this study offer the possibility of positive social change by increasing the quality of the data available for monitoring and improving the primary ISAEP program outcomes and Virginia's alternative education



outcomes by increasing student graduation success. Positive social change is achieved when academic programs result in student success.

The importance of the project study to local stakeholders involves a larger context reflection on socioeconomic factors. When more high school students are graduating, college enrollment increases, thereby, improving regional socioeconomic demographics, including reductions in crime, domestic violence, drug abuse, and unemployment. When these challenges are improved, communities, students, staff, and all stakeholders become more involved as a team and as a stabilizing force for the social and economic environment for future generations.

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## Appendix B: Data File Used in Data the Analyses

ISAE3 GED Certificate	ISAE3 School	Non-ISAE3 GED Certificate	Standard Diploma	Advanced Studies Diploma	Other Diploma	Certificate of Program Completion	Total Grads- Completers	Attending Two-year Colleges	Attending Four-year Colleges	Other Continuing Education Plans	Employment	Military	No Plans
16	1	2	195	256	47	2	518	139	241	17	61	54	6
5	1	0	215	316	22	3	561	185	259	19	42	41	15
2	1	0	68	177	8	0	255	78	135	14	23	2	3
9	1	2	230	225	12	0	478	182	125	19	129	22	1
4	1	1	111	93	6	1	216	73	95	0	23	11	14
1	1	0	33	29	3	0	66	17	34	0	11	4	0
3	1	3	128	138	13	0	285	134	78	4	58	10	1
6	1	0	48	82	5	0	141	71	46	0	7	12	5
44	1	1	60	4	0	2	111	24	6	5	71	3	2
2	1	1	103	147	8	8	269	106	90	9	47	16	1
1	1	0	139	154	11	1	306	128	102	5	43	26	2
1	1	1	113	38	5	0	158	82	20	2	26	2	26
1	1	1	136	396	13	1	548	145	364	11	13	12	3
3	1	0	166	468	20	0	657	164	441	24	16	7	5
1	1	0	186	263	7	0	457	129	260	11	27	20	10
2	1	1	203	493	12	0	711	156	486	18	24	14	13
1	1	0	160	194	14	0	369	174	150	7	34	3	1
2	1	0	101	365	7	0	475	73	379	7	11	4	1
2	1	3	110	345	15	0	475	84	351	21	9	1	9
1	1	1	85	389	5	0	481	52	401	11	9	6	2
3	1	0	218	178	13	1	413	138	170	21	60	24	0
1	1	0	96	476	12	0	585	83	462	19	5	2	14
2	1	1	134	546	12	0	695	127	505	20	23	7	13
1	1	0	141	416	16	0	574	107	405	28	22	4	8
1	1	2	216	319	23	0	561	162	309	33	43	12	2
2	1	2	150	395	9	0	558	117	379	16	32	12	2
4	1	0	162	432	22	0	620	177	366	17	40	9	11
1	1	1	131	406	11	1	551	86	422	15	12	8	8
13	1	0	111	172	11	0	307	74	158	14	47	11	3
7	1	0	131	131	7	0	276	112	77	4	59	18	6
5	1	0	124	216	8	1	354	27	251	18	34	12	12
7	1	0	212	172	20	0	411	111	137	26	108	29	0
4	1	2	92	344	10	3	455	58	314	29	32	20	2
3	1	1	91	236	2	0	333	71	209	2	38	12	1
3	1	1	155	201	7	0	367	79	184	23	61	16	4
1	1	2	119	242	1	0	365	82	201	20	48	14	0
9	1	1	133	240	12	3	398	76	256	7	27	9	23
4	1	2	198	189	29	1	423	95	215	22	46	18	27
6	1	0	188	131	20	2	347	105	136	12	47	18	29
2	1	4	252	145	20	1	424	139	181	20	47	13	24
4	1	0	160	182	12	1	359	84	204	5	31	6	29
3	1	1	129	318	8	0	459	71	323	8	34	11	12
4	1	0	227	120	19	1	371	121	123	35	53	18	21
6	1	2	95	143	15	0	261	108	89	0	61	3	0
1	1	2	109	103	10	0	225	112	78	1	24	9	1
5	1	1	117	163	5	0	291	68	155	7	40	19	2
1	1	1	98	35	6	0	141	47	41	15	20	9	9
1	1	0	34	9	2	2	48	25	13	1	3	3	3
1	1	0	47	315	6	1	370	50	292	7	6	3	12
3	1	0	100	314	5	0	422	126	266	6	8	9	7
6	1	0	85	214	9	2	316	96	190	14	5	3	8
2	1	0	61	280	2	0	345	72	248	6	6	3	10
4	1	1	83	244	8	0	340	90	205	12	24	5	4
3	1	0	74	254	8	1	340	70	229	11	3	6	21
1	1	0	77	265	4	1	348	90	219	13	10	11	5
2	1	0	168	137	5	2	314	129	87	18	21	11	48
6	1	1	128	244	8	0	387	118	222	10	26	4	7
1	1	0	61	244	9	0	315	65	226	7	3	2	12
2	1	0	59	386	8	0	455	75	355	8	14	2	1
2	1	0	112	234	6	2	356	103	218	10	15	6	4
3	1	0	93	285	6	0	387	99	237	17	12	18	4
2	1	4	113	175	14	1	309	116	99	1	77	16	0
4	1	0	46	66	8	1	125	43	36	10	24	4	8
1	1	0	26	33	2	0	62	25	16	4	15	2	0
2	1	0	72	198	6	0	278	64	187	5	13	2	7
8	1	0	57	79	0	1	145	38	53	0	50	3	1
4	1	0	76	138	7	0	225	68	90	5	49	12	1
3	1	2	172	188	6	1	372	134	114	34	66	18	6
3	1	0	98	84	16	0	201	87	51	8	48	7	0

ISAE3 GED Certificate	ISAE3 School	Non-ISAE3 GED Certificate	Standard Diploma	Advanced Studies Diploma	Other Diploma	Certificate of Program Completion	Total Grads- Completers	Attending Two-year Colleges	Attending Four-year Colleges	Other Continuing Education Plans	Employment	Military	No Plans
1	1	0	90	65	8	0	164	85	46	10	16	5	2
1	1	0	79	80	7	0	167	56	57	0	45	4	5
7	1	7	138	197	6	0	355	136	136	0	66	17	0
1	1	0	81	60	15	2	159	43	62	11	32	7	4
5	1	0	205	219	15	0	444	118	238	23	25	36	4
3	1	1	110	155	5	0	274	94	129	12	9	10	20
5	1	0	286	276	23	0	590	181	259	23	27	37	63
6	1	0	171	305	8	0	490	132	262	14	18	28	36
1	1	1	319	97	26	0	444	168	125	26	27	31	67
7	1	3	337	246	28	0	621	324	177	19	66	29	6
2	1	0	223	402	14	0	641	165	334	22	13	15	92
3	1	2	219	448	5	0	677	202	405	19	34	14	3
3	1	4	257	193	12	0	469	92	276	14	28	34	25
2	1	4	314	182	20	0	522	198	143	37	38	8	98
10	1	0	296	338	10	0	654	214	320	56	39	24	1
6	1	0	169	140	36	0	351	168	84	4	53	9	33
6	1	2	76	176	4	0	264	85	129	7	32	8	3
1	1	0	49	73	12	0	135	49	55	2	19	7	3
1	1	0	100	128	11	0	240	91	94	16	28	6	5
1	1	0	83	163	12	0	259	91	114	9	36	7	2
5	1	0	100	110	8	0	223	46	99	10	59	7	2
1	1	0	136	118	5	1	261	43	110	14	83	10	1
1	1	0	75	138	8	0	222	18	149	8	41	3	3
1	1	0	72	35	6	6	120	62	24	0	21	1	12
1	1	2	78	53	5	0	139	23	62	0	53	1	0
1	1	0	77	74	0	0	152	54	45	8	29	16	0
7	1	0	126	162	20	0	315	100	149	28	16	22	0
2	1	0	88	162	4	0	256	75	125	8	37	11	0
6	1	0	167	302	16	0	491	141	257	35	31	17	10
9	1	0	140	293	6	0	448	115	253	18	40	19	3
4	1	0	127	115	4	0	250	73	134	5	28	10	0
4	1	0	182	267	13	0	466	107	196	11	66	23	63
4	1	0	157	336	5	0	502	134	296	9	18	42	3
3	1	0	131	326	6	0	466	105	204	15	40	26	76
2	1	0	139	236	10	0	387	135	180	9	32	31	0
4	1	0	153	280	12	0	449	110	248	12	55	23	1
2	1	4	63	55	7	0	131	15	78	3	30	3	2
3	1	1	79	59	4	0	146	55	20	1	66	4	0
5	1	0	72	51	16	0	144	63	50	4	25	2	0
5	1	0	99	109	9	0	222	82	102	5	21	8	4
2	1	0	40	36	3	0	81	48	15	2	9	6	1
4	1	0	61	71	5	0	141	54	52	2	13	5	15
3	1	0	55	48	4	0	110	49	49	4	6	2	0
1	1	0	48	76	4	0	129	35	75	3	12	3	1
1	1	0	88	163	1	0	253	85	119	1	31	16	1
19	1	5	385	307	51	0	767	248	321	41	135	21	1
2	1	0	74	68	12	0	156	51	66	11	15	10	3
2	1	6	117	157	11	0	293	113	130	18	25	2	5
6	1	1	75	140	3	0	225	96	83	11	23	12	0
1	1	0	17	39	0	0	57	20	30	0	2	5	0
8	1	0	137	122	26	10	303	90	114	11	68	17	3
2	1	0	7	0	0	7	16	5	2	1	6	1	1
4	1	1	64	30	0	0	99	61	24	2	10	1	1
14	1	10	210	170	23	1	428	73	226	37	34	39	19
2	1	1	208	143	9	0	363	36	201	12	100	7	7
9	1	2	197	188	8	0	404	78	205	40	44	27	10
11	1	5	120	91	18	0	245	40	115	12	48	21	9
3	1	0	116	155	12	9	295	67	159	16	27	8	18
4	1	1	127	103	2	2	239	104	89	2	19	10	15
5	1	0	65	69	7	0	146	45	72	8	16	4	1
10	1	2	177	85	11	0	285	89	82	30	42	33	9
6	1	0	178	110	6	0	300	77	150	18	33	20	2
10	1	0	165	184	13	0	372	79	167	31	68	25	2
6	1	0	172	131	11	0	320	66	150	24	68	10	2
6	1	1	220	234	15	0	476	168	191	21	62	30	4
14	1	0	142	43	8	2	209	94	51	10	29	21	4
16	1	1	211	186	15	1	430	126	195	52	17	36	4
12	1	0	142	50	9	1	214	55	98	17	20	21	3
14	1	2	163	180	8	0	367	125	192	18	16	13	3

ISAE P3 GED Certificate	ISAE P School	Non-ISAE P3 GED Certificate	Standard Diploma	Advanced Studies Diploma	Other Diploma	Certificate of Program Completion	Total Grads- Completers	Attending Two-year Colleges	Attending Four-year Colleges	Other Continuing Education Plans	Employment	Military	No Plans
24	1	2	238	129	17	0	410	123	150	19	51	59	8
11	1	1	177	139	15	0	343	120	134	16	39	28	6
1	1	2	147	78	16	0	244	78	110	6	32	17	1
8	1	6	175	106	22	0	317	119	96	19	49	27	7
8	1	2	21	0	2	0	33	1	0	0	14	0	18
5	1	8	158	139	20	0	330	59	189	27	37	14	4
7	1	1	134	95	11	0	248	48	82	4	109	3	2
12	1	2	187	161	6	0	368	123	151	7	54	28	5
5	1	3	196	200	20	2	426	102	240	31	24	25	4
11	1	0	144	305	14	0	474	75	330	16	29	21	3
4	1	1	154	307	7	0	473	145	247	24	31	23	3
9	1	2	124	294	12	0	441	85	321	10	12	6	7
6	1	0	184	115	29	1	335	123	142	20	23	20	7
13	1	0	154	173	15	2	357	106	185	20	15	17	14
8	1	0	198	312	19	0	537	183	270	19	20	21	24
8	1	0	147	335	23	0	513	139	218	25	46	25	60
3	1	0	108	318	20	0	449	111	309	3	2	3	21
5	1	2	182	228	7	0	424	154	187	17	20	44	2
6	1	0	183	307	11	0	507	146	285	19	32	18	7
5	1	0	96	240	2	0	343	45	212	2	12	8	64
13	1	0	121	141	12	0	287	109	123	7	40	7	1
11	1	0	112	167	10	0	300	117	124	24	22	13	0
3	1	1	140	134	15	2	295	89	111	15	61	14	5
3	1	0	140	169	20	2	334	85	161	32	37	17	2
2	1	0	120	349	5	0	476	104	339	11	12	8	2
2	1	1	85	240	11	2	341	112	159	23	25	19	3
3	1	2	108	305	10	0	428	91	258	18	18	19	24
7	1	1	185	181	15	4	393	126	152	15	46	48	6
16	1	2	195	256	47	2	518	139	241	17	61	54	6
5	1	0	215	316	22	3	561	185	259	19	42	41	15
2	1	0	68	177	8	0	255	78	135	14	23	2	3
9	1	2	230	225	12	0	478	182	125	19	129	22	1
0	0	1	46	133	2	0	182	46	103	12	12	5	4
0	0	1	97	121	10	1	230	97	75	4	45	7	2
0	0	0	24	27	2	0	53	22	16	5	7	3	
0	0	0	24	49	0	0	73	22	35	4	6	4	2
0	0	0	152	122	9	0	283	101	92	9	60	19	2
0	0	0	25	28	0	1	54	21	25	1	6	1	
0	0	2	169	291	5	0	467	142	240	9	64	12	0
0	0	1	84	404	4	1	494	99	345	14	24	12	0
0	0	0	218	296	21	1	536	129	282	17	87	17	4
0	0	0	204	179	16	1	400	133	142	16	87	21	1
0	0	1	195	253	31	0	480	164	183	38	80	8	7
0	0	0	168	249	21	1	439	145	184	27	62	21	0
0	0	0	193	137	13	2	345	125	114	23	63	17	3
0	0	1	97	288	2	0	388	94	259	11	17	6	1
0	0	0	114	216	9	0	339	82	183	15	52	6	1
0	0	1	209	286	11	0	507	167	219	27	61	33	0
0	0	0	52	131	6	0	189	57	92	11	22	7	0
0	0	0	23	17	2	0	42	17	13	0	6	2	4
0	0	0	45	48	4	0	97	24	49	1	14	7	2
0	0	8	175	128	20	2	333	104	107	6	95	17	4
0	0	0	47	36	2	0	85	20	32	9	18	2	4
0	0	0	203	223	9	0	435	205	174	12	34	7	3
0	0	1	105	2	18	0	126	75	4	16	24	6	1
0	0	0	131	280	16	0	427	128	235	14	20	7	23
0	0	6	78	0	0	0	84	32	2	7	32	2	9
0	0	1	184	354	7	0	546	169	324	14	22	10	7
0	0	0	134	188	14	0	336	148	137	16	23	3	9
0	0	0	131	302	13	0	446	150	247	14	27	8	0
0	0	0	0	0	10	0	10	0	0	1	0	0	9
0	0	1	0	0	6	0	7	0	0	0	1	0	6
0	0	0	105	411	4	0	520	47	444	8	4	5	12
0	0	4	102	2	2	0	110	57	9	6	31	2	5
0	0	1	186	352	7	0	546	136	360	8	33	8	1
0	0	0	165	233	9	0	407	153	201	10	35	7	1
0	0	0	0	437	0	0	437	1	435	0	0	0	1
0	0	0	104	200	9	0	313	54	200	3	33	19	4
0	0	0	70	57	5	0	132	47	44	0	22	3	16

ISAE3 GED Certificate	ISAE3 School	Non-ISAE3 GED Certificate	Standard Diploma	Advanced Studies Diploma	Other Diploma	Certificate of Program Completion	Total Grads- Completers	Attending Two-year Colleges	Attending Four-year Colleges	Other Continuing Education Plans	Employment	Military	No Plans
0	0	1	114	154	6	0	275	127	93	9	38	8	
0	0	1	195	270	18	0	484	170	151	24	104	18	17
0	0	0	121	181	5	1	308	13	222	15	23	18	17
0	0	1	126	183	10	1	321	18	227	13	37	19	7
0	0	4	70	46	12	0	132	60	35	6	26	2	3
0	0	0	39	15	5	0	59	24	12	6	14	0	3
0	0	0	51	134	2	0	187	41	110	7	24	4	1
0	0	0	77	56	3	0	136	73	47	3	12	1	0
0	0	0	109	123	2	0	234	86	66	2	76	4	0
0	0	0	68	66	11	0	145	35	88	1	3	4	14
0	0	5	190	139	24	4	362	101	149	9	85	10	8
0	0	0	59	340	0	0	399	30	357	1	4	2	5
0	0	0	107	318	5	0	430	78	302	5	30	5	10
0	0	0	6	7	1	0	14	3	5	5	1	0	0
0	0	0	54	57	4	0	115	22	43	14	21	15	0
0	0	0	125	167	4	0	296	98	114	20	33	29	2
0	0	2	12	7	9	4	34	7	5	2	15	2	3
0	0	0	83	69	3	0	155	54	45	8	39	8	1
0	0	1	47	38	7	0	93	30	38	3	20	2	0
0	0	0	95	258	9	0	362	79	232	10	11	4	26
0	0	0	69	135	0	0	204	62	127	4	4	3	4
0	0	0	52	47	8	0	107	31	46	7	15	6	2
0	0	0	45	48	5	0	98	35	34	5	22	2	0
0	0	0	60	52	8	0	120	34	39	6	33	4	4
0	0	1	81	111	4	5	202	73	72	3	36	14	4
0	0	0	43	45	5	0	93	44	34	3	7	2	3
0	0	1	103	117	9	2	232	46	150	3	16	12	5
0	0	1	27	22	7	0	57	19	13	4	17	2	2
0	0	0	52	31	3	0	86	37	32	3	4	7	3
0	0	0	71	39	2	0	112	39	41	5	21	6	0
0	0	0	66	74	11	0	151	58	49	8	22	13	1
0	0	0	60	56	3	0	119	34	31	10	39	4	1
0	0	1	49	81	2	2	135	29	36	11	51	8	0
0	0	0	84	38	4	0	126	44	44	5	21	10	2
0	0	0	88	130	7	0	225	118	74	3	23	5	2
0	0	2	170	465	3	0	640	196	384	7	30	23	0
0	0	3	32	32	5	0	72	16	27	10	15	4	0
0	0	0	43	55	3	0	101	23	56	8	8	6	0
0	0	0	75	162	7	0	244	68	146	11	6	5	8
0	0	0	62	107	4	0	173	57	62	7	40	1	6
0	0	0	111	146	9	0	266	36	151	15	48	6	10
0	0	1	61	19	0	0	81	25	25	10	17	4	0
0	0	0	59	95	7	0	161	55	54	28	16	5	3
0	0	0	24	19	6	0	49	13	15	0	15	3	3
0	0	0	22	21	7	0	50	25	4	1	19	1	0
0	0	1	84	88	12	0	185	87	52	9	30	7	0
0	0	0	59	50	9	0	118	39	30	7	37	5	0
0	0	0	73	45	0	0	118	33	34	8	35	7	1
0	0	0	66	83	11	4	164	71	47	18	25	2	1
0	0	0	39	21	1	0	61	24	16	7	9	1	4
0	0	1	82	76	4	1	164	33	78	9	33	11	0
0	0	1	27	31	0	0	59	13	29	4	12	1	
0	0	0	36	35	5	1	77	25	18	3	9	6	16
0	0	0	99	104	10	15	228	68	66	21	64	7	2
0	0	0	86	127	8	4	225	78	70	26	26	9	16
0	0	0	69	51	9	0	129	51	37	9	12	4	16
0	0	0	65	70	8	0	143	57	59	8	14	3	2
0	0	0	66	30	3	0	99	52	21	2	10	3	11
0	0	0	76	74	2	0	152	84	36	5	7	2	18
0	0	0	62	43	7	0	112	68	16	9	8	4	7
0	0	0	50	65	2	0	117	55	43	3	12	2	2
0	0	0	50	23	0	0	73	45	18	0	9	0	1
0	0	0	93	177	5	0	275	78	154	4	24	9	6
0	0	0	77	190	2	0	269	61	165	10	16	11	6
0	0	0	17	1	0	0	18	9	1	1	5	2	0
0	0	0	36	40	8	0	84	23	39	3	15	4	0
0	0	2	27	25	6	0	60	29	14	0	16		1
0	0	0	54	142	2	1	199	26	154	4	6	5	4
0	0	0	89	89	4	0	182	55	87	2	17	13	8

ISAE3 GED Certificate	ISAE3 School	Non-ISAE3 GED Certificate	Standard Diploma	Advanced Studies Diploma	Other Diploma	Certificate of Program Completion	Total Grads- Completers	Attending Two-year Colleges	Attending Four-year Colleges	Other Continuing Education Plans	Employment	Military	No Plans
0	0	2	149	215	21	9	396	178	119	22	74	3	0
0	0	0	144	116	21	0	281	57	115	24	55	23	7
0	0	0	14	50	0	0	64	4	55	2	0	3	0
0	0	0	21	28	0	0	49	18	27	0	2	2	0
0	0	6	150	62	24	0	242	36	109	5	80	9	3
0	0	0	43	56	7	0	106	39	52	1	10	2	2
0	0	3	146	22	35	0	206	64	31	3	84	9	15
0	0	0	18	7	0	0	25	4	13	0	0	8	0
0	0	0	132	35	27	0	194	68	33	12	61	9	11
0	0	0	173	86	12	0	271	58	126	20	43	13	11
0	0	0	95	36	22	0	153	31	34	3	38	2	45
0	0	0	5	45	0	0	50	6	38	0	0	0	6
0	0	0	1	0	4	1	6	0	0	0	1	0	5
0	0	0	0	52	0	0	52	0	51	0	0	0	1
0	0	0	59	75	6	0	140	35	77	1	23	2	2
0	0	0	233	182	35	0	450	161	145	13	99	6	26
0	0	1	206	100	22	2	331	138	90	11	75	11	6
0	0	0	67	81	11	0	159	42	53	20	26	7	11
0	0	0	17	53	0	0	70	11	54	0	2	3	0
0	0	5	100	90	5	5	205	69	47	11	66	11	1
0	0	1	42	31	3	1	78	20	41	13	1	3	0
0	0	1	46	133	2	0	182	46	103	12	12	5	4
0	0	1	97	121	10	1	230	97	75	4	45	7	2
0	0	0	24	27	2	0	53	22	16	5	7	3	0
0	0	0	24	49	0	0	73	22	35	4	6	4	2