FACTORS PREDICTING IDENTIFICATION OF GIFTEDNESS RESULTING FROM

UNIVERSAL SCREENING

by

Lisa M. Ferguson

Liberty University

A Dissertation Presented in Partial Fulfillment

Of the Requirements for the Degree

Doctor of Philosophy

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APPROVED BY:

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ABSTRACT

Giftedness occurs in all sectors of society, but children from underprivileged backgrounds are often underrepresented in gifted programs. Universal screening for giftedness is a strategy employed by some school districts in an attempt to provide equal access to gifted programs. The purpose of this quantitative, predictive, correlational study was to determine if the linear combination of race, socioeconomic status, and English language learner status predicted the designation of gifted students located in the northeastern United States. The sample was all fourth-grade students from one school during the 2019-2020 school year in the school district because the district universally screens all fourth-grade students for the gifted program with the Cognitive Abilities Test (CogAT). The data was collected from a northeastern United States school district and analyzed through logistic regression with Statistical Package for the Social Sciences version 28 (SPSS). Following analysis, it was determined that none of the criterion variables of race, socioeconomic status, or English language learner status were statistically significant in predicting gifted status.

Keywords: underrepresented, gifted, universal screening, poverty, race, English language learners

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Dedication

This dissertation is dedicated to my father, Russell A. Frantz. The loss of him during my doctoral journey was the most difficult experience of my life. He was an advocate of education and a servant to all in need. He truly put the needs of others before himself. His kindness and humanitarianism inspire me to be a better person every day. Because he was a humble man, his gifted athleticism and his immense benevolence were unknown by many people, but each person that knew him felt his love. May we all strive to be more like my father.

Acknowledgments

Thank you to my wonderful husband, Stephen, who has always been a kind, loving, and proud supporter of mine. The support he has given me through three degrees ranges from thankless household chores to my devout cheerleader, and I am eternally grateful for his sacrifice.

Thank you to my sons, Ricky and Mikey, who always provide support and encouragement. Both of them have become fine young men who are as compassionate and altruistic as they are intelligent and successful, and I am extremely proud to be their mom.

Thank you to my amazing, proud, and supportive parents who have been there from the very beginning and lovingly raised an inquisitive, independent, and determined child; they continue to inspire me to consider the needs of others. I have always been proud to be their daughter!

Thank you to my chair, Dr. Rebecca Lunde, whose dedication, advice, patience, encouragement, and expeditiousness allowed me to finish this dissertation rapidly.

Thank you to the gifted director at the northeast school district for quickly and efficiently providing the necessary data and whose extraordinary passion and dedication to gifted students should be replicated at all schools.

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List of Abbreviations

Cognitive Abilities Test (CogAT)

Dynamic Indicators of Basic Early Literacy Skills (DIBELS)

Every Student Succeeds Act (ESSA)

Free and Reduced Meals (FARM)

Institutional Review Board (IRB)

Naglieri Nonverbal Ability Test (NNAT)

National Center for Education Statistics (NCES)

National Education Association (NEA)

Response to Intervention (RtI)

Schools and Staff Survey (SASS)

Science, Technology, Engineering, and Mathematics (STEM)

Statistical Package for the Social Sciences version 28 (SPSS)

Student Age Score (SAS)

Universal Scale Score (USS)

Virtual Learning Lab (VLL)

CHAPTER ONE: INTRODUCTION

Overview

Eligibility for gifted services varies from school to school, but schools that choose to employ universal screening attempt to discover all gifted students. The intention of universal screening is to identify more diverse students through the use of an objective instrument for subsequent testing to provide a more equitable education for all students, especially those from underserved populations. Chapter One consists of sections on background, problem statement, purpose statement, significance of the study, research question, and definitions.

Background

Universal screening for gifted programs is an attempt by some school districts to identify gifted students through a single test administered to all students at one particular grade level as the first step of identifying students for gifted programs (Morgan, 2020). Students of color have long been inadequately represented in American gifted programs, and universal screening is one attempt to increase equitable participation in gifted programs (Peters et al., 2019). Without universal screening, schools frequently rely on teacher referrals and standardized tests which commonly exclude students of color, students with lower socioeconomic status, and other underrepresented students because the tests contain questions not reflective of their culture and their actual experiences in life (Yaluma & Tyner, 2021). All students deserve the opportunity to achieve at their greatest potential, and gifted students need to be supported to fulfill their potential. The consequences for them, personally, could result in depression or different psychological issues (Borkowski & Thorpe, 1994; McCall et al., 1992). Schools maintaining high rates of poverty are less likely to provide gifted programs even though these are the schools that need gifted services the most. Children from schools that serve predominantly affluent

families most likely serve parents that can afford to send them to supplemental educational opportunities like summer camps, weekend programs, and afterschool activities with arts, sports, or tutoring (Seon-Young et al., 2010; Woodland, 2008). Gifted students from schools with high percentages of students who receive financial government assistance rely on the school district to provide the supplemental education. Supporters of gifted programs argue that gifted students deserve an individualized program similar to the support academically challenged students receive (Oakes, 2005).

An EBSCOhost search conducted on June 11, 2021, revealed 12 full text, peer reviewed articles concerning gifted and universal testing or universal screening completed between 2016 through 2021. Of those 12 articles, two were duplicates (Yaluma & Tyner, 2020, 2021; Card & Giuliano, 2016) and one was written in Russian except for the abstract which indicated the giftedness referred to motor giftedness and was outside the realm of this study (Федорова, 2018). Of the remaining nine articles, two of the articles (Lakin, 2016; McBee, 2016) addressed another one (Card & Giuliano, 2016) of the nine articles. The result is seven unique studies (Card & Giuliano, 2016; Dever et al., 2016; Gubbins et al., 2018; Matthews & Rhodes, 2020; McGowan et al., 2016; Morgan, 2020; Yaluma & Tyner, 2021) that provided much insight into the inequities in gifted education and the hope for universal screening to become a starting point to increase equality in education of gifted students. Expanding the search to include all articles with the same descriptors from the last century revealed only two additional articles (Gray et al., 2009; Hughes et al., 2009).

History

The history of gifted education dates back to 1892 when the President of Harvard University lead The Committee of Ten to address the disparities between high school and college

curriculums (Bohan, 2003; Dexter, 1906; Loveless, 1999). The Committee suggested that all high school students should receive the same, undifferentiated curriculum. The National Education Association (NEA) contradicted The Committee of Ten in 1918 when they expressed the importance of differentiating curriculum especially for the few that would eventually attend college (Loveless, 1999). Schools have been differentiating instruction since that time (Gamoran, 2010; Wheelock, 1994).

Gifted programs have been the subject of debates recently regarding tracking (Yaluma & Tyner, 2021). When students are assigned to tracks, their future classes are often predetermined, and migrating from one track to another is often prohibitive (Lucas, 1999). This becomes problematic when students are placed in tracks at an early age that lead to either academic or vocational careers many years later (Yaluma &Tyner, 2021). The "tracking wars" received opinions from the National Council of Teachers of English, the National Governors Associations, and the NEA that specifically said rigid tracking should be eliminated since it is inequitable (Worthy et al., 2009). Parents and teachers did not agree, and they wanted to continue to challenge those students who were academically advanced; otherwise, their education may suffer (Oakes, 2005). Proponents of gifted programs argued that academically advanced students deserved an individualized program to meet their needs just as much as academically challenged students (Oakes, 2005). However, many schools removed differentiated gifted programs or allowed for more flexibility between tracks (Oakes, 2005). Loveless (1999) noted that, ironically, the abolition of tracking in the 1980s was occurring simultaneously as the testing scores between Whites and Blacks were approaching a point of convergence. As differentiated instruction continued to be eliminated, inequities in education increased in the 1990s (Loveless, 1999). The gaps in reading, math, and SAT scores between Black and White

students and Hispanic and White students had been declining until the 1990s. However, the gaps between the races began to climb in the 1990s (Loveless, 1999).

Ford (1998) concluded that identifying students in a more equitable fashion for gifted programs should involve screening with valid, reliable, and culturally neutral instruments. Students who are recipients of financial government assistance and students of color are not frequently identified for gifted programs through the current referral processes implemented in most schools. Teacher referrals and a standardized test typically eliminate students who are recipients of financial government assistance and students of color because the test questions may be unfamiliar to them (Grissom et al., 2017). For example, according to Ford (2010), a commonly used intelligence test asks test takers what actions should be taken if they find a wallet that contains money. The response would be either return or keep the money. For test takers who are recipients of financial government assistance, their decision may be based on need rather than intellect or morals (Ford, 2010). This relates to Maslow's theory regarding the importance of satisfying basic needs (Maslow, 1943; Ford 2010). Ford (2010) mentioned another example of an achievement test that required test takers to consider the items found in a restaurant; however, some students who are recipients of financial government assistance may have never been to a restaurant. Some tests are culturally insensitive, where students may take tests with no one from their culture or gender represented on the test (Ford, 2010). A Black test taker may be at a disadvantage if no Black people are mentioned in the test (Ford, 2010). Female test takers may be in a similar situation if all questions refer to males in influential roles with females relegated to acquiescent roles (Ford, 2010). In addition, recipients of financial government assistance, Hispanic, and Black students tend to begin formal schooling with less preparation than those students from high socioeconomic status, White, and Asian backgrounds

(Flores, 2007). Since traditional screening may overlook qualifying candidates for gifted, Card and Giuliano (2016) found that universal screening may be the key to increase participation in gifted programs for all sectors of society.

A Theory of Human Motivation

Maslow's (1943) theory of human motivation focused on the necessity to satisfy the most basic needs prior to discovering needs that exist outside of rudimentary survival. The basic needs are those needs that are necessary to sustain life. He presented the idea that a hungry person would have very little to think about other than eating, and for extremely hungry people, food would consume all thoughts and dreams (Maslow, 1943). The importance of his theory mainly rests at the basic level when considering equity in gifted education. Hypothetically, children from lower socioeconomic households would not have the luxury of always experiencing their most basic needs being met, or if their needs were met, perhaps their parents were not always available for them. Since these children and their parents have to focus on these basic needs, there could be less time, money, and energy left for them to consider education. This is where gifted services would be beneficial to those children who have no other means to expand their minds.

Theory of Self-Efficacy

Bandura's (1977) theory of self-efficacy explained four methods of performance accomplishments: participant modeling, performance desensitization, performance exposure, and self-instructed performance. Successful participant modeling occurs when an instructor provides support to an individual to build confidence in their success (Bandura, et al., 1974 as cited in Bandura, 1977). Vicarious encounters, either live or allegorical, improve self-efficacy but have a reduced response compared to an actual encounter. Persuasion combined with manipulating the

situation to encourage success is more likely to increase self-efficacy. Self-efficacy could be undermined due to strong emotional responses, but that can be controlled through repeated successful performances.

Theory of Psychosocial Development

Erikson (1950/1993) theorized the development of human beings involves conflict at various stages, and the outcome of those conflicts affects future stages. There are eight stages from infancy through late adulthood (Erikson, 1950/1993). Even though school age children are not included in every stage, their lives are influenced by the adults who support them and are in adult stages. Additionally, earlier stages that occur before schooling begins influence subsequent stages that happen while in school (Erikson, 1950/1993).

Three-Ring Conception of Giftedness

Renzulli (1979) promoted high levels of three characteristics that are necessary for giftedness: general ability, motivation, and creativity. Even though all three are necessary for giftedness, Renzulli (1979) believed motivation and creativity were far more important indicators of future success than general ability. However, schools continued to focus on general ability because it is the easiest to measure according to Renzulli (1979). Motivated and creative students should not be forbidden from gifted programs because they may not exceed the high cut score since they are more likely to succeed after high school than those with high general ability alone (Renzulli, 1979).

Gifted programs should be available to all students who could benefit from a more challenging curriculum. Students who have not been represented in gifted programs have not been discovered by their teachers as needing such services, but a universal screening program could help to eliminate some of the subjectivity of the entrance into the gifted program (Card &

Giuliano, 2016). Universal screening may help to make gifted programs more accessible and equitable to all students (McBee, 2016).

Problem Statement

The plight of gifted students may often be overlooked by educators, parents, and even the students themselves. Many erroneously believe that their natural intellect will be sufficient for their continued success throughout their lifetime (Siegle & McCoach, 2018). Many gifted students are self-motivated to engage their mind (Zbainos & Beloyianni, 2018), but some may become so thoroughly disengaged in school that they drop out (Siegle & McCoach, 2018). Without adequate stimulation, these children may be destined to a lifetime of regret, depression, or suicide (Cross & Cross, 2018). Giftedness in some impoverished students may never be observed since some traditional methods of detecting giftedness may depend upon affluence (Olszewski-Kubilius & Corwith, 2018). English language learners are underrepresented more than any other group in gifted programs (Gubbins et al., 2018). Recent immigrants are also more likely to suffer from poverty (Lightman & Good Gingrich, 2018) which greatly decreases the likelihood they will be discovered through traditional referral methods from teachers and parents.

Universal screening has been suggested as a means to try to detect giftedness in all students regardless of their financial situation, race (Morgan, 2020), or English language learner ability (Gubbins et al., 2018). Gubbins et al. (2018) recommended universal screening with reliable and valid instruments that does not rely on verbal ability to improve the representation of English language learners. Very few studies have been conducted on the effectiveness of universal screening. Yaluma and Tyner (2021) suggested further research is needed to evaluate the effectiveness of universal screening programs. The problem is there is a lack of research in the identification of gifted students regarding race, socioeconomic status, and English language

learner status in the northeastern United States.

Purpose Statement

The purpose of this quantitative, predictive, correlational study was to determine if the linear combination of race, socioeconomic status, and English language learner status predicted the designation of fourth-grade gifted students located in the northeastern United States. The criterion variable was students designated as gifted or not gifted. The northeastern state school code defines gifted as exceptional students who are mentally gifted that need specialized instruction (Northeastern United States, 2021). The predictor variables in this study were race, socioeconomic status, and English language learner status. The race variable was defined as Asian (not Hispanic), Black (not Hispanic), Hispanic, Multi-Race/Two or more (not Hispanic), or White (not Hispanic). Asian was defined as people who originated from the Far East, Indian subcontinent, and Southeast Asia (National Center for Education Statistics, n.d.). Black was defined as people who originated from black racial groups in Africa (National Center for Education Statistics, n.d.). Hispanic was defined as people who originated from a Spanish culture (National Center for Education Statistics, n.d.). The National Center for Education Statistics (n.d.) defined White as descendants from Europe, North Africa, and the Middle East. Socioeconomic status was defined by students who received Free and Reduce Meals (FARM) and non-recipients did not receive this financial support. Qualification for free and reduced-price meals is a typical indicator of socioeconomically disadvantaged students (Plucker & Peters, 2018). English language learner status was defined by students who received support for English language and students who did not receive support for English language learning. The State Department of Education (2021) requires schools to identify students who need English language services to succeed in school. The population for this study was all students within a school

district in the northeastern United States during the 2019-2020 school year. This district was chosen because it administers the same universal screening test to the same grade every year. Fourth grade was selected since these schools administer all fourth graders the CogAT to universally screen for giftedness. The year 2019-2020 was selected for the sample since it was the most recent year with gifted screening completed without COVID interruptions. Statistics regarding race, socioeconomic status, and English language learner status were collected for the northeastern United States district as well as the enrollment status in the gifted program following additional gifted testing with the implementation of the CogAT as a universal screening tool.

Significance of the Study

Studying the perceived impact of universal screening at a school in the northeastern United States would add to the literature that already exists regarding the benefits of universal gifted screening especially for the underserved populations (Card & Giuliano, 2016; Gray et al., 2009; Gubbins et al., 2018; Hughes et al., 2009; Lakin, 2016; Matthews & Rhodes, 2020; McBee, 2016; McGowan et al., 2016; Morgan, 2020; Peters et al., 2019; Yaluma & Tyner, 2021). Universal screening has been proposed by several researchers as the solution to shrinking the gap in gifted education (Morgan, 2020). In addition, the test used to screen should not rely on language skills (Gray et al., 2009). Recipients of financial government assistance could face difficult college courses without the appropriate preparation in rigorous high school classes. This positions them at a disadvantage in comparison to their peers originating from more affluent homes who were afforded the luxury of rigorous high school programs (Morgan, 2020). Gifted students are not always easily identified by informal classroom observations, but all students deserve to receive an education that allows each student to achieve their greatest potential

(Grissom et al., 2017). Gifted students exist in all segments of society, but not all gifted students are identified and receiving the appropriate support (Plucker et al., 2010). Recent studies have focused on identifying students in a more equitable fashion for acceleration; these studies have found a relationship between differentiation and inequality as a contributing factor to achievement gaps (Callahan et al., 2017; Card & Giuliano, 2016; Ford, 1998). Students of color, recipients of financial government assistance, and English language learners are underrepresented in gifted programs, and universal screening is an attempt to identify gifted students especially those who may have remained undetected through informal observations or parental referral (Lakin, 2016). If universal screening continues to demonstrate potential at identifying gifted students from all segments of society, then other school districts may implement universal screening. Gifted students grow into adults that can contribute to their community (Beals & Simmons, 1962). Those students who were so well educated are the same who could improve the quality of life for those living in the community.

This study expands the research by examining universal screening and the predictors of race, socioeconomic status, and English language learner status to determine gifted eligibility. The results of this study should build upon the existing literature of identifying gifted students through an all-inclusive attempt to discover gifted students regardless of race, socioeconomic background, or English language learner status. Findings from this study should help to encourage school districts and states to implement universal screening to ensure all students regardless of race, socioeconomic status, or English language learner status receive the most appropriate education to meet their needs. As these underserved gifted students grow in knowledge, they will learn to develop their talents and build a better life for themselves. More diversity within gifted education could also lead to diverse students exploring careers to provide

solutions for the underserved. In addition, younger students of color, students from lower socioeconomic status, as well as English language learners may witness these additional gifted students who look just like them and have similar backgrounds and were previously overlooked become successful. In this way, universal screening even helps those who are not gifted by helping others see that success could be achieved from all segments of society in addition to those gifted students who choose careers serving those who need help.

Research Question

RQ: How accurately can a student's gifted designation be predicted from a linear combination of race, socioeconomic status, and English language learner status for students in the northeastern United States following universal gifted screening with the Cognitive Abilities Test (CogAT)?

Definitions

1. *Asian* – Asian is defined as people who originated from the Far East, Indian subcontinent, and Southeast Asia (National Center for Education Statistics, n.d.).

2. *Black* – Black is defined as people who originated from black racial groups in Africa (National Center for Education Statistics, n.d.).

3. *English Language Learner* – English Language Learner is a student between the ages of three and 21 whose primary language is not English, and communication difficulties with English may deprive the student of classroom achievement, successful attainment of state standards, and full participation in society (Every Student Succeeds Act [ESSA], 2015).

4. *Gifted* – Gifted is a wide-ranging term that does not have a unified definition. It generally means students who have high intellectual, artistic, leadership, or creative capabilities based on a variety of standards that differ from place to place which results in

discrepancies in identification. Gifted students need support that is not usually available to regular education students in order to achieve their greatest potential in their areas of giftedness (McBee & Makel, 2019; Peters et al., 2019; ESSA, 2015). According to the northeast state school code, gifted students are described as exceptional students who are mentally gifted that need specialized instruction (Northeastern United States, 2021).

5. *Hispanic* – Hispanic is defined as people who originated from a Spanish culture (National Center for Education Statistics, n.d.).

6. *Identification* – Identification occurs when students meet or exceed the requirements for services (Lakin, 2016).

7. *Nomination* – Nomination is the informal and subjective procedure through which teachers and parents endorse children for entering into the formal testing process which could lead to gifted identification. It is also known as referral (Lakin, 2016).

8. *Referral* – Referral is the informal and subjective procedure through which teachers and parents endorse children for entering into the formal testing process which could lead to gifted identification. It is also known as nomination (Lakin, 2016).

9. *Screening* – Screening is the usage of an approved evaluation instrument to determine appropriate placement or services for students (McBee, 2006).

10. *Socioeconomic status* – Socioeconomic status is defined by students who receive Free and Reduce Meals (FARM) and non-recipients do not receive this financial support. Qualification for free and reduced-price meal is a typical indicator of socioeconomically disadvantaged students (Plucker & Peters, 2018).

11. *Universal screening* – Universal screening occurs when every student enrolled in a particular grade receives a minimum of one standardized test as the initial phase of

selection for services or placement. Subsequential testing is usually conducted to establish if the student qualifies for services (Lakin, 2016).

12. *White* – White is defined by the National Center for Education Statistics (n.d.) as descendants from Europe, North Africa, and the Middle East.

CHAPTER TWO: LITERATURE REVIEW

Overview

A methodical evaluation of the literature was performed to investigate the problem of inequity in gifted identification. The theoretical frameworks as well as the current literature concerning this subject will be discussed in this chapter. Summaries of the theory of human motivation, the theory of self-efficacy, the theory of psychosocial development, and the three-ring conception of giftedness are included. The related literature review contains discussions regarding identification difficulties of gifted students especially for impoverished children, students of color, and English language learners as well as some research-based interventions for identifying gifted students and methods to conduct gifted education. The gap in research will be established as support for the necessity of this study.

Theoretical Framework

There are many theories regarding motivation and development. Abraham Maslow (1943) presented motivation as a satisfaction of needs where individuals are motivated to transition between levels of needs. Maslow's (1943) hierarchy with his theory of human motivation starts at the basic level with physiological needs and progresses through the levels to self-actualization. Erik Erikson (1950/1993) proposed stages of psychosocial development as opposing challenges throughout a lifetime. The resolution of each stage influences subsequent developmental levels. Several decades later, Albert Bandura (1977) discussed motivation through his theory of self-efficacy where individuals are likely to attempt a task if they have sufficient confidence in their abilities to accomplish it. Renzulli (1979) theorized giftedness is the result of the interaction of three elements: general ability, motivation, and creativity.

A Theory of Human Motivation

Maslow (1943) considered his theory of human motivation to be a blend of theories that ranged from functionalism of theorists James and Dewey and holism of Wertheimer's Gestalt psychology (1925) and Goldstein (1939) to dynamicism of Freud (1933) and Adler (1938). He focused on the necessity to satisfy the most basic needs before needs of a higher caliber would present themselves. The basic needs were physiological in that they are necessary to sustain life. He presented the idea that a hungry person would focus on eating, and for extremely hungry people, food would consume all thoughts and dreams. This extreme condition does not present itself often in a civilized society, but it helps to keep daily hunger thoughts in perspective when Maslow refers to basic needs. The typical person who is hungry, may use food to fulfill other needs, as well as people may curb hunger through other means (Maslow, 1943). Giftedness may not present itself in hungry children since they are preoccupied with their hunger. This could lead to unequal teacher and parent referral if gifted students do not display their gifts.

Once the physiological needs have been met, safety needs appear. Children flourish within structured households where they can feel protected and know what to expect (Maslow, 1943). Children living in poverty may not have their safety needs met, and those gifted children living in those circumstances may not display their gifts since they are preoccupied with their safety. Once people satisfy their safety needs, they progress into the needs for love and belongingness. This includes love of friends, family, and spouses as well as the need to belong to a group. Once love and belongingness needs have been satisfied, people move into esteem needs which fall into two categories: achievement and recognition. Achievement occurs when someone desires to attain a goal and achieves it. Recognition happens when others recognize that achievement. Once self-esteem is satisfied, a person develops self-confidence and that leads to

the highest level of needs: self-actualization. Self-actualization occurs when a person works towards self-fulfillment. Maslow (1943) suggested that most people are only partially satisfied and partially unsatisfied in many levels at any one point in time.

Many studies have been based on Maslow's hierarchy of needs. Latunde (2018) indicated that parents of students who feel discriminated against remain at the safety and belongingness level of Maslow's hierarchy. This reduces the likelihood that parents will be involved in their child's education and that results in a disadvantage for their child (Latunde, 2018). Flennaugh et al. (2018) conducted research at a school with housing where they provided students with the basic necessities of a healthy life often from their own personal donations. With basic needs satisfied, students have the ability to reach higher levels on Maslow's hierarchy (Flennaugh et al., 2018).

Medcalf et al. (2013) found that income, ethnicity, and grade level affect children's ability to move to higher levels on the hierarchy of needs. However, they found no correlation with gender and Maslow's hierarchy of needs. This study examined essays from students in different socioeconomic areas to find the dreams these students wanted to achieve. Those students originating from socioeconomically disadvantaged backgrounds were concerned with basic needs of food, shelter, and safety resulting in a lower Maslow score while those students living in higher income areas wanted to help other people resulting in a higher Maslow score. Students of military parents were concerned with peace in the world. The hypotheses were analyzed with t-tests, one way ANOVA, and multiple regressions. The null hypothesis was rejected for income where $t(306) = 2.67$, $p = .008$, and the null hypothesis was also rejected for ethnicity where $t(306) = 2.26$, $p = .024$. A one-way ANOVA was conducted for grades since grades have multiple levels. The Maslow score was significant with $F(4, 289) = 4.68$, $p = .001$.

The multiple regression revealed that each individual hypothesis did not have an effect on the Maslow score, but all factors combined did have a significant effect on the Maslow score with R^2 of 0.056 $F(4, 267) = 3.96$, $p = .004$ (Medcalf et al., 2013).

Basford et al. (2020) conducted a qualitative case study on a school that interrupts the pathway from school to prison using Maslow's hierarchy of needs as a framework. A key characteristic of the school is the wraparound services that work with the teachers to educate the children. If the students' needs are not satisfied at home, this service will provide their basic physiological, safety, and belonging needs. The study concluded that the unique characteristics of the performing arts school was not enough to affect outcomes, but the most important aspect was the sense of family developed by the caring staff who create a sense of belonging. Belongingness is one of Maslow's psychological needs above the basic needs. Once belongingness is fulfilled, children may work on self-esteem and self-actualization needs, and many students have the opportunity to experience that quest. Through this process some students seem to be healing themselves by expressing their creativity (Basford et al., 2020).

Fisher and Crawford (2020) conducted a quasi-experimental qualitative study on a school that used Maslow's hierarchy of needs to become a distinguished school despite a previous designation of school in crisis. This school ranked in the bottom 10% in the state when their current administrator was hired, and the school has progressed to the 90th percentile within seven years. The staff developed a community of caring for students by focusing on their needs, and their great accomplishments were possible despite no changes in free and reduced-price lunch status at 90%. Students now have pride in themselves and their school, and they are now working on their esteem needs (Fisher & Crawford, 2020).

Theory of Self-Efficacy

Bandura's (1977) theory of self-efficacy promoted that the most significant method for building self-confidence is through performance accomplishments. Repeated successful actions provide confidence that survives even when there are setbacks. There are four methods of performance accomplishments: participant modeling, performance desensitization, performance exposure, and self-instructed performance. Participant modeling occurs when scaffolding provides support for the individual practicing the anxiety producing action to encourage success (Bandura, et al., 1974 as cited in Bandura, 1977). Desensitization was developed by Wolpe (1974, as cited in Bandura, 1977). Rabavilas et al. (1976, as cited in Bandura, 1977) found that an extended exposure to anxiety-inducing events is more successful than brief exposures. As therapy progresses, individuals would be able to exert greater control over their fears thus building confidence.

Vicarious encounters improve self-efficacy although the effect may produce a weaker response than an actual encounter. Vicarious encounters can either be live or allegorical. Verbal coercion is perhaps the weakest form to build self-efficacy, but it is the easiest to implement. However, encouragement alone is not sufficient to produce self-efficacy. Persuasion along with manipulating the situation to promote successful performance is more likely to improve self-efficacy. Strong emotional responses could lead to undermining self-efficacy. The best method for controlling the emotional responses is through successful performances which generates more self-efficacy.

Bandura's (1977) theory of self-efficacy has been used as a framework for many studies. Stevenson et al. (2021) mentioned that all students particularly female students of color may benefit from group exploration outdoors during science class. This promotes social learning and

could improve self-efficacy (Stevenson et al., 2021). Smith and Wood (2020) indicated that self-efficacy is important to consider when counselors are guiding students for academics and planning for a career. Some gifted students may experience anxiety over choosing a lifelong career and guiding them toward a starting point in their career may help to ease their anxiety (Smith and Wood, 2020).

El-Abd et al. (2019) studied the presence of self-efficacy with an effect size of .44 at a 95% confidence interval. The study did not produce anticipated results as the control group scored higher than the group receiving the specialized training. However, the researchers advised caution when interpreting the results since more advanced students may have been in the control group. Callahan et al. (2020) conducted another study with self-efficacy along with student engagement, growth mindset, and stereotype threat in high poverty rural area as a representation of underrepresented gifted students. They indicated that gifted students should receive emotional and social support as well as academic support; however, measuring the noncognitive factors could be very difficult and should be approached carefully (Callahan et al., 2020).

Theory of Psychosocial Development

Erikson (1950/1993) theorized that human beings develop through stages of conflict. Resolutions of those conflicts affect future stages. The first stage is trust versus mistrust. It begins as infants learn to trust their parents as well as their bodies and environment; they begin to form their identity. The second stage in Erikson's (1950/1993) psychosocial development is the conflict of autonomy versus shame and doubt. During this stage, children learn self-confidence or self-consciousness. The third stage, known as initiative versus guilt, is when children learn from others. Through initiative, children build upon the autonomy gained in the prior stages to act with purpose (Erikson, 1950/1993).

The fourth stage is industry versus inferiority. At this stage, education is essential in a child's life, and that education should be as broad as possible to enable all students to embark on numerous careers. Children's development could be hindered at this point if their parents did not adequately prepare them for school. School could also impede a child's progress if the education provided does not support the encouragement of prior stages. This stage does not include vast conflict as other stages, but inferiority as the negative side of this stage is detrimental. It is during this stage that children may begin to experience negative feelings about themselves because of their skin color, parentage, or how they dress. These negative feelings may produce a feeling of inferiority where children may refrain from achieving their potential. As a result, their work becomes an obligation rather than an exploration of their interests (Erikson, 1950/1993).

Erikson's (1950/1993) fifth stage of psychosocial development is identity versus role confusion. This stage occurs during adolescence between childhood and adulthood. Children become more conscious of how they are viewed by others, and they connect previous experiences with the current situations as they search for meaning in their lives. Role confusion is the negative side of this stage where children may lose their own identity in order to assimilate with the group. The importance of the group also contributes to alienating others who may not fit because of skin color, culture, or clothing styles. This desire for group acceptance is the child's attempt to confirm his or her identity (Erikson, 1950/1993).

The sixth stage of development is intimacy versus isolation. Throughout all the stages of development, an individual uses previous successes to build upon future stages. With intimacy, a person is willing to connect with other people in various capacities including being inspired by teachers and using personal intuition. Those who avoid intimacy become isolated and self-absorbed (Erikson, 1950/1993).

The seventh stage is generativity versus stagnation. This stage occurs during adulthood (Erikson, 1950/1993), and while childhood giftedness is the subject of this research, parents and teachers would be included in this stage. Through generativity effective teachers desire to prepare students for the next stage, and parents who are generative appropriately guide their children. Stagnation is the negative side of this conflict where stagnated adults refuse to assist the next generation (Erikson, 1950/1993).

The eighth stage is ego integrity versus despair. This stage occurs later life where a life well-lived could be appreciated as opposed to desperation. Even though children are not included in this stage, their lives are influenced by the adults who support them (Erikson, 1950/1993). Erikson succinctly described, "conflicts become creative only if sustained by the firm support of cultural institutions and of the special leader classes representing them" (1950/1993, p. 169).

Erikson's (1950/1993) theory has been referenced in several articles. Mun and Hertzog (2019) mentioned Erikson's stage of identity versus role confusion where adolescents struggle to develop their identity as their bodies are changing physically and emotionally into adults. To navigate this stage of development, they must develop confidence in their identity otherwise they will suffer from role confusion. Mun and Hertzog (2019) discussed the implications for young women in their study who had to make career choices up to four years earlier than their peers since some of them started college four years earlier than typical students. Erikson's (1950/1993) psychosocial theory as well as Bandura's (1977) self-efficacy theory provided the framework for a study completed by Todd and Zvock (2017). Their focus was also on the adolescent stage of identify versus role confusion which is the age when many female students start to lose interest in science (Todd & Zvock, 2017). Cross and Cross (2017) developed guidelines with the psychosocial development theory as a basis for implementing appropriate strategies in gifted

programs. Zakreski (2018) highlighted the intensity of the emotions experienced by some gifted students. He mentioned strategies for counselors and others working with gifted students based on Erikson's (1950/1993) theory to provide the therapy needed for these students with unique needs.

Three-Ring Conception of Giftedness

Renzulli (1979) described a concept of giftedness that involved high levels of three clusters: general ability, motivation, and creativity. Gifted behavior is exhibited when those three areas align. General ability is traditionally the only aspect considered for giftedness; however, studies have found only a small correlation between classroom success and performance after college. Students who have high levels of motivation and creativity may more than compensate for a lower academic score. By not assisting students who do not exceed a high cut off score, schools may be discriminating against the students with the most potential. Motivation and creativity are difficult to measure, and that could be one reason so much emphasis has been placed on general ability (Renzulli, 1979). Renzulli (1979) developed a definition of giftedness:

Giftedness consists of an interaction among three basic clusters of human traits – these clusters being above average general abilities, high levels of task commitment, and high levels of creativity. Gifted and talented children are those possessing or capable of developing this composite set of traits and applying them to any potentially valuable area of human performance. Children who manifest or are capable of developing an interaction among the three clusters require a wide variety of educational opportunities and services that are not ordinarily provided through regular instruction programs. (p. 15)

Renzulli's (1979) three-ring conception of giftedness has been cited by several studies. Sharma (2013) evaluated mathematical responses based on fluency, flexibility, and originality to

explore the importance of creativity in mathematics. Mathematically gifted students deserve an enriching atmosphere to prevent them from burn out and to nurture their future development (Sharma, 2013). Through a qualitative study, Lavin (2017) explored the life story of a Dominican nun who was gifted and clearly demonstrated all three clusters mentioned in the three-ring conception of giftedness. Lavin (2017) noted that schools should dedicate more resources to gifted education since the person who was studied was lucky enough to have parents who recognized her talent and helped her develop it at a young age. Leavitt and Geake (2009) conducted a qualitative study in Lithuania shortly after their withdrawal from the Soviet Union regarding teacher reaction to the introduction of Renzulli's (1979) three-ring conception of giftedness. Professional development was provided to teachers and in subsequent surveys teachers indicated that their view of giftedness changed, and many teachers provided differentiation for gifted students. Teachers also valued creativity which was discouraged during Soviet rule (Leavitt & Geake, 2009). Page (2006) discussed the three-ring conception of giftedness as one of the theories suggested by the New Zealand Ministry of Education (2000 as cited in Page, 2006) that schools should implement to improve education of gifted students. Riley et al. (2004 as cited in Page, 2006) researched the theories approved by the Ministry of education in New Zealand.

Maslow (1943) developed a hierarchy of needs based on the most fundamental needs of mankind. While Bandura (1977) did not specifically expand upon Maslow, the methodology of his theory is more intricately designed to help individuals improve motivation. However, many of Bandura's examples of performance accomplishments refer to treatments initiated to eliminate fear or defense mechanisms. Four of Erikson's (1950/1993) stages of development occur during a child's time in school from kindergarten through college. The remaining four stages are also

important to the development of children because the first two stages affect subsequent stages which occur during schooling. The last two stages influence their lives because adults who are experiencing those stages are responsible for their care. Renzulli's (1979) three-ring conception of giftedness emphasizes the importance of ability, motivation, and creativity. Gifted students living in poverty may not have the motivation to be successful in school because they do not have the opportunity to work through higher levels of Maslow's hierarchy because they are focused on their basic needs to survive. Without motivation, a child living in poverty may not have the favorable circumstances to have all three-rings of giftedness according to Renzulli (1979). Students experiencing this situation will most likely not display their giftedness and may remain undetected unless they have the opportunity to take a universal screening test where their giftedness may be revealed. Self-efficacy can be undermined through strong emotional responses, and gifted students may be more emotional than students who are not gifted. If gifted students' abilities are masked by strong emotions, then they will not display self-efficacy and may not be discovered by teachers as gifted unless they are universally screened for giftedness. Students' emotions combined with their appropriate psychosocial stage should be used as a guide to provide services for gifted students so that they will have the opportunity to achieve to their fullest potential.

Related Literature

There are different types of gifted students: academically, creatively (Grissom & Redding, 2016; Lawrence, 2009) or artistically gifted (Grissom & Redding, 2016). Some giftedness is never detected in school due to various circumstances such as poverty (Olszewski-Kubilius & Corwith, 2018). Achievement in school may not be prioritized for some individuals due to undesirable home situations such as the lack of nutritious food (Olszewski-Kubilius &

Corwith, 2018) or because of peer pressure (Shepard et al., 2011). Regardless of the reason, gifted students must be encouraged to strive toward their potential, or they may be challenged with depression or other psychological problems (Borkowski & Thorpe, 1994; McCall et al., 1992).

Gifted Students

The plight of gifted students may often be overlooked by educators, parents, and even the students themselves. Many erroneously believe that their gifted potential will be sufficient for their continued success throughout their lifetime. Problems could result from not providing gifted students with adequate stimulation. Some of these problems are difficulties in school, behavioral problems, and inadequately completed schoolwork (Kautz, 2017; Morgan, 2019). Gifted students often become disengaged in classrooms that do not challenge them mentally, and, as a result, they could cause classroom disruptions (Brown, 2017), or they may become so disillusioned with school that they drop out (Siegle & McCoach, 2018). Without adequate stimulation, these children may suffer from depression or suicide (Cross & Cross, 2018). Gifted programs could help reduce classroom disruptions by providing a more thought-provoking learning situation for students (Morgan, 2020). This kind of environment allows chemicals to generate in students' brains that are necessary for learning to take place; these chemicals are noradrenalin, serotonin, and dopamine (Morgan, 2014; Oktac et al., 2011). Before gifted individuals can lead a self-actualized life, they must first have their basic needs met (Maslow, 1943). With the constant pain of hunger or concerns of safety, gifted students living in poverty may never experience the opportunity to strive toward self-actualization. Students who must constantly think about hunger may never display actions that teachers and parents would notice to refer them to the gifted program under the referral process that is common in many schools.

Universal screening is an attempt to discover children who may be gifted, but their giftedness may be hidden or unnoticed by those committed to their care.

Research on gifted education has produced varying levels of results (Finn & Wright, 2015). Inadequate methods employed to identify gifted students, as well as differently designed gifted programs, are contributing factors to the varying degrees of success for gifted students (Finn & Wright, 2015). Even though ESSA (2015) defines giftedness, each of the 50 states uniquely defines of giftedness. Some states view giftedness as purely academic, while other states allow other forms of giftedness in their definitions (Finn & Wright, 2015) such as artistic talent and creativity (Grissom & Redding, 2016). Gifted programs in schools also vary. Some of the programs identified by Finn and Wright (2015) are acceleration, complete separation, pull-out classes both full-time and part-time, and supplementation usually outside of school. These different approaches have not been thoroughly analyzed to determine the best methods for supporting gifted students, according to Finn and Wright (2015). But they do suggest that acceleration usually produces scholastic benefits, but limited time with their peers usually has some inconsequential side effects (Finn & Wright, 2015).

Many schools solely identify gifted students using standardized tests; however, these tests may be biased against underrepresented groups (Russell & Meikamp, 1995). For example, Fishkin and Kampsnider (1996) noted that the 1991 Wechsler Intelligence Test for children rewards quick responses. While this test may detect those students who are gifted visually, it may not detect those gifted students who contemplate situations on a conceptual level (Fishkin & Kampsnider, 1996). This could lead to under-identifying students who are not in the majority. Also, when these tests are based on knowledge previously taught or experienced, those students who were underperforming or underrepresented may be gifted but may remain undetected. Some

poor rural students are lacking activities experienced by their more affluent classmates, such as going to a restaurant, library, or zoo (Abell & Lennex, 1999). There are also many forms of creative giftedness that coexist with academic giftedness (Clark & Zimmerman, 2001). Giftedness may be creatively displayed early and may develop into a more pervasive giftedness if identified and nurtured under the proper circumstances (Lawrence, 2009).

Underachievement in Gifted Students

Underachieving gifted students are capable of achieving, but certain factors impede their achievement. For some gifted boys there are many reasons underlying their underachievement; however, many of the causes stem from a socio-emotional category (Hately & Townend, 2020). Gifted boys may feel pressure to portray their masculinity or may succumb to peer pressure to maintain inclusion within their group (Shepard et al., 2011). Erikson (1950/1993) noted that during the fifth stage of psychosocial development, which is identity versus role confusion, children want to identify with a group. During this time in their lives, they are developing their own personal identity and see themselves reflected in their group. Gifted children, like most children, do not want to be perceived as different than the other members of their group, and it is just one more example of the necessity of gifted programs to support these gifted children.

Underachievement could be an attempt by the child to display independence or control, and sometimes students underachieve because the material is boring or irrelevant to their lives (Webb et al., 2007). Some students will underachieve to avoid future expectations of high achievement or to have the excuse that they did not try to avoid the possibility of failing while attempting to achieve. Underachieving could be a way to seek attention from teachers and parents. Children may not be mature enough to consider the future impact of their current actions, and they may not recognize the internal benefits of learning. Study skills and

organization training may help some students who underachieve because they did not have the proper tools for success. Outside influences such as trouble with attention, a disability, and family problems could also contribute to underachievement (Webb et al., 2007).

Poverty is also a source of underachievement (Olszewski-Kubilius & Corwith, 2018). Giftedness for some impoverished students may never be observed since the common method of identification is teacher or parent referral. Children living in poverty who do not have the same experiences as their affluent peers may not display qualities of giftedness (Olszewski-Kubilius & Corwith, 2018). Some students may not achieve in school due to their undesirable living conditions at home which may not include nutritious meals (Olszewski-Kubilius & Corwith, 2018). Identifying and nurturing these gifted underachievers is essential for their success in life and for the benefit of society as a whole as they have much to contribute with their giftedness.

The United States does not generate as many gifted students as other nations (Finn & Wright, 2015). Among the most accomplished students from the United States, students originating from disadvantaged families are disappointingly underrepresented (Finn & Wright, 2015). Snyder et al. (2019) found that interventions could produce improved scholastic and psychological factors. Their study found that the random error model had a weighted average g of .45 with a 95% confidence interval from .30 to .60. This means interventions to correct underachievement moderately enhanced scholastic achievement (Snyder et al., 2019).

A relationship was found between students who underachieve and have perfectionistic tendencies (Mofield & Parker Peters, 2019). A sequential logistic regression was conducted with four dimensions of perfectionism added to fixed and growth mindsets as predictor variables and achievement status as the criterion variable. The analysis was statistically significant (model χ^2 =23.40, $p < .001$), and the model accurately categorized 92.66% of the sample. They suggested

that students who tend to be perfectionistic should receive help to avoid the urge (Mofield &

Parker Peters, 2019). McBee and Makel (2019) also studied underachievement in gifted students,

and they found that schools could have from less than 0.5% to almost 90% of students classified

as gifted depending on the identification process and the definition of giftedness. Steenbergen-

Hu et al. (2020) noted that underachieving students are much easier to identify if they had been

high achieving at one point in time; however, students who have never been high achievers are

tougher to identify as underachievers. There are numerous explanations for underachievement,

but the results of underachievement are dire. Underachieving youth often become depressed,

abuse substances, and exhibit behavioral problems (Borkowski & Thorpe, 1994; McCall et al.,

1992). Studies are conflicted regarding increased risk of depression among gifted students. Even

if the depression rate was the same for gifted students as students who are not gifted, it is still an

alarming consideration (National Association for Gifted Children, n.d.). Approximately 10% of

gifted students have been diagnosed with depression (Webb et al., 2007). According to surveys

of high achievers by *Who's Who Among American High School Students*, suicide is pervasive

among high achievers. Suicide has been attempted by four percent of high achievers, 25%

contemplated suicide, 19% knew a person who died as a result of suicide, and 43% knew an

individual who attempted suicide (Webb et al., 2007).

Poverty in Gifted Children

The causes for the inadequate representation of students originating from

socioeconomically disadvantaged backgrounds stem from unfairness due to poverty, lack of

teachers of color, inadequate methods to identify gifted, and rough living conditions (Morgan,

2020). According to Borland (2003) and Sapon-Shevin (2003), some consider gifted education to

be an elitist designation reserved for those students from advantaged environments. The solution

to the gap in achievement originates from reducing the gap in identifying gifted students (McCoach et al., 2016). Teacher and parent referrals are the usual method of entering the gifted program in many schools (Hamilton et al., 2018). This method, however, could be prejudicial (Morgan, 2020). The subjectivity of middle-class teachers could interfere with nominating students originating from socioeconomically disadvantaged backgrounds since their values often do not coincide with the values of families from socioeconomically disadvantaged backgrounds (Hamilton et al., 2018). Parental participation in school activities could influence parental referrals to the gifted program (Lakin, 2016). Research has demonstrated that parents from socioeconomically disadvantaged backgrounds are less inclined to become involved with their children at school especially compared with wealthier parents (Smith, 2006). In a case study conducted by Smith (2006), her final recommendation was that educators must consider that some families will not become engaged with their children's school. Reasons could stem from prior bad experiences with school, financial troubles, or other problems. Some parents may display respect by trusting the teacher to educate their children. Regardless of parental involvement, educators should refrain from judging parents based on their level of involvement (Smith, 2006).

By relying on teacher and parent recommendations, a school district will likely experience less referrals resulting in decreased testing and reduced services to be provided (Lakin, 2016). Learning may be influenced early in a child's life by previous learning opportunities (Peters & Engerrand, 2016). Early childhood teachers who believe they are witnessing giftedness, may only see the result of a prior educational experience. Ironically, schools that serve underprivileged students tend to not provide gifted services despite potentially serving as the locations with the greatest possibility of effectiveness (Lakin, 2016). According to

Erikson (1950/1993), it is the responsibility of adults to guide the next generation in stage seven of the psychosocial development stages, generativity versus stagnation. Schools are to act in the place of the parents and provide for the students under their care as a parent would, known as *in loco parentis*. Students from more affluent homes possess the financial means to attend supplement educational activities through private schools, special camps, and tutoring to satisfy their need for additional learning opportunities. Because of behavioral problems, teachers and parental referral systems sometimes fail to nominate some students (Siegle & Powell, 2004). Referrals to special education resulted in more students of color and students originating from socioeconomically disadvantaged homes which is potentially a detriment to their development (Dever et al., 2016).

Severe living situations such as poor interaction with parents that may lead to poor literacy as well as poverty and an inadequate supply of wholesome food, cause some students originating from disadvantaged backgrounds to experience less stimulating learning conditions at home (Morgan, 2020). They often are undernourished which leads to a range of under-developmental issues including strong evidence of stunting in 25-30% of children, iodine deficiency in 35% of children, and iron deficiency in 20-30% of children (Engle & Black, 2008). This leads to less energy to perform at optimum levels for success in the classroom (Burrows et al., 2017). Trockel et al. (2000) found a significant correlation ($r = 0.241$, $p = 0.01$) between eating breakfast and GPA. Parental interaction in impoverished homes does not often encourage educational activities (Sparks, 2015). Parents originating from socioeconomically disadvantaged backgrounds tend to earn less money to dedicate to educational materials for their children and usually provide less exposure to advanced vocabulary (Morgan, 2020). Approximately 51% of public-school students originate from low-income households (Hamilton et al., 2018). The result

is students underperform from the time they start school, and they often continue to underperform their affluent peers partially because their schools are inferior (Morgan, 2018) and because their needs remain unmet in the basic levels of Maslow's (1943) hierarchy. One example of inferior schools was studied by Clemens (2019). That school had 81% of their students qualify for free and reduced lunch, and 95% of the student body were students of color. But over 90% of White students scored proficient or higher in English Language Arts, mathematics, and biology while students of color were only in the 60% range, and English language learners were in the 20% range to earn proficient (Clemens, 2019). Additionally, students of color and students originating from socioeconomically disadvantaged backgrounds are underrepresented in accelerated classes which have been shown to improve college success and graduation rates (Olszewski-Kubilius & Corwith, 2018). For example, college enrollment for students participating in Project Excite was 84.5% which is a remarkably higher acceptance rate to college than their peers on a national average (Olszewski-Kubilius et al., 2017).

Unfortunately, high scores on academic assessments are the usual method for identification for gifted programs; however, this method ignores potential especially in students originating from socioeconomically disadvantaged backgrounds (Olszewski-Kubilius & Clarebach, 2012). External factors for students originating from socioeconomically disadvantaged backgrounds affect their performance on tests which leads to fewer referrals to the gifted program even for students who have great learning potential (Morgan, 2020). According to a 2017 *New York Times* article, income for Black families was significantly lower than White families earning only $57.30 for every $100 earned by White families (Badger, 2017). Six external factors have been identified as likely contributing to low school performance: (a) prenatal conditions including low birth weight; (b) insufficient health care; (c) poor nutrition; (d)

pollution; (e) family tension; and (f) community attributes (Berliner, 2009). An additional factor is supplemental learning experiences. These additional experiences include summer programs, after school activities, and preschool. All of which help to reduce the effect of the six out-of-school factors (Berliner, 2009). For example, 50% of the gap in achievement between students from affluent families and recipients of financial government assistance has been attributed to a lack of intellectual gains in the summer (Alexander et al., 2007). All of these contributing factors are represented by the lowest levels of Maslow's (1943) hierarchy of needs which means that children living in these conditions have no freedom to pursue advanced needs because their basic needs are unmet.

Universal screening has been recommended as early as kindergarten (Matthews & Rhodes, 2020), as an effort to improve educational opportunities for the underprivileged population. Even though the universal screening could help to improve equality, many schools refrain from using it. The expense of both administering the test and then providing services for the additional gifted students along with any unknown benefits most likely lead most schools to disregard universal screening (Peters et al., 2019).

The importance of gifted programs especially for students originating from socioeconomically disadvantaged backgrounds is it helps to prepare them for college (Morgan, 2020). Students of color from socioeconomically disadvantaged backgrounds who are the first in their family to attend college may not graduate from college because of a lack of rigorous high school courses (Hébert, 2018). Without gifted support, some exceptionally advanced students may have reduced opportunities for academic success later in life (Morgan, 2020).

Students of Color in Gifted Programs

Children of color composed 33% of the population of students at the turn of the 21st

century; however, they represented only 10% of those students who succeeded at the highest levels (Gallagher, 2002). Teachers of color are more likely to refer students of color because they more easily recognize unique cultural characteristics (Gollnick & Chinn, 2013). Teachers are predominantly White at 83.4% according to the U.S. Department of Education (Schools and Staffing Survey [SASS], 2000) while students of color include 30% of the population (Hoffman et al., 2003). These statistics are even worse in more diverse schools consisting of over 30% students of color where 69.4% of teachers are White (SASS, 2000). More Black and Hispanic teachers referred higher percentages of students of color (Grissom & Redding, 2016). For example, Grissom and Redding (2016) found that the predicted probability of Black students to be referred for gifted programs was 6.2% when their teachers were Black, compared to 2.1% when their teachers were not Black. According to their study, this means Black students who have Black teachers are almost three times as likely to be referred for gifted programs as Black students who are not taught by Black teachers (Grissom & Redding, 2016). In Texas during the 1995-1996 school year, teachers of color composed 24% of the teachers in the state; however, in school districts with more than 60% of students originating from socioeconomically disadvantaged backgrounds, teachers of color accounted for over 50% of the teachers employed in the district (Kirby et al., 1999). There are fewer teachers of color which leads to fewer opportunities for students of color to be responsible for higher standards. White teachers tend to present lower standards for students of color (Ford et al., 2008; Gershenson et al., 2016). Gershenson et al. (2016) found that nonblack teachers were 12% less likely to expect Black students to graduate with a bachelor's degree when compared with Black teachers. Because of reduced expectations, fewer students of color are referred for gifted programs (Ford et al., 2008).

Some children are not referred to gifted education because they are academically behind

their peers when they begin school. When children are assessed based on their lack of knowledge, their potential to learn is not measured. If children are first exposed to a challenging education, then their capability to learn could be more accurately measured (Olszewski-Kubilius & Clarebach, 2012). This pattern of thought is referred to as "deficit thinking." It also applies to students of different cultures and languages where the focus is on their temporary shortcomings rather than their potential (Olszewski-Kubilius & Clarebach, 2012).

Parents of color are often unaware of the appeals process and do not know how to maneuver through the system to enroll their children in gifted programs (Balingit, 2018). In a span of ten years, 1,737 second-grade students were admitted to the gifted program through the appeals process in Fairfax County, Virginia; however, only 50 of those students were Black or Hispanic (Balingit, 2018). Families of color have less contact with people from privileged groups which limits their access to information that is readily available to affluent White families (Grissom & Redding, 2016).

English Language Learners in Gifted Programs

English language learners are less likely to be identified for gifted programs. The schools in states that Gubbins et al. (2018) studied found English language learners were 29%, 55%, and 65% as likely to be identified as students who were not English language learners. It is important to note that these schools were intentionally chosen because the percentage of gifted English language learners reflected the overall English language learner population (Gubbins et al., 2018). Recent immigrants are also more likely to suffer from poverty (Lightman & Good Gingrich, 2018) which results in a lower likelihood of discovery through traditional referral methods from teachers and parents. Immigrant families suffer from poverty at a rate of 23% as opposed to only 13.5% of families born in the United States (Camarota, 2012). Since some

schools use multiple measures to identify gifted students, some students may qualify on two of

the three parameters, but fail on the other (Gubbins et al., 2018). Those who do not command the

English language are at a disadvantage; because they may have been able to fulfill all

requirements yet lacked the language skills (McBee et al., 2014). Since many gifted programs

consist of students from the middle class, the process of identifying gifted students outside that

class most likely will not change until there is sufficient data to support other possible methods

for identifying gifted students (Bernal, 2002). Gubbins et al. (2018) attempted to add to the

support for additional methods designed to increase identification of gifted students who are

English learners. Of the four recommendations Gubbins et al. (2018) provided, one was to

implement universal screening with reliable and valid instruments that do not rely on verbal

ability. Some examples suggested were Cognitive Abilities Test (CogAT), Naglieri Nonverbal

Ability Test (NNAT), Raven's Progressive Matrices, Comprehensive Test of Nonverbal

Intelligence, and Universal Nonverbal Intelligence Test (Gubbins et al., 2018).

Research-based Interventions for Gifted Programs

Gifted students also do not receive the same types or levels of support in every school

(Rasheed, 2020). In some schools, students are removed from a potentially more enjoyable

elective class for gifted support, and many may feel it is a distraction from their own personal

goals especially when they are pulled from an enjoyable class (Swan et al., 2015). Some students

need support to be challenged (Berman et al., 2012), and some students like to be more self-

directed (Thomson, 2010). Some schools expect individual teachers to provide additional

challenges to gifted students, but specific training in educating gifted students must occur

(Johnsen, 2012; Roberts et al., 2018; Van Tassel-Baska & Little, 2017). Other schools provide

their gifted students with external sources to bolster their gifted skills (Tommis, 2013). Finding

the perfect situation for every gifted student is a daunting task.

Acceleration

Acceleration has been promoted as an effective and inexpensive way to provide gifted students with the needed rigor to engage their minds as well as allow unidentified gifted students the opportunity to excel to their greatest potential (Howley et al., 1988). These courses should be available to all capable students who are motivated and interested regardless of their gifted label (Alford, 1997). Attribution theory promotes an increase in motivation when students attribute their success to their efforts (Weiner, 1986 as cited in Alford, 1997). Acceleration could include skipping a grade or advance in one or two subjects only. Once students are in high school acceleration also includes advanced placement courses or dual enrollment through a college or university (Finn & Wright, 2015). Acceleration provides an outlet for ambitious students to work toward self-actualization (Maslow, 1943) rather than remain unchallenged in a regular classroom.

Supplementation

Supplementation involves programs outside of school that occur on weekends, after school, or during the summer. Numerous programs are offered by many organizations offering students the chance to study independently, work alongside an expert in a lab, or participate in a program offered by a college (Finn & Wright, 2015).

Part-time Pull-out Classes

Part-time pull-out classes occur daily or weekly where gifted students leave the traditional classroom to explore the curriculum on a deeper level. Perhaps they explore additional methods or perform experiments. Sometimes they could even explore a completely independent topic. Pull-out classes are not for acceleration or compacting the curriculum, the purpose is

enrichment (Finn & Wright, 2015).

Full-time Pull-out Classes

Full-time pull-out classes occur when students are grouped together with other gifted students and attend classes every day in that group. In high school, the honors track is an example of full-time pull-out classes. In the honor track, high ability students are clustered together for academic classes and then mixed with regular education students for physical education, art, music, and homeroom (Finn & Wright, 2015).

Complete Separation

Schools that are specially designed for gifted students are considered complete separation since these students interact solely with other gifted students. There are only a few of these schools in the United States, and they can be an independent school, a school within a school, or a partially separate school with an alternative curriculum (Finn & Wright, 2015).

Virtual Learning Lab

Another solution for more deeply involved gifted programs would be the introduction of a virtual learning lab (VLL; Swan et al., 2015). The VLL allows students to enroll in online courses as part of their normal high school schedule. Since the courses are online, schools can offer numerous classes without the need to hire experts in all those fields. Swan et al. (2015) found that 100% of the students participating in high school VLL courses while they were still middle school students successfully passed their courses mostly with As or Bs. VLL is another opportunity where gifted students who have not been identified may receive the education they deserve. VLL could be considered a part-time pull-out class. Bandura (1977) noted that vicarious experiences help to improve self-efficacy.

Community Enrichment

Another potentially ignored area is the external influences on children's lives.

Throughout elementary, middle, and high school, children spend only 20% of their time in the

classroom (Benyo, 2010; National Science Foundation, 2010). Additionally, physics is taken by

only 30.7% of Black high school students which hinders their access to careers in Science

Technology, Engineering, and Mathematics (STEM) because they would not have exposure

before they enter college making it unlikely they would pursue a STEM career (National Center

for Education Statistics, 2012). Parents and the community should be encouraged to become

involved in the development of career aspirations for their youth which may lead to more career-

oriented occupations especially in the STEM field following graduation (Collins & Jones

Roberson, 2020). Expectancy-value theory (Eccles et al., 1983 as cited in Collins & Jones

Roberson, 2020) proposed that students will succeed at tasks that they perceive as worthwhile

and achievable. Community enrichment should help motivate students with worthwhile causes.

Maltese and Tai (2010) reported that 65% of students enrolled in STEM courses developed their

interest in the field before middle school which places more emphasis on developing this interest

earlier in life.

Response to Intervention

Response to Intervention (RtI) could facilitate gifted students reaching their potential

(Hughes et al., 2009). Through RtI models, schools would be prepared to provide additional

support to gifted students without the gifted label (Hughes et al., 2009). When students display

the readiness for more advanced learning, they would have access to learning that would be most

appropriate for them (Hughes et al., 2009). Some examples of the additional enrichment could be

more complex subject matter, increased depth, accelerated pacing, autonomous learning,

additional options with assignments, more advanced academic grade level work, curriculum

compacting, and multi-level activities (Hughes et al., 2009). With additional training, teachers could implement most of the enrichment strategies through differentiated instruction. The task of differentiation is not simple, and teachers must be flexible with their curriculum and activities. A large variety of classroom materials should be available to provide the most appropriate education for each student (Hughes et al., 2009).

For RtI to be successful, teachers need ongoing support from administration (Hughes et al., 2009). Teachers should use evidence-based, effective teaching techniques by choosing supplemental materials and methods that have been proven effective through research rather than relying on assumptions or customs (Hughes et al., 2009). Teachers of gifted students should refer to books for the most advantageous teaching methods especially Callahan and Plucker (2008) and Robinson et al. (2007). Action research could serve teachers well in gathering baseline information before a modification is implemented, and then collect more data post-intervention to determine the effectiveness (Hughes et al., 2009). If it seems effective, then that strategy could continue, and if not, they should try other methods (Hughes et al., 2009).

Twice-exceptional students, gifted students with disabilities, often remain undetected since their giftedness may mask their disability (Hughes et al., 2009). Teachers may perceive twice-exceptional students as average students, and they may lose the opportunity to receive support for their giftedness as well as support for their disability (Hughes et al., 2009). In an attempt to find students who may need services not detected by teachers, schoolwide screening for advanced as well as challenged students should help to identify these students (Hughes et al., 2009).

Schoolwide Enrichment Model

Renzulli (2005) described the Schoolwide Enrichment Model as an integrated continuum

of services that provides enrichment and acceleration. The Schoolwide Enrichment Model is based on the three-ring conception of giftedness (Renzulli, 1979, 1986), but it is also supported by the theory of multiple intelligences (Gardner, 1993) and the theory of successful intelligence (Sternberg, 1999, 2000). Renzulli's (2005) integrated continuum refers to the availability of other services that may be needed once a student demonstrates superior ability or exceptional interest in other areas. This model provides flexibility to allow for enrichment in large and small groups as well as to permit individually designed curriculum for fast learners and investigative activities for highly curious and motivated students or groups. The enrichment component within the Schoolwide Enrichment Model includes acceleration, supplementary programs, performance-based assessments, counseling, and specialized placement alternatives. Acceleration includes skipping grades, taking college classes, accelerating subjects, and early admission. Supplementary programs include science fairs, math leagues, weekend programs, Odyssey of the Mind, future problem solving, destination imagination, and many other programs (Renzulli, 2005).

An important aspect of this model is that the services are interconnected. If an enrichment activity is provided to the whole class, then a few students show an abundant interest, then a cluster of those students with similar interest could receive additional enrichment. From that group, the most advanced students may explore more in-depth experiences outside of school. Another example would be some advanced students in an elementary grade who are outperforming their peers. They should be accelerated by compacting their lessons and providing enrichment opportunities, but this acceleration should be done with a cluster of students, so they have interaction with peers. Both compacting and clustering are essential to their success (Renzulli, 2005).

Reading Assessments

McGowan et al. (2016) examined the effects of using a reading assessment of curriculum-based measures that is administered three times per year as universal screening for giftedness. They employed Dynamic Indicators of Basic Early Literacy Skills (DIBELS) oral reading fluency scores. The study's results indicated that universal screening may be useful in identifying and monitoring gifted students' progress. Based on independent samples t-tests between gifted and not gifted students, the significance level was adjusted to .004 after the Bonferroni correction. Statistically significant differences are present between gifted and not gifted students from second through fifth grade with the exception of the end of third grade ($p =$ .007). Reading is only one aspect of giftedness, and the DIBELS test may miss giftedness that manifests itself in other ways (McGowan et al., 2016).

Universal Screening

One way to reduce the inequity in identifying gifted students is to use universal screening (Morgan, 2020). Morgan (2020) cautions that universal screening must be employed with low cut scores and high nomination validity. Universal screening may help to reduce the problem of under-identifying students originating from socioeconomically disadvantaged backgrounds because all students are tested (Morgan, 2020). Universal screening may be an effective means to improve the representation of students originating from socioeconomically disadvantaged backgrounds and students of color in gifted programs (Plucker & Peters, 2018). For example, in Massachusetts, advanced scores on the eighth-grade mathematics assessment were attained by 11.4% of students in 2005, and they increased to 18.2% in 2015 (Plucker & Peters, 2018). However, students who qualified for free and reduced lunch and earned the advanced status was 3.4% in 2005 and 7.1% in 2015, those who did not qualify increased from 14.6% to 26.6%

(Plucker & Peters, 2018). This means that the gains in mathematics achievement is occurring with students from more affluent families. This trend seems to benefit affluent families mostly because they are participating in the programs such as gifted that would allow them to benefit (Plucker & Peters, 2018). Universal screening seems to work because schools use local norms to determine giftedness rather than national or state norms. Local norms use data from within the district to compare students (Morgan, 2020), and they help to identify more students originating from socioeconomically disadvantaged backgrounds and from other underrepresented groups (Plucker & Peters, 2018). By using local norms more underprivileged students have the opportunity to enter gifted programs (Peters & Gentry, 2012).

Universal screening has been implemented in Mississippi for all first-grade students as part of the Open Doors Program (Ford, 2010). The Open Doors Program in Mississippi enables gifted students to receive at least five hours of pull-out classes per week that include projects, experiments, service learning, and simulations. This program has increased the diversity of gifted students by 216% within the first five years of the program. That percentage increased to 278% for the first six years for those students who are culturally, linguistically, and ethnically diverse (Ford, 2010).

Research Study on Universal Screening

One large school district in Florida began testing second graders with the NNAT in the spring of 2005 to improve equity with access to gifted programs (Card & Giuliano, 2016). Prior to the universal screening, entrance to gifted programs occurred through referrals from teachers and parents usually in first or second grade. The students who qualified for gifted programs via parent and teacher referrals resulted in a gifted program that consisted of 28% Black or Hispanic students even though they comprised 60% of the student population. Once referred for the gifted

program, Florida students must undergo IQ testing and achieve a score of 130 or above;

however, through the state's "Plan B" criteria, students originating from socioeconomically

disadvantaged backgrounds as determined by free and reduced meals qualification as well as

English language learner classification become eligible for gifted programs with a lower

requirement of 116 on the IQ test. Plan B was in effect prior to universal screening, but gifted

programs were comprised mainly of students who were White and from affluent families. After

universal screening was implemented, preliminary gifted eligibility for Plan B students increased

by 174%, while the Plan A increase was only 11%. Hispanic participation in the gifted program

increased by 130%, and Black gifted enrollment increased 80%. Due to budget constraints as a

result of the recession (McBee, 2016), universal screening was discontinued in 2011. Gifted

referrals returned to the levels prior to the universal testing (Card & Giuliano, 2016).

One important factor was the fact that parents could use private psychologists to test for

gifted (Card & Giuliano, 2016). In Florida, parents may pay for an IQ test which costs between

$300 and $500 (Morgan, 2020). The result has been drastic in Palm Beach County where White

students account for 33% of the population, but 70% of White students in kindergarten were

designated as gifted (Isger, 2016). This could also contribute to the inequity, since students

originating from socioeconomically disadvantaged backgrounds most likely could not afford

alternative testing (Card & Giuliano, 2016).

Even though it is beyond the scope of the study, Card and Giuliano (2015) examined

gains by those who were identified through universal testing but would not have been identified

through the referral process. Those students benefited even more than the gifted students who

would have been referred anyway (Card & Giuliano, 2015). The effect on those already

identified and in the program via the previous method was very minimal (Card & Giuliano,

2015). The increased testing was very expensive (Card & Giuliano, 2015). There were an additional 1,300 IQ tests administered for students who were nominated for gifted programs through the NNAT (Card & Giuliano, 2015). The additional costs originated from overtime paid to the assessors (Card & Giuliano, 2015).

Card and Giuliano (2015) discovered that those students who were eventually labeled as gifted performed as well as students who were referred to the gifted program through teacher and parent referrals. This means that the universal testing not only increased the number of gifted participants for underprivileged groups, but it also correctly identified them due to their success in the gifted program after their identification. Normal curves of test score gains were developed for before and after universal screening. Those schools who did not add many new gifted students had, as expected, similar curves before and after testing. Schools where newly identified gifted students represented 35% of the gifted students had post universal screening curves that were slightly shifted to the right of pre universal screening. This means that scores overall increased. If students were inappropriately placed in the gifted program, their scores would have shifted to the left indicating a decline in scores. Scores were slightly increased which means scores for newly identified students increased, indicating proper assignment, plus scores for students previously identified also increased which mean adding new gifted students did not negatively impact students already in the gifted program. Schools that had 75% of the gifted program as newly identified experienced a similar shift to the right with the same implications (Card & Giuliano, 2015).

Virginia is another state where parents with means may have special privileges available that families from socioeconomically disadvantaged backgrounds cannot afford (Morgan, 2020). If they do not agree with the initial assessment for the gifted program, parents may request their

child be reassessed at a cost of $500 or more (Balingit, 2018).

Even though the Card and Giuliano (2015) study is lacking a thorough literature review as well an adequate description for replication, McBee (2016) believed the study has merit and should be used to assist in providing equitable solutions to underserved populations. For universal screening to be effective, the cut score has to be low, and the validity has to be high. By validity, McBee (2016) means that the screening test should have a close connection to the more formal evaluation and produce similar results. A low cut score helps to detect gifted students who may not have the exposure to challenging academic experiences. A low cut score, combined with high validity, reduces the expense of confirmatory tests as well as improves representation of all races and income levels in gifted programs (McBee, 2016).

Summary

Gifted students deserve to be supported, but not all gifted students become identified. Some gifted students remain undetected due to underachievement, poverty, race, language barriers, behavioral problems, or cultural differences. Underachieving gifted students are difficult to detect if they were never achievers. Students could become so disinterested that they disengage in the classroom. Poverty places an additional burden on students as those students have many serious concerns that their affluent peers do not. Gifted students living in poverty may not value the importance of schoolwork when they are hungry. Students may not have the opportunity to strive toward higher levels on Maslow's hierarchy if they are destined to the basic level of motivation. Gifted students of color are underrepresented in gifted programs throughout the country. Some research suggests that teachers do not notice the signs of giftedness in students from a race different from theirs. Students may not develop self-efficacy if they are not properly nurtured. Their stage of psychosocial development should also be considered when

implementing the most appropriate programs for students.

Research-based interventions to assist gifted students consist of acceleration, virtual learning labs, community enrichment, response to intervention, and universal screening. Acceleration can be implemented without gifted programs, but it is frequently a component of gifted programs where not all students would have access to acceleration without the gifted designation. Virtual learning labs allow schools to offer a wide range of subjects to many gifted students without hiring additional staff. Students have the ability to work at their own pace while exploring subjects that may not be available to them in a traditional classroom. Since interest in STEM may appear at a young age, it is important to involve parents and the community in engaging young children in STEM fields. Response to intervention is a way for teachers to differentiate in the classroom to keep all students actively engaged in learning.

Universal screening has been a suggested first step in the identification process for gifted programs that may help to reduce barriers to gifted programs for disadvantaged families. When universal screening was used in a large, urban school district in Florida, the inequities in the gifted program began to fade. There are other methods to educate gifted students without identification, but those methods also involve a commitment from administration as well as students who seek to challenge themselves. Universal screening is one way to help find those students who would benefit the most from gifted programming. This study is an attempt to determine if the linear combination of race, socioeconomic status, and English language learner status predicted the designation of gifted students located in the northeastern United States.

CHAPTER THREE: METHODS

Overview

The purpose of this quantitative, predictive, correlational study was to determine if race, socioeconomic status, and English language learner status predicted the designation of gifted students in schools located in the northeastern United States. Chapter Three begins by introducing the design of the study, including full definitions of all variables. The research question and null hypothesis follow. The participants and setting, instrumentation, procedures, and data analysis plans are presented.

Design

A quantitative, predictive, correlational study was conducted. A correlational design has been conducted for several research studies with gifted students (Koksal, 2014; Ogurlu et al., 2018). This study examined the potential for the linear combination of race, socioeconomic status, and English language learner status to predict the designation of fourth-grade gifted students located in the northeastern United States. Since the predictor variables of race, socioeconomic status, and English language learner status were obtained from archived data, all data was already available once the study began. In correlational studies, the predictor variables are typically measured before the criterion variable. Because this study occurred after all the data have already been collected, the study is also known as ex post facto which is a Latin term that means the data were previously generated, and participants have already been assigned to groups based on naturally occurring events (Gall et al., 2007). Ex post facto studies provide more of an explanation of the criterion rather than a prediction, hence the causal nature of predictions (Segrin, 2010).

A correlational study is appropriate when researchers want to measure possible outcomes

based on other variables (Creswell & Guetterman, 2019). Correlational research studies are relationship studies that examine the direction and nature of the relationship between the predictor and criterion variables (Gall et al., 2007). Direction indicates a positive or negative slope if there is a linear relationship. Other forms of association are curvilinear and no relationship (Creswell & Guetterman, 2019). In correlation research, the goal is usually to examine the correlational relationships between the predictor and criterion variables to search for implied potential causality (Gall et al., 2007).

The outcome of this research examined whether or not the linear combination of race, socioeconomic status, and English language learner status predicted the designation of fourth-grade gifted students located in the northeastern United States. For this study, the predictor variables were race, socioeconomic status, and English language learner status, and the criterion variable was the designation of gifted for students located in the northeastern United States following universal gifted screening with the CogAT. The race variable was defined as Asian (not Hispanic), Black (not Hispanic), Hispanic, Multi-Race/Two or more (not Hispanic), or White (not Hispanic). The socioeconomic status variable was defined as a dichotomous variable that was either students receiving FARM or those not receiving FARM. The English language learner variable was defined as a dichotomous variable that was either students receiving English language support or students not receiving English language support. The gifted designation variable was defined as students identified as gifted or students not identified as gifted. Logistic regression analysis was facilitated to analyze the predictive relationship of race, socioeconomic status, and English language learner status on the designation of gifted students in a northeastern United States school district (Salkind, 2010).

Research Question

The following research question guided this study:

RQ: How accurately can a student's gifted designation be predicted from a linear combination of race, socioeconomic status, and English language learner status for fourth-grade students in the northeastern United States following universal gifted screening with the CogAT?

Hypothesis

The following null hypothesis guided this study:

H_0: There is no significant predictive relationship between a student's gifted designation and the linear combination of race, socioeconomic status, and English language learner status for fourth-grade students in the northeastern United States following universal gifted screening with the CogAT.

Participants and Setting

The setting for this study included one of eight elementary schools within a school district in the northeastern United States with almost 7,000 students enrolled in the district during the 2019-2020 school year (Northeast School District, 2021). The chosen site was considered a convenience sample since this district administers the same universal screening test to the same grade every year.

Population

The population for this study was all students within a school district in the northeastern United States. This district was chosen because it administers the same universal screening test to the same grade every year. The sample size was 95, which exceeded the required minimum of 66 for a correlation when assuming a medium effect size with statistical power of .7 and alpha level, α of .05 (Gall et al., 2007). A random sample of schools throughout the entire the

northeastern state was not chosen since that state does not require schools to universally screen students for giftedness, and only a fraction of the northeastern state's schools participate in universal screening for giftedness. Those that do screen administer various tests at different grade levels (Name withheld, personal communication, March 30, 2021); therefore, those schools were not sufficiently uniform for this study. A school district with a sufficient number of elementary students all participating in universal gifted screening was necessary to fulfill sample requirements. Overall, the demographics of the entire school district for the 2019-2020 school year consisted of 8.1% Asian, 2.5% Black, 3.8% Hispanic, 6.6% Multi-Race, 78.6% White (Northeast school district, 2021), 7.1% fourth grade, 92.9% other grades (National Center for Education Statistics, 2019-2020), 20.2% FARM, 79.8% not FARM (Northeast school district, 2021), 3% English language learners, 97% proficient English speakers (Northeast school district), 6.4% gifted, and 93.6% not gifted (Name withheld, personal communication, February 4, 2022).

Table 1

Population Demographics

Race	
Asian (not Hispanic)	8.1%
Black (not Hispanic)	2.5%
Hispanic	3.8%
Multi-Race/Two or more (not Hispanic)	6.6%
White (not Hispanic)	78.6%

Grade level	
Fourth grade	7.1%
All other grades	92.9%
Socioeconomic status	
FARM	20.2%
Not FARM	79.8%
English language mastery	
English language learner	3%
Proficient English speaker	97%
Gifted Status	
Gifted	6.4%
Not Gifted	93.6%

Note. Gifted status was provided by the northeastern school district. Fourth grade derived from National Center for Education Statistics (2019-2020). All remaining information found on the northeast school district website (2021).

Setting

The area of the study consists of 10.9% Asian, 3.9% Black, 4.2% Hispanic, 2.3% Multi-race, and 78.8% White. Households that spoke languages other than English were 16.6% with individuals born in other countries at 15.5%. The median household income was $34,005, and individuals living in poverty was 44.9% (U.S. Census Bureau, 2020).

Sample

Fourth grade for one school during the 2019-2020 school year was selected as the sample

since these schools administer all fourth graders the CogAT to universally screen for giftedness. They also screen all new students admitted to grades higher than fourth grade. The demographics for the sample consisted of 6.3% Asian, 4.2% Black, 6.3% Hispanic, 12.6% Multi-Race, 70.5% White, 13.7% FARM, 86.3% not FARM, 2.1% English language learners, 97.9% proficient English speakers, 16.8% gifted, and 83.2% not gifted (Derived from data provided by the northeast school district.).

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

Archival data from the instrument measured the relationship of race, socioeconomic status, and English language learner status to the designation of gifted students located in the northeastern United States. The instrument was the CogAT screener and is published by Riverside Insights (n.d.). Riverside prohibits disclosure of any testing items (Lohman, 2013a). The CogAT is designed to measure general intelligence through separate tests in verbal, quantitative, and nonverbal reasoning for students in kindergarten through twelfth grade (Riverside Insights, n.d.). CogAT is used to screen for giftedness by 54% of the districts that were surveyed by Education Week Research Center (Kurtz et al., 2019). Refer to Appendix C for permission to use the CogAT.

Current intelligence tests have measured general intelligence for over 100 years (Naglieri, 2018). The first intelligence tests originated when the United States military created the Army Alpha and the Army Beta tests at the beginning of the twentieth century (Naglieri, 2015). The Alpha test consisted of questions measuring common knowledge, practicality, language, and numerical questions. The Beta test was nonverbal with questions involving mazes, block construction, memory, locating missing items in an image, and replicating geometric figures. The Alpha version measured general ability in men who were able to read and write in English while

the Beta version tested men who lacked skillful mastery of the English language. Those who failed the Alpha test were tested with the Beta version to avoid mislabeling those who had trouble only with the English language (Yoakum & Yerkes, 1920). The Alpha and Beta tests provided alternative opportunities to measure general intelligence, and these tests produced meaningful and enduring improvements to the measurement of intelligence. Questions for measuring general ability consist of verbal, quantitative, and nonverbal types. All types of questions involve the same kind of mental processes with relationships between words, numbers, and shapes, respectively (Naglieri, 2018). The CogAT was first published in 1963 (Lohman, 2014), and it is derived from the Lorge-Thorndike Intelligence test which originated in 1954 (American Psychological Association, 2020). David F. Lohman, Ph.D. has authored the CogAT since 1998 (Lohman, 2014). In 2011, the seventh version of the CogAT was published and is the latest version (American Psychological Association, 2020). The seventh version of the CogAT was an extensive revision of the sixth version (Lohman, 2013b).

The CogAT has been used in numerous studies (Alodat & Zumberg, 2019; Cao et al., 2017; Carman et al., 2018; Carman et al., 2020; Giessman et al., 2013; Gentry et al., 2021; Gubbins et al., 2020; Lohman & Gambrell, 2012; Mun et al., 2020; Valler et al., 2017). The validity of the CogAT was determined through multiple studies and was found to have an $r = .51$ with the NNAT, second edition (Lohman, 2012b). In addition, a correlation of $r = .76$ was found with the Wechsler Intelligence Scale for Children, fourth edition (Lohman, 2012b). Each battery of the CogAT has a positive correlation with the Iowa Assessment Test. The verbal correlation was $r = .42$ through .83; the quantitative correlation was $r = .30$ through .79; and the nonverbal correlation was $r = .32$ through .69 (Lohman, 2012b). Overall, the correlation for the total CogAT battery was $r = .40$ through .85 with the Iowa Assessment Test (Lohman, 2012b). The

reliability coefficients for the composite scores of the CogAT 7 were .88 to .97 and for the

battery scores were .80 to .94. The internal consistency coefficients were .75 to .97 (Gentry et al.,

2021).

For this study, the CogAT screener level 10 was the appropriate test for fourth grade

(Lohman, 2013a). Level 10 consists of 64 multiple choice questions that take 30 minutes to

complete all three sections: the verbal, quantitative, and nonverbal subtests (Lohman, 2012a).

The verbal subtest is verbal analogies with 24 questions. The quantitative subtest is number

analogies with 18 questions. The nonverbal subtest is figure matrices with 22 questions. Each

subsection takes 10 minutes to complete (Lohman, 2012a). All fourth-grade students were

universally screened for giftedness in the northeastern United States school district.

The CogAT is intended to be administered in a group setting either online or through a

paper and pencil format, but it may be administered to individual students. Classroom teachers

may administer the tests, or it may be administered by someone who is familiar with the

students. There is no specific training necessary to administer the tests. Students should be

monitored to make sure they understand the directions, the sample questions, and the proper use

of the computer if it is administered online before the subtest begins. No questions may be

answered once the test starts unless the questions concern procedures or directions of the test.

For tests that are led by a proctor, the proctor reads the script provided in the instruction manual.

They may repeat the script and provide additional explanations or examples before the test starts.

For online tests with audio, students will play the directions, and they may replay the directions

as often as needed. Students are asked to raise their hand if they need help with the directions.

Proctors should circulate around the room to see if any students struggle while completing the

sample questions. If a student has trouble with a sample question, the proctor may assist them.

One proctor and one test administrator should be able to give the test to 20 students or less. If more than 20 students will be testing in one room, additional proctors may be needed (Lohman, 2012a).

The total number of correct responses is known as the raw score which is converted to the universal scale score (USS). The USS is based upon age and grade norms tables for the CogAT. The USS is then converted to the percentile ranks and stanines by grade and age as well as standard age score (SAS; Lohman, 2013b). The SAS has possible scores from 50 to 160 with the average score at 100 and a standard deviation of 16. Individual battery USS, SAS, percentile rank, stanine, and age percentile rank scores are reported as well as a composite for each type of score for the CogAT (Lohman, 2013b).

The online version of the CogAT is automatically scored after each subsection through Riverside Scoring Service (Lohman, 2013a). Paper and pencil tests with central scanning need to be sent to Riverside Scoring Service for scoring. Paper and pencil tests with local scanning are scanned at the school and transmitted to Riverside Scoring Service for scoring. Occasionally, schools choose to manually score the tests (Lohman, 2013a). Training for test administrators, test coordinators, and proctors occurs through general meetings, specific guidance, and workshops depending on their role in testing. Standard procedures must be followed to ensure test integrity. Posttest training is provided for appropriate interpretation and use of the scores as well as to ensure test integrity (Lohman, 2013a).

Procedures

Liberty University's Institutional Review Board (IRB) approval was obtained prior to data collection. Refer to Appendix A for IRB approval. Appropriate approval from the northeastern United States school district was obtained prior to data collection. See Appendix B

for school district approval. Data was collected from the gifted director. Race, socioeconomic status, English language learner status, and gifted status was compiled by the gifted director for every fourth-grade student from one school during 2019-2020 school year. Student identifying data was not needed for this study. Any identifying information was de-identified by the gifted director. All data was available on an individual student level. Approval to obtain the information was granted through the Assistant Superintendent. Refer to Appendix B for the school district approval.

The data gathered for race, FARM, English language learner status, and gifted status was compiled into a Microsoft Excel spreadsheet. Information for the district was 8.1% Asian, 2.5% Black, 3.8% Hispanic, 6.6% Multi-Race, 78.6% White (Northeast school district, 2021), 7.1% fourth grade, 92.9% other grades (National Center for Education statistics, 2019-2020), 20.2% FARM, 79.8% not FARM (Northeast school district, 2021), 3% English language learners, 97% proficient English speakers (Northeast school district), 6.4% gifted, and 93.6% not gifted (Gifted director, personal communication, February 4, 2022). The gifted director provided the disaggregated data. Coding of each of the variables is described below:

(a) Asian students were coded as 0; Black students were coded as 1; Hispanic students were coded as 2; Multi-Race students were coded as 3; and White students were coded as 4.

(b) Students enrolled in FARM were coded as 0; students not receiving FARM were coded as 1.

(c) English language learners were coded as 0; Proficient English speakers were coded as 1.

(d) Gifted students were coded as 0; not gifted students were coded as 1.

Then, the data was entered into the Statistical Package for the Social Sciences (SPSS) for statistical analysis. The data was then interpreted and summarized in the data analysis section. All data was saved to a password protected computer accessible only by the researcher.

Data Analysis

According to Warner (2021), the study was statistically evaluated by logistic regression since there are multiple predictor variables and one, dichotomous criterion variable. Logistic regression has been used in several research studies of gifted students (Hodges et al., 2021; Mofield & Parker Peters, 2019; Obergriesser & Stoeger, 2015; Winsler et al., 2013). For this study, the predictor variables were race, socioeconomic status, and English language learner status, and the criterion variable was the designation of gifted for students located in the northeastern United States following universal gifted screening with the CogAT. The race variable was defined as Asian (not Hispanic), Black (not Hispanic), Hispanic, Multi-Race/Two or more (not Hispanic), or White (not Hispanic). The socioeconomic status variable was defined as a dichotomous variable that was either students receiving FARM or those not receiving FARM. The English language learner variable was defined as a dichotomous variable that was either students receiving English language support or students not receiving English language support. The gifted designation variable was defined as students identified as gifted or students not identified as gifted.

Logistic regression analysis was facilitated to analyze the predictive relationship of race, socioeconomic status, and English language learner status on the designation of gifted students in a northeastern United States school district (Salkind, 2010). This study consisted of multiple predictor variables that were both dichotomous and quantitative and only one dichotomous criterion variable that was not manipulated. Logistic regression is the most appropriate method of

statistical analysis with these types of variables because it allows the relationship between the predictor variables and criterion variable to be analyzed (Warner, 2021). The analysis produces evidence to either reject or fail to reject the null hypothesis (Gall et al., 2007). Logistic regression represents the conditional probability through the logistic function (Khandelwal, 2020).

There are four assumptions in logistic regression (Laerd Statistics, 2018). First, the criterion variable must be dichotomous. For this study, the criterion variable is dichotomous since students were either gifted or not gifted. The second assumption is there is at least one predictor variable that is either continuous or categorical. The three predictor variables in this study were all categorical. The third assumption is the independence of observation for the predictor variables and mutually exclusive criterion variable. The criterion variable was mutually exclusive since a student can only be gifted or not gifted. The fourth assumption of testing for a linear relationship between the predictor variables and the logit transformation of the criterion variable is not applicable since all variables were categorical (Laerd Statistics, 2018).

This study examined identified gifted students located in the northeastern United States following universal gifted screening with the CogAT that was predicted by race, socioeconomic status, and English language learner status at a 95% confidence level. The strength of the model was measured with Cox and Snell's R^2 as well as Nagelkerke's R^2 statistic (Laerd Statistics, 2018). The Wald test was also calculated to check for statistical significance (Laerd Statistics, 2018).

CHAPTER FOUR: FINDINGS

Overview

Chapter Four will address the details regarding the data and the methods used to evaluate the data. This chapter will report the descriptive statistics and the results from the logistic regression which includes data analysis, assumption testing, and results for the null hypothesis. The Wald statistic and the odds ratio will also be presented for the predictor variables of race, socioeconomic status, and English language learner status.

Research Question

RQ: How accurately can a student's gifted designation be predicted from a linear combination of race, socioeconomic status, and English language learner status for students in the northeastern United States following universal gifted screening with the Cognitive Abilities Test (CogAT)?

Null Hypothesis

H_0: There is no significant predictive relationship between a student's gifted designation and the linear combination of race, socioeconomic status, and English language learner status for fourth-grade students in the northeastern United States following universal gifted screening with the CogAT.

Descriptive Statistics

There were six Asian students, four Black students, six Hispanic students, 12 multi-race students, and 67 White students. There were 13 students receiving FARM and 82 students not receiving FARM. There were two students designed as ELL and 93 students not designated as ELL. There were 16 gifted students and 79 not gifted students. Refer to Table 2 for frequencies of the predictor variables and Table 3 for the criterion variable frequencies.

Table 2

Frequencies for Predictor Variables

Race	N	%
Asian	6	6.3%
Black	4	4.2%
Hispanic	6	6.3%
Multi-Race	12	12.6%
White	67	70.5%
Socioeconomic Status		
FARM	13	13.7%
Not FARM	82	86.3%
English Language Learner		
ELL	2	2.1%
Not ELL	93	97.9%

Table 3

Frequencies for Criterion Variable

Gifted Status	N	%
Gifted	16	16.8%
Not Gifted	79	83.2%

Results

Data Screening

All predictor and criterion variables were screened for inconsistencies. Four gifted students were incorrectly coded as not gifted. The director provided gifted designation before and after screening, and four students were gifted before screening but not designated gifted after screening. When the gifted director was contacted regarding the inconsistency, he said that it was an oversight since those students were no longer current students, but they are still gifted since in

that state once students are labeled gifted, they are always gifted. He made the correction

immediately, and the revised data was used in the study. With no other inconsistencies

discovered, no students were eliminated from the study, and the sample size remained at 95

students.

Assumption Tests

Logistic regression has four assumptions (Laerd Statistics, 2018). First, the criterion

variable must be dichotomous. In this study, the criterion variable was gifted status where

students may have one of two designations: gifted or not gifted. The second assumption was at

least one predictor variable must be continuous or categorical. The three predictor variables in

this study were race, socioeconomic status, and English language learner status, and all three

were all categorical. The race categories were Asian, Black, Hispanic, Multi-Race, and White.

The socioeconomic categories were students receiving FARM and students not receiving FARM.

The English language learners were students designated as ELL or not ELL. The third

assumption is the independence of observation for the predictor variables and mutually exclusive

criterion variable. The predictor variables were independent since each student is a member of

only one category of each variable. The race predictor variable has five categories: Asian, Black,

Hispanic, Multi-Race, and White. The socioeconomic status has two categories where students

may be either receive FARM or not receive FARM but not both. The English language learner

variable also has two categories: ELL designation or not ELL but not both. The criterion variable

is mutually exclusive since a student can either be gifted or not gifted but not both. The fourth

assumption is testing for a linear relationship between the predictor variables and the logit

transformation of the criterion variable (Laerd Statistics, 2018); however, since all variables were

categorical, the test for linearity did not apply to this study (Laerd Statistics, 2017). Therefore, all assumptions were met in this study.

Results for Null Hypothesis

The relationship between the predictor variables of race, socioeconomic status, and English language learner status and the criterion variable of gifted status was tested with a logistic regression analysis at a 95% confidence level. All variables were categorical and were coded as follows. For the race predictor variable, Asian students were coded as 0; Black students were coded as 1; Hispanic students were coded as 2; Multi-Race students were coded as 3; and White students were coded as 4. Socioeconomic status was coded as 0 for students receiving FARM and 1 for students not receiving FARM. English language learners were coded as 0 and proficient English speakers were coded as 1. Gifted students were coded as 0, and not gifted students were coded as 1.

The results of the logistic regression were not statistically significant, $\chi^2(3) = 2.92$, $p = .40$. Cox and Snell's R^2 and Nagelkerke's R^2 are both calculations that explain the variance in the model (Laerd Statistics, 2018). The model was very weak according to Cox and Snell's R^2 ($R^2 = .03$) and Nagelkerke's R^2 ($R^2 = .05$). See Table 4 for logistic regression model analysis. Since the model was very weak, and there was not a statistically significant relationship between gifted status and the predictor variables of race, socioeconomic status, and English language learner status, the researcher failed to reject the null hypothesis at the 95% confidence level.

Table 4

Logistic Regression Model Analysis

χ^2	p	Cox & Snell R^2	Nagelkerke R^2
2.924	.404	.030	.051

Each predictor variable was also evaluated, but none of the Wald ratios for predictor variables were statistically significant. The Wald ratio for the race variable was not statistically significant $\chi^2(1) = .095$, $p = .759$. This means that the relationship between gifted status and race was not statistically significant. The Wald ratio for the socioeconomic status variable was not statistically significant $\chi^2(1) = 1.251$, $p = .263$. This result implies that the relationship between gifted status and socioeconomic status was not statistically significant. The odds ratio for socioeconomic status was .259 which means that students receiving FARM were .259 times more likely to be gifted. However, this result is not statistically significant according to the Wald statistic. The Wald ratio for the English language learner variable was not statistically significant $\chi^2(1) = 1.861$, $p = .172$. This means that the relationship between gifted status and English language learner was not statistically significant. The odds ratio for English language learner status was 8.875 which means that English language learners were 8.875 times as likely to be gifted as proficient English speakers. But this result is also not statistically significant according to the Wald statistic. See Table 5 for details.

Table 5

Variables in the Equation

		B	SE	Wald	df	p	OR
Step 1[a]	Race	.071	.231	.095	1	.759	1.074
	Socioeconomic Status	-1.349	1.206	1.251	1	.263	.259
	English Language Learner	2.183	1.600	1.861	1	.172	8.875
	Constant	.461	1.715	.072	1	.788	1.586

a. Variable(s) entered on step 1: Race, Socioeconomic Status, English Language Learner.

Summary

The findings were presented in Chapter Four along with details regarding the data and the methods used to evaluate the data. The data used in this study were comprised of gifted status, race, socioeconomic status, and English language learner status. This chapter reported the descriptive statistics and the results from the logistic regression which included data analysis, assumption testing, and results for the null hypothesis. The predictor variables of race, socioeconomic status, and English language learner status were not statistically significant predictors of gifted status, and the researcher failed to reject the null hypothesis. A discussion of these findings and their implications as they pertain to related literature is found in Chapter Five along with limitations and suggestions for future research.

CHAPTER FIVE: CONCLUSIONS

Overview

Chapter Five includes a discussion of the findings and the implications in relation to the literature. The limitations and recommendations for future research will also be discussed.

Discussion

The purpose of this quantitative, predictive, correlational study was to determine if the linear combination of race, socioeconomic status, and English language learner status predicted the designation of gifted students located in the northeastern United States. The following sections provide literature support and explanations of the findings that there was no statistically significant relationship between a student's gifted status and the predictor variables of race, socioeconomic status, and English language learner status, and the null hypothesis was not rejected. This means at this one school for the year in the study, a student's gifted status could not be predicted from a student's race, socioeconomic status, and English language learner status. Since these students were universally screened for giftedness, it could mean that universal screening provided more equitable access to gifted services similar to other studies that revealed the same relationship (Card & Giuliano, 2016; Gubbins et al., 2018; Matthews & Rhodes, 2020; McBee, 2016; Morgan, 2020; Peters et al., 2019; Yaluma & Tyner, 2021).

Null Hypothesis

The null hypothesis for this study stated there is no significant predictive relationship between a student's gifted designation and the linear combination of race, socioeconomic status, and English language learner status for fourth-grade students in the northeastern United States following universal gifted screening with the CogAT. The results of the logistic regression were not statistically significant, and no predictive relationship was determined between gifted status

and the predictor variables of race, socioeconomic status, and English language learner status. Even though the results were not statistically significant, this study provided a glimpse into the beneficial possibilities of universal screening. Failing to reject the null in this study means that there was no relationship between factors that traditionally exclude students from gifted programs. No relationship means that maybe universal screening has been successful in that school, and students from all races, regardless of socioeconomic status and language, may have an equal chance of qualifying for gifted programs at this one school.

Poverty in Gifted Children

Research suggests that children from socioeconomically disadvantaged backgrounds are underrepresented in accelerated classes which have been shown to improve college success and graduation rates (Olszewski-Kubilius & Corwith, 2018). Universal screening for giftedness has been recommended as an effort to improve educational opportunities for the underprivileged population (Matthews & Rhodes, 2020). In this study, socioeconomically disadvantaged students were the least likely to have been designated gifted since their odds ratio was .259 which was the lowest odds ratio of all the predictor variables. However, this was not statistically significant according to the Wald ratio $\chi^2(1) = 1.251$, $p = .263$ and that means socioeconomic status was not a good predictor of giftedness for this study. This may be explained since this school utilizes universal screening and has systems in place to strategically search for gifted students regardless of race, socioeconomic status, or English language learner status. A possible explanation for the lowest odds ratio could be that the school was not focusing on socioeconomic status prior to this study. When this study began, the gifted director had all information readily available except for the socioeconomic status. That could be interpreted as socioeconomic status may not have been considered as a masking factor; and therefore, special attention had not been placed on finding

students who were socioeconomically disadvantaged. But the universal screening employed by this school could be the reason that allowed students who are socioeconomically disadvantaged to participate in gifted programs.

Gifted programs are important for students originating from socioeconomically disadvantaged backgrounds because it helps to prepare them for college (Morgan, 2020). Students of color from socioeconomically disadvantaged backgrounds who are the first in their family to attend college may not graduate from college because of a lack of rigorous high school courses (Hébert, 2018). Without gifted support, some exceptionally advanced students may have reduced opportunities for academic success later in life (Morgan, 2020).

Students of Color in Gifted Programs

Students of color have long been inadequately represented in American gifted programs, and universal screening is one attempt to increase equitable participation in gifted programs (Peters et al., 2019). Without universal screening, schools frequently rely on teacher referrals and standardized tests which commonly exclude students of color, students with lower socioeconomic status, and other underrepresented students because the tests contain questions not reflective of their culture and their actual experiences in life (Yaluma & Tyner, 2021). According to Gallagher (2002), children of color composed 33% of the population of students at the turn of the 21st century; however, they represented only 10% of those students who succeeded at the highest levels (Gallagher, 2002). In this study, students of color represent 21.4% of the population of students in the district, and in the sample 25% of the fourth-grade gifted students were students of color. This may indicate that students of color were more equitably represented in this gifted program than in Gallagher's (2002) study, and it may be interpreted as the universal screening conducted at this school has provided more equitable access to gifted

programs. However, these results were not statistically significant according to the Wald ratio $\chi^2(1) = .095$, $p = .759$.

English Language Learners in Gifted Programs

English language learners are less likely to be identified for gifted programs according to a study conducted by Gubbins et al. (2018). Recent immigrants are also more likely to suffer from poverty (Lightman & Good Gingrich, 2018) which results in a lower likelihood of discovery through traditional referral methods from teachers and parents. Immigrant families suffer from poverty at a rate of 23% as opposed to only 13.5% of families born in the United States (Camarota, 2012). Since some schools use multiple measures to identify gifted students, some students may qualify on two of the three parameters, but fail on the other (Gubbins et al., 2018). Rather than using multiple parameters to exclude students, the district in this study utilizes universal screening as one facet of a multi-faceted search for giftedness which includes specifically looking at factors which may mask giftedness such as race, English language learner status, special education status, and gender. Rather than having stringent cut scores for qualification, the district allows a lower score of 126 or maybe even a few points lower if other indicators point to the likelihood that a child may be gifted.

In this study, English language learners were the most likely to have been designated gifted since their odds ratio was 8.875 which was the highest odds ratio of all the predictor variables. However, this was not statistically significant according to the Wald ratio $\chi^2(1) = 1.861$, $p = .172$ and that means English language learner status was not a good predictor of giftedness for this study. A possible explanation for the highest odds ratio could be that the school focused on English language learners in their attempt to find all qualified gifted students. They realized that English language learners could have their giftedness masked due to

inexperience with the English language. Novice English language speakers are at a disadvantage (McBee et al., 2014), and Gubbins et al. (2018) suggested additional methods designed to increase identification of gifted students who are English learners. Of the four recommendations Gubbins et al. (2018) provided, one was to implement universal screening with reliable and valid instruments that do not rely on verbal ability. Some examples suggested were Cognitive Abilities Test (CogAT), Naglieri Nonverbal Ability Test (NNAT), Raven's Progressive Matrices, Comprehensive Test of Nonverbal Intelligence, and Universal Nonverbal Intelligence Test (Gubbins et al., 2018). The district in this study utilizes the CogAT for universal screening of gifted students.

Implications

This study adds to the literature that supports universal screening. Card & Giuliano (2016) conducted a similar study in Florida with universal screening. That study involved a district that universally screened for only two years. Card & Giuliano (2016) noted that before universal screening, underprivileged students were underrepresented in gifted programs, but gifted programs became more equitable during the two years of universal screening. However, the district abandoned universal screening due to budget constraints and gifted programs returned to their previous unequitable levels. Card & Guiliano's (2016) study along with many other studies clearly revealed the positive impact universal screening could have on the equitable access to gifted services (Card & Giuliano, 2016; Gubbins et al., 2018; Matthews & Rhodes, 2020; McBee, 2016; Morgan, 2020; Peters et al., 2019; Yaluma & Tyner, 2021). Even though the findings from this study were not statistically significant, the findings imply support for the positive impact universal screening may have toward equitable access. Since no states in the northeastern United States provide funding for universal screening (Rinn et al., 2020), perhaps

more studies like this one could provide support for the importance of universal screening and encourage funding for universal screening at the state and local levels.

Gifted programs are valuable but are commonly overlooked by educators, parents, and even the students themselves. Many erroneously believe gifted students will continue to lead successful lives due to their natural talent without any additional gifted support. However, difficulties for gifted students could arise from inadequate stimulation. Gifted students often become disengaged when teachers do not challenge them mentally, and, as a result, they could cause classroom disruptions (Brown, 2017), or they may become so disillusioned with school that they drop out (Siegle & McCoach, 2018). Without adequate stimulation, these children may suffer from depression or suicide (Cross & Cross, 2018). However, some consider gifted programs to be an elitist designation reserved for those students from advantaged environments (Borland, 2003; Sapon-Shevin, 2003). The solution to the gap in achievement originates from reducing the gap in identifying gifted students (McCoach et al., 2016).

Universal screening may make gifted programs more equitable. Underprivileged students who must constantly think about hunger may never display traits of giftedness that are noticeable to teachers. Many schools rely on teachers and parents to discover gifted students through informal and subjective observations (Hamilton et al., 2018). However, parent and teacher referral could be prejudicial (Morgan, 2020). The subjectivity of middle-class teachers could interfere with nominating students originating from socioeconomically disadvantaged backgrounds since their values often do not coincide with the values of families from socioeconomically disadvantaged backgrounds (Hamilton et al., 2018). Universal screening is an attempt to discover children who may be gifted, but their giftedness may be hidden or unnoticed by those committed to their care.

Limitations

The results of this study were limited for several reasons. The design of this study was quantitative which means that the data is quantified or reduced to numbers (Rasinger, 2013). This means the complex attributes of race, socioeconomic status, and English language learner status are reduced to simple numbers (Gall et al., 2007). For example, since this school is located near a college, perhaps the students with low socioeconomic status relate to children of current college students who should be expected to improve their socioeconomic status in the near future. Also, students of color and English language learners may also be children of college students or even children of professors at the college. Many different methods in conjunction with a quantitative design should be used to truly understand the complete situation (Gall et al., 2007). Another limitation is only one school district was studied which was also a limitation of the Card and Giuliano (2016) study. Generalizability is undetermined beyond the school district where this study was conducted, and it is further reduced due to the limited diversity found at the school. Additionally, the data was provided for a school where the current gifted director was a former principal for the year that was studied. The director was proud of the advancements made to the gifted program while serving as principal to make it more equitable for all children to qualify for gifted services. Since only one school in the district was studied, the results may have been different had the entire school district been studied. Additionally, this district is located near a college where many students are children of college employees who may place a higher value on education.

Recommendations for Future Research

Several facets of this study could be expanded with future research. More studies such as this one could be conducted in other areas of the country as well as international locations to see

if results would be similar. Since this study involved only one school, additional studies could involve all schools in a district to look for similar results. Only one school year was studied in this study, and future research could be expanded to cover more years to look for changes in statistics as gifted screening methods may have changed through the years to hopefully see the impact of those changes. Schools with more diverse populations should be studied along with the other screening instruments suggested by Gubbins et al. (2018) such as the NNAT, Raven's Progressive Matrices, Comprehensive Test of Nonverbal Intelligence, and Universal Nonverbal Intelligence Test. Comparison studies with schools that universally screen and those that do not could also be examined to see if results are similar.

More studies could be conducted in areas with lower education levels. The school in this study was located near a college, and the educational level of parents with children at the school was 78.8% had a bachelor's degree or higher (National Center for Education Statistics, 2019-2020). While the average for adults over 25 with a bachelor's degree in the United States was 32.1% for the years 2015-2019 (U.S. Census Bureau, 2020). This means that the vast majority of students in this school district are raised by parents who most likely value education. Results may not be similar in school districts where parents have a lower educational attainment.

Future studies could examine the relationship between gifted status and students who have multiple factors that make them less likely to be selected for gifted programs, such as students of color who are also lower socioeconomic status (Lightman & Good Gingrich, 2018). Also, a study could examine the relationship of gifted status and race where race would be a dichotomous variable that is either students of color and White to see if results would be similar. Additionally, some students were identified as gifted prior to universal screening. This study did not take that into account. Future studies could examine the impact of new gifted referrals

following universal screening. Gender was also not explored in this study and could be studied in future research.

Summary

Chapter Five presented the findings of this study concerning the research question and the null hypothesis. There was no statistically significant relationship between a student's gifted status and the predictor variables of race, socioeconomic status, and English language learner status, and the null hypothesis was not rejected. The limitations were also discussed which included that only one school was studied and the quantitative nature of the design. In addition, that school was personally selected by the gifted director since that school's gifted selection process was developed by him, and he was very proud of its inclusivity. Recommendations for future research were also suggested.

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APPENDIX A

LIBERTY UNIVERSITY.
INSTITUTIONAL REVIEW BOARD

February 1, 2022

Lisa Ferguson Rebecca Lunde

Re: Modification - IRB-FY21-22-465 FACTORS PREDICTING IDENTIFICATION OF GIFTEDNESS RESULTING FROM UNIVERSAL SCREENING

Dear Lisa Ferguson, Rebecca Lunde,

The Liberty University Institutional Review Board (IRB) has rendered the decision below for IRB-FY21-22-465 FACTORS PREDICTING IDENTIFICATION OF GIFTEDNESS RESULTING FROM UNIVERSAL SCREENING.

Decision: Exempt

Your request to make the below changes has been approved:

1. Change the site of the study from a school district to one school,
2. Change the instrument from the Naglieri Nonverbal Abilities Test to the Cognitive Abilities Test,
3. Remove the adjectives *large* and *urban*,
4. Change the grade from second to fourth,
5. Change the school year from 2017-2018 to 2019-2020,
6. Change Free from Tape to Free and Reduced Meals,
7. Remove the request for gifted status to be provided in the subsequent year for the next grade level, and
8. Revise the Excel spreadsheet used for data collection as applicable based on the above changes.

Thank you for complying with the IRB's requirements for making changes to your approved study. Please do not hesitate to contact us with any questions.

We wish you well as you continue with

your research. Sincerely,

G. Michele Baker, MA, CIP

Administrative Chair of Institutional Research
Research Ethics Office

APPENDIX B

From: XXXXX, XXXXXX <XXXXX12@XXXXXXX.org>

Date: Wed, Jan 19, 2022 at 11:33 AM

Subject: Re: Your scan (Scan to Email)

To: XXXXXXXX, XXXXXXXXX <XXXXXX21@XXXXXX.org>

Hi, XXXXXX,

After reviewing the policy and reading where her IRB is exempt, I can approve this without Board approval. I appreciate you working with her on this.

Thank you!

XXXXXX

APPENDIX C

Appendix C was removed to preserve the anonymity of the school district.