GENERAL OUTCOMES FOR STUDENTS IDENTIFIED INTELLECTUALLY GIFTED IN RURAL TENNESSEE

by

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ABSTRACT

This study sought to answer if the standards of living of a group of individuals identified intellectually gifted between 1982 to 2003 in the Wayne County School System, Tennessee is higher than the Wayne County, Tennessee general population. There were 57 participants who completed a survey answering questions relevant to their geographical location, post-secondary history, profession, and income. The participants were then divided into two groups: 23 participants were still residing in Wayne County, Tennessee and 34 no longer resided in the county. The participants still located in Wayne County were then compared to the Wayne County general population using the United States Census data. The average standards of living of the adults identified as intellectually gifted from 1982 to 2003 in the Wayne County School System, Tennessee is higher than that of the Wayne County, Tennessee general population in regard to income and post-secondary history.

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CHAPTER I

Introduction

Overview

Research indicates that an intellectual ability score remains fairly stable from childhood throughout adulthood (Schneider, Niklas, & Schmiedeler, 2014). Therefore, childhood giftedness does not disappear as an individual ages (Rinn & Bishop, 2015). What happens to gifted children as they become adults? Quality longitudinal research is rare in the field of gifted adults because of the time required to follow children into adulthood (Rinn & Bishop, 2015). A valid study of a gifted child into adulthood must include both longitudinal studies and a holistic perspective that looks at such things as intelligence, achievement, creativity, and life-satisfaction. Furthermore, research on underrepresented gifted populations, such as individuals residing in an area where socioeconomic status is low, is lacking as this population is often underidentified and absence of this group is often listed as a limitation in gifted longitudinal studies (Rinn & Bishop, 2015).

The purpose of this study was to compare the standard of living based on acquired education, occupation, and income of an adult gifted population in a southern, poor, rural, county to the county's general population. Located approximately 100 miles south of Nashville, bordered by the Natchez Trace, lies Wayne County with a population of 16,748. There is a single school district in the county that operates seven schools: 2 elementary schools, 2 middle schools, 2 high schools, and 1 K-12 combined school. Enrollment has hovered around 2,000 to 3,000 for the entire county, and a single school psychologist has served all seven schools for the last 38 years. An estimated 1% of the

county school enrollment has been identified and certified for intellectual giftedness based on the Tennessee Department of Education's criteria each year (T. Harrison, personal communication, April, 26, 2017). This study focused on the identified gifted population from 1982 to 2003 as this group has entered adulthood and possibly the workforce by 2018.

When identifying intellectual giftedness, one thing is consistent across the research; there is no national consensus on the definition of intellectual giftedness (Rinn & Bishop, 2015). Each researcher, therefore, was forced to construct their own definition and criteria. When comparing the proposed population of participants to Terman's Study of the Gifted (Lubinski, 2016), the Study of Mathematically Precocious Youth (SMPY) (Lubinski, 2016), and the 1988 Midwestern Study (Perrone, Tschopp, Snyder, Boo, & Hyatt, 2010), there are similarities and connections to be made, but the definitions of giftedness used in these studies vary and are not applicable to this study's identified population. For the purpose of this study, the Tennessee Department of Education's definitions and criteria of intellectual giftedness from 1982 to 2003 was used (Tennessee Department of Education, 1989).

Previous Longitudinal Gifted Studies and Reviews

In the review, "Gifted Adults: A Systematic Review and Analysis of the Literature," Rinn and Bishop (2015) collected a comprehensive list of 59 longitudinal studies and reviews conducted with gifted adults from 1942 to 2015. A detailed chart with criteria used as indicators for determining gifted adults was included to outline the various different approaches that studies have used to define giftedness in adults. The criteria included: youth IQ scores, youth standardized test scores, high school class rank,

academic prize in high school, status as doctoral student, adult accomplishments, and Mensa or adult IQ score(s) (Rinn & Bishop, 2015). This review and a table included in the study were used to determine which longitudinal studies are most similar to the population of participants in the proposed study. Three studies were identified and are described below.

Gifted education and research relies heavily on the Terman Study of the Gifted initiated by Lewis Terman in 1921 (Lubinski, 2016). Almost one hundred years ago, Lewis Terman laid the foundation for the field of giftedness by launching a longitudinal study that followed the lives of 1,500 children in California with intelligence quotient (IQ) scores above 135. Intelligence quotients were derived using the outdated ratio of mental age over chronological multiplied by 100 (Humm, 1932). At the study's inception, Terman sought out to discredit society's view that gifted children were abnormal, sickly, and socially inept. Other goals of the study were to determine if there was a correlation between academic success and giftedness, whether giftedness was hereditary, and to clarify if giftedness was permanent or temporary (Jolly, 2008). Terman and his colleagues sent surveys, interviewed, and tracked participants well into old age. At the time of the last survey, 97% of the participants had lived past eighty-years-old. The results of the study found a population of gifted adults that were overall healthy and successful (Rinn & Bishop, 2015).

While the contributions of Terman's study cannot be underestimated, several limitations exist. Most of the participants came from middle to upper class backgrounds and the sample had little racial diversity (Rinn & Bishop, 2015). Participants accepted into Terman's study had to score within the top 1% on the Stanford-Binet, an intelligence

test Terman authored (Jolly, 2008). In a 1954 lecture, Terman himself alluded to the fact that a test score cannot predict exactly which direction an exceptionally talented student will take in adulthood as choices, interests, and motivation play important roles in occupation and success (Lubinski, 2016). Terman's study is relevant to the purpose of the present study because of its historical significance and its initial idea of tracking gifted children into adulthood. Although a consensus on a giftedness definition in the United States does not exist (Rinn and Bishop, 2015), gifted education has evolved to include expanded criteria in the definition that go beyond a single intellectual ability score. Some definitions, such as the one used by the Tennessee Department of Education, include other areas such as achievement and creativity (Rinn & Bishop, 2015).

The Study of Mathematically Precocious Youth (SMPY) (Lubinski, 2016) is another influential longitudinal gifted study that began in 1972 and is ongoing. Over 5,000 participants began the study starting at age 13. These bright children earned scores in the top 1% (500 SAT-M and 430 Sat-V) on college entrance exams such as the Scholastic Aptitude Test (SAT). Theses children were divided into five cohorts (Lubinski, 2016). Participants were then tracked at the ages of 18, 23, and 33 with the next survey about to begin with the first cohort in their 50's (Rinn & Bishop, 2015). The fifth cohort is particularly interesting as the participants were selected in graduate school from the top 15 STEM graduate programs and studied throughout graduate school, with participants now being in their 30's. So far, the study shows a strong relationship between being a high achiever in youth and collegiate and occupational success (Benbow, 2012). SMPY results have shown that more than 90% of participants obtained

a bachelor's degree and more than 25% of participants obtained a doctorate (Benbow, 2012). However, the researchers underline the importance of the participants' interests and motivation in adulthood success as this study focuses on science and mathematics (STEM) education and occupations (Lubinski, 2016). High school students who are high achievers in math and science could likely have a high interest in the math and science fields. Therefore, because these student's are already interested and highly successful in math and science, they choose college majors related to the fields where they would excel, thus leading to STEM related occupations.

Several differences exist in regard to comparing the SMPY study to the question of what happens to gifted children as they age in a low-socioeconomic rural county. The SMPY study mostly relied on high (top 1%) SAT and ACT scores earned before the age of 13 as the sole criteria of entering the longitudinal study. Intellectual giftedness classification based on Tennessee Department of Education criteria relies not only achievement measures but intelligence and creativity scores as well. Also, the SMPY study delved into areas such as life satisfaction and lifestyle preferences as predictors and outcomes for occupational success (Benbow, 2012). Furthermore, the focus of the SMPY study was identifying children in the top 1% in math and science and predicting degree choices and occupational choices in STEM areas limiting the generalizability. Overall, the longitudinal study shows more males in the STEM fields than females (Benbow, 2012). The participants were from across the country and from various backgrounds. The present study aims to track both male and female adults standards of living in a rural area that were identified as intellectually gifted prior to the age of 18.

The 1988 Midwestern Study is an important longitudinal study with academically talented students graduating from high schools with fewer than 250 students identified by senior class rank and test scores (Rinn & Bishop, 2015). This sample is similar to the current population of participants. This similarity improves the study's generalizability to the present study. Perrone and colleagues tracked talented graduating seniors at the 10-year and 20-year mark after high school graduation focusing on career expectations and outcomes (Perrone el al., 2010). The results showed statistically significant differences between the occupations obtained by the identified academically talented compared to the general population. The academically talented students from several schools tended to select occupations that required the most extensive post-secondary training (Perrone et al., 2010). These participants gravitated toward careers that required high intellect and were challenging. Furthermore, 66% of the participants accurately predicted their career expectations at the 10-year and 20-year post high school graduation outcome survey, and 56% of the participants remained in the same career field. It is important to note that the researchers factored in job opportunities into the equation when calculating career success. Perrone (2010) pointed out the possibility that the participants' career choices were based on their access to postsecondary education relative to the career field accessible in their geographical location.

History of Intellectual Giftedness in the State of Tennessee

Intellectual giftedness has existed as a special education category since the state of Tennessee's inception of special education in 1973. In the state of Tennessee gifted students are certified as "Intellectually Gifted" and served with an Individualized Education Plan (IEP). The current Tennessee Special Education Framework defines

Intellectually Gifted as "a child whose intellectual abilities, creativity, and potential for achievement are so outstanding the child's needs exceed differentiated general education programming, adversely affects educational performance, and requires specifically designed instruction or support services (Tennessee Department of Education, 2017, pg.5)." However, from 1982 to 2003 the Tennessee Special Education Manual defined gifted as "a child whose intellectual abilities and potential for achievement are so outstanding that special provisions are required to meet the established educational needs is considered intellectually gifted (Tennessee Department of Education, 1989, pg.1)."

The current gifted criteria, in place since 2006, with slight revisions in 2010 and 2017, uses a matrix with points assigned based on intelligence, achievement, and creativity scores. From 2000 to 2006, the Gifted Manual had many revisions and changes to gifted criteria, including the minimum points required from the three areas: intelligence, achievement, and creativity. During the 1982-1983 school year, the state added achievement to the criteria. From the inception of Tennessee's giftedness education program in 1973 until 1982, the criteria relied solely on intelligence scores that were two standard deviations above the mean (130± Standard Error of Measure). An important take-away from the manuals is that the gifted criteria has always included intelligence scores. The current matrix has an admissible intelligence score of 123±Standard Error of Measure before certification into the gifted program. Prior to the revisions in 2017, the matrix allowed an intelligence score as low as 118, the lowest in the history of the state of Tennessee adoption of Intellectual Giftedness (T. Harrison, personal communication, April, 26, 2017). The State Department did not have accurate archives and was unable to locate an original 1973 Special Education Manual. The 1982

Tennessee Special Education Manual was located in the Dickson County, Board of Education Archives in 2017.

Intelligence Scores Stability and Predictiveness

The older the child is when tested the more reliable and stable the intellectual ability score remains into adulthood. Intelligence scores obtained after the age of 7 tend to hold a higher and more reliable predictive coefficient with scores holding very stable into adulthood when obtained at the ages of 12 or 13 (Schneider, Niklas, & Schmiedeler, 2013). In the longitudinal Warsaw Studies in Poland, a joint effort by the Polish and United States government, it was concluded that high IQ scores obtained at the age of 13 were strong predictors of academic and occupational success in adulthood (Firkowska-Mankiewicz, 2011). Intelligence scores obtained from school-age children have high stability correlations on into adulthood (r = .89) (Sattler, 2008). For the proposed study, children were certified as intellectually gifted from the ages of 6-17 or kindergarten through 12th grade. Thus, the assumption that the stability of the identified population's IQs has remained constant fits with what has been demonstrated in past research.

According to Jerome Sattler in *Assessment of Children: Cognitive Foundations*, occupational success and high intelligence scores obtained during childhood have high positive correlations (Sattler, 2008). High intelligence scores and income also have positive correlations (r = .50) (Sattler, 2008). Charles Murray conducted a longitudinal study that tracked various levels of intelligence classifications on earned income at certain life stages. Based on 1992 dollar figures, young adults from the ages of 27 to 35 in the top intelligence classifications earned seven times more income than those in the bottom classifications (Murray, 1997).

Contributions of Gifted Adults to Society

Malcolm Gladwell, the author of *Outliers: The Story of Success* stated "The relationship between success and IQ works only up to a point. Once someone has an IQ of somewhere around 120, having additional IQ points doesn't seem to translate into any measurable real-world advantage (2008, p.79)." This leads to the need to demonstrate what constitutes success in adulthood; most would argue success includes the basics of life satisfaction, occupational success, and income (Lubinski, 2016). The current study did not attempt to measure life satisfaction or occupational success but explored the relationship between the identification of childhood giftedness and obtained standard of living. The English Oxford dictionary defines standard of living as the degree of wealth and material comfort available to a person or community ("Standard of Living," 2018). Income translates to wealth and material comforts, and income is often directly determined by education and occupation.

A significant amount of gifted children seek prestigious occupations as noted in longitudinal studies previously reviewed. In studies conducted by Herrnstein and Murray, and following the controversial release of *The Bell Curve*, the researchers concluded that individuals with high IQ's gravitate to high IQ occupations that included accountants, architects, chemists, college teachers, computer scientists, dentists, engineers, lawyers, mathematicians, natural scientists, physicians, and social scientists (Herrnstein & Murray, 1994). The entire SMPY study revolved around tracking high achieving young adults that joined prestigious career fields specifically those in math and science occupations (Lubinski, 2016). It could be argued these prestigious and respected

career fields are few and far between in rural communities as the infrastructure to support such careers is nonexistent.

The big-fish-little-pond effect (BFLPE) uses the analogy of big fish dominating a small pond by eating up the competition. This effect can be applied across various environments such as primary school, high school, college, work place, and small towns. What general populations the "big fish" are being compared to are important (Marsh, Trautwein, Ludtke, Baumert, & Koller, 2007). These authors state that gifted students are the big fish in public education, especially in settings that are not magnet schools or high achievement schools. Throughout a gifted student's K-12 education he or she may be viewed by peers and teachers as smart, intelligent, bright, or special because academic success comes easily and high achievement scores usually follow.

One study that looked at academic self concept conducted in German high schools asked the primary question of does the BFLPE continue from high school to college and after. The results from two representative samples showed that the BFLPE continued from high school to college and then into the work force (Marsh et al., 2007). It is possible that the BFLPE could be applied as an explanation of what adults identified as intellectually gifted as gifted in a rural Tennessee county and still residing there mean to the community. Barbara Clark in *Growing Up Gifted* touches on the struggles gifted education faces in rural communities. She implies that a successful gifted program produces a sense of community pride in a rural area and also leads to greater career opportunities for gifted students in rural areas (Clark, 2008).

Underrepresentation in Gifted Identification

As previously noted, the current criteria for intellectual giftedness has evolved in the state of Tennessee from solely an IQ test score to the additions of achievement and a creativity component. One of the reasons for using the triad matrix of intelligence, achievement, and creativity, along with the lowering of intelligence entrance scores is to combat underrepresentation of certain groups in the gifted classification category (Coleman & Shan-Cotrane, 2015).

Underrepresentation includes the under identified populations from minority backgrounds such as race, culture, English language learners, and low socioeconomic backgrounds (Coleman & Shan-Coltrane, 2015). Underrepresentation has been an issue in Wayne County, Tennessee. The phrase "geographically and economically disadvantaged" is routinely used to account for low achievement and intelligence scores for students that still warrant the certification for intellectual giftedness (T. Harrison, personal communication, April, 26, 2017).

Summary

Gifted adults are a valuable resource to the economy and community as a whole. Opportunities for gifted adults in poor rural areas are limited. Research shows that gifted adults' occupational success is valuable to society (Lubinski, 2016). It could be argued that gifted adults' contributions to a poor rural community are even more invaluable. As with the goal of Terman's study to understand "a valuable natural resource," the purpose of this study was like-minded. The overall purpose was exploratory in nature to determine similarities and differences in how the identified adult gifted population in a rural county is similar to other national longitudinal studies with respect to post-

secondary education, occupation, and income. The goal of this study was to answer four questions:

1. Have children identified as intellectually gifted from 1982-2002 in the Wayne County School System remained in the county into adulthood?
2. What is the post-secondary history of the adults identified as intellectually gifted in childhood?
3. What occupations have the adult gifted population entered that have remained in Wayne County, and what occupations have the adult gifted population entered that no longer live in Wayne County and reside elsewhere?
4. Do adults identified as intellectually gifted in Wayne County, Tennessee from 1983-2003 earn significantly more income than the county's general population?

Study Hypotheses

Hypothesis I. It is predicted that the adult gifted population still residing in Wayne County earns substantially more than the median earned income of the general population of the county obtained by the United Sates Census.

Hypothesis II. It is hypothesized that the population certified as gifted during childhood and still residing in Wayne County earned post-secondary degrees at a higher rate.

Hypothesis III. It is hypothesized that the majority of the gifted population still residing in Wayne County work in the few career fields that require degrees in the county (e.g., education, finance, government, management, and medical).

CHAPTER II

Method

Pool of Possible Participants

Thomas Harrison, Nationally Certified School Psychologist (NCSP), has worked as the sole school psychologist in Wayne County for 38 years. He created a spreadsheet that lists every child certified as Intellectually Gifted in the Wayne County School System from 1982 to 2003. Thomas Harrison, NCSP, completed a full psychological evaluation on all possible participants that included a measure of intellectual ability.

It is estimated that 10 to 20 individuals received the certification of Intellectual Giftedness each year. Therefore the total pool of participants could range from 200 to 400 individuals. The year 2003 was selected as the cut-off because even if the child were certified as intellectually gifted in kindergarten they would have turned 18 in 2016. These individuals could range in age from 6 to 17 years old at the time of certification. It is predicted that most of the pool of participants will be over the age of 21 at the time of the study. Certification for intellectually gifted prior to 3rd grade is a rarity in Wayne County, Tennessee (T. Harrison, personal communication, April, 26, 2017).

Thomas Harrison, NCSP and Marlon Davis, Wayne County Superintendent granted written permission to access school records. The spreadsheet record maintained by the school includes the individual's name, year of certification, and school attended at time of certification. The possible participants attended one of the following schools in the Wayne County School System: Collinwood Elementary School, Collinwood Middle School, Collinwood High School, Frank Hughes School, Pinhook School, Waynesboro Elementary School, Waynesboro Middle School, and Wayne County High School. The

spreadsheet was used to confirm that the individual was in the gifted program at some time spanning the years of 1982 to 2003. The spreadsheet did not serve as a resource to locate participants in order to protect participant confidentiality.

Selection Procedures

The only criterion for participant selection in the study was prior certification as intellectually gifted in a Wayne County, Tennessee school from 1982-2003. Wayne County is a county located in the southern middle Tennessee region on the Alabama state line. It is the second largest county in landmass in the state with a total population of 16,748 (2010, U.S. Census). The county's demographics include an aging population with 91.3% identifying as white not Hispanic (2010 U.S. Census). The United States Census results of 2010 report 45.8 percent of the county's population in the labor force with only 208 total employer establishments. The median household income for the county in 2018 dollars was $34,008. Out of the entire county population 76.5% have a high school diploma; however only 11% of the county has obtained a Bachelor's degree or higher.

Through social media, a Facebook group was created to locate as many previously identified gifted students in Wayne County, Tennessee from 1982 to 2003 as possible. Individuals were suggested to the Facebook group via "word of mouth" generalized public Facebook post. Thomas Harrison, NCSP, and former retired gifted teachers from Wayne County also publicly shared the post via their own Facebook feed to demonstrate a good faith effort to add as many former gifted students to the group as possible. The gifted education class lasted from kindergarten through 8th grade and spanned grades across elementary and middle schools in each city of the county.

As the sole investigator, I was the only person with the capability to review recommended names and allow group membership. Once an individual's name was suggested for group membership, I verified that each individual's name was listed on the gifted certification roster and accepted the request to join the group. Once all potential group members had been verified as intellectually gifted from 1982 to 2003 the link for the survey was posted to the group message board.

Survey Questions

I formulated the questions based on the wording used by the United States Census Bureau when possible. A complete copy of the survey is in Appendix A. Questions contained drop box responses when applicable.

Procedure

See Appendix B for approval from the Institutional Review Board at Middle Tennessee State University to conduct the study. Written permission was granted from the Wayne County Board of Education to access the school psychologist's Rosters for Certification from 1982 to 2003 (see Appendix C). There was no request for access to any individual's special education file. The Roster for Certification spreadsheet was only used to check that individuals before receiving access to the survey were certified as intellectually gifted between 1982 to 2003. As an employee of the school system in the special education department, part of my job entails review and access of these records.

Next, a letter was posted to the Facebook group detailing the purpose of the study and a link to follow to complete the survey (see Appendix D). The survey was completed online using Qualtrics. The letter and link appeared online on June 12th, 2018. The link and wait time for survey collection were available for 30 days ending on July 11th, 2018.

CHAPTER III

Results

Of the 126 Facebook group members 69 participants followed the survey link. Of the 69, 57 participants gave consent and began the survey. Upon completion of the survey, the participants' responses were tallied for the whole group and descriptive statistics are provided in Table 1. Twenty-three participants indicated that they currently reside in Wayne County and were grouped for further analysis and comparison to the general Wayne County population demographics per United States Census data. Descriptive statistics for those who reported living in Wayne County are provided in Table 2. Sixty percent (60%) or 34 participants no longer lived in Wayne County, Tennessee.

Hypothesis I

Hypothesis I stated that the adult gifted population still residing in Wayne County earns substantially more that the median earned income of the general population in Wayne County obtained by the United States Census. This hypothesis was tested by calculating the median income for the twenty-three participants that indicated that they currently reside in Wayne County, Tennessee, and comparing it to the median income of the general population in Wayne County, Tennessee. The reported median household income for the adult gifted population still residing in Wayne County, Tennessee was $97,000 and thus was substantially higher than $34,008, the median household income for the general population of Wayne County, Tennessee. Theses results support Hypothesis I.

Hypothesis II

Hypothesis II stated that the population certified as gifted during childhood and still residing in Wayne County earned post-secondary degrees at a higher rate. This hypothesis was tested by calculating the percentage of the twenty-three participants that indicated they had earned a Bachelor's degree or higher. Seventy four percent (74%) earned a post-secondary degree compared to eleven percent (11%) of the Wayne County general population per United States Census data. The data support Hypothesis II.

Hypothesis III

Hypothesis III stated that the majority of the gifted population still residing in Wayne County work in the few career fields that require degrees in the county (e.g., education, finance, government, management, and medical). This hypothesis was tested by calculating the percentage of the 23 participants that indicated they worked in the education, finance, government, management, or medical fields. Thirty percent (30%) indicated that they worked in the education field, four percent (4%) indicated that they worked in finance, nine percent (9%) indicated that they worked in government, four percent (4%) indicated that they worked in management, and 35 percent (35%) indicated that they worked in the medical field. Overall eighty two percent (82%) of the remaining gifted population indicated that they worked in one of the career fields that require degrees thus lending support to Hypothesis III.

Table 1

Demographic Information for Individuals Identified Intellectually Gifted from 1982-2003 that Participated in the Survey

	Participant Responses (*N* = 57)
Do you in Wayne County, TN?	
Yes (*N* = 23)	40%
No (*N* = 34)	60%
Gender	
Male (*N* = 19)	33%
Female (*N* = 38)	67%
Highest level of education	
High school diploma (*N* = 1)	2%
Less than 1 year of college (*N* = 1)	2%
1 or more years of college, no degree (*N* = 7)	13%
Associate's degree (*N* = 3)	5%
Bachelor's degree (*N* = 19)	34%
Master's degree (*N* = 17)	30%
Professional degree beyond Bachelor's (*N* = 3)	5%
Doctorate degree (*N* = 5)	9%
Field of employment	
Education (*N* = 11)	19.5%
Finance (*N* = 3)	5%
Government (*N* = 4)	7%

Table 1 *Continued*

	Participant Responses
Management (*N* = 7)	12%
Medical (*N* = 21)	37%
Other (*N* = 11)	19.5%
Median individual income	$59,000
Median annual household income	$100,000

Table 2

Descriptive Statistics for Those Who Were Identified as Gifted and Currently Reside in Wayne County Compared to Wayne County U.S. Census Data

	Participants Residing in Wayne Co. (N = 23)	Overall (N = 10,547)
Median individual income	$65,000	*
Median household income	$97,000	$34,008
Earned post-secondary degree	74%	11%
% working in field requiring degree		
Education (N = 7)	30%	*
Finance (N = 1)	4%	*
Government (N = 2)	9%	*
Management (N = 1)	4%	*
Medical (N = 8)	35%	*

***** Indicates that comparable information not reported by the United States Census

CHAPTER IV

Discussion

The participant pool was a targeted audience of individuals previously identified as gifted in the Wayne County School system from 1982 to 2003. I created the Wayne County Gifted Alumni Facebook group on June 8, 2018. One hundred twenty-six members were added to and joined the Facebook group using "word of mouth." I approved group membership after confirming that the individual was listed on the gifted certification roster from 1982 to 2003. The participant flier and survey link were posted on June 12, 2018. Sixty-nine group members initiated the survey with 57 participants giving consent and completing the survey. Participation in the survey was thus contingent upon having a Facebook account and being a group member. This possibly resulted in a limited pool of participants.

Data obtained supported all three hypotheses for this study. The adult gifted population that currently reside in Wayne County earn significantly more than the median earned income of the Wayne County general population. Both individual income and household income were obtained in the survey. Because the United States Census data does not provide a median individual income for the county, only the household income could be compared. However, the median gross individual income for the adult gifted population that still reside in Wayne County was $65,000 and still substantially higher than the general population's median household income ($34,008).

Four questions, directed to the exploratory goal of this study, were also asked at the onset. First, it was questioned if children identified intellectually gifted from 1982 to 2003 in the Wayne County School System remained in the county into adulthood. Out of

the 57 respondents, 34 or sixty percent (60%) no longer live in Wayne County, Tennessee. This finding is unsurprising as job opportunities in the county are limited, especially for individuals with eclectic post-secondary degrees or advanced professional degrees. The results indicate that participants in this study did gravitate to high IQ occupations such as accountants, architects, chemists, college teachers, computer scientists, dentists, engineers, lawyers, mathematicians, natural scientists, physicians, and social scientists (Herrnstein & Murray, 1994). However, these occupations either do not exist in Wayne County or are in short supply. The rural community of Wayne County, Tennessee is at a loss when the high quality resource of gifted students moves away for better job opportunities.

Second, an analysis of all participants' post-secondary history was undertaken. Of the 57 participants, 44 or seventy-seven percent (77%) reported achieving a Bachelor's degree or higher. This indicates that a vast majority of individuals identified intellectually gifted in childhood continued his or her education on into adulthood. Third, the most popular education field for both the total group and Wayne County residents was the medical field. Twenty-one participants or thirty seven percent (37%) worked in the medical field with eight of those participants still residing in Wayne County. This was a predicted occupational area for gifted individuals to work in, as most jobs in this field require Bachelor's or advanced degrees. The second most common occupational field was education with almost twenty percent (20%) of the total group reporting working in the field. In the Wayne County residents, education was a close second with 7 participants working in the education field. It was noted that out of the seven participants, 5 reported working in the administration side of education.

The final question concerning income led to the hypothesis that the adult gifted population of Wayne County, Tennessee earns significantly more income than the general county's population. As stated in the results, the group of participants still residing in Wayne County do earn substantially more than the general county's population. It was also informative that even at the individual income level, the adults identified gifted in childhood and still residing in Wayne County earned almost double that of the general population at the household level. The United States Census data does not report individual income.

The idea of tracking a population identified gifted in childhood to adulthood originated with Terman's longitudinal study. Unlike Terman, this study did not retrieve individual participant's IQ scores (Jolly, 2008). All of Terman's participants' scored in the top one percent (1%) of the Stanford-Binet (Jolly, 2008). The participants in this study were not required to score as high as Terman's population. However, all participants met the Tennessee special education criteria to be certified Intellectually Gifted, indicating that they were at a minimum in the top eight percent (8%) nationally on intelligence tests (Tennessee Department of Education, 1989).

In comparison to the SMPY longitudinal study where ninety percent (90%) of the large sample completed a Bachelor's degree and twenty-five percent (25%) completed a doctorate, some similarities can be seen (Lubinski, 2016). Seventy-eight percent (78%) of the current study's participants completed a Bachelor's Degree but only nine percent (9%) completed a doctorate. The SMPY study paid particularly close attention to individuals entering the math and science fields while this study did not directly assess whether career fields applied to math and science. However, thirty-seven percent (37%)

of the current study's participant population entered the medical field, a career that typically requires a heavy load of math and science coursework.

As with the Midwestern Study (Perrone et al., 2010), majorities of the current study's population entered career fields and currently work in occupations that require high levels of post-secondary training. All three of the longitudinal studies (Terman's, SMPY, and the Midwestern Study) used specific measures to assess life satisfaction. The present study instead compared income levels. However, adding an assessment that measured life satisfaction would be a good addition to this survey and would allow further comparisons to previous research.

Another limitation of this study includes small sample size. Many factors contributed to this, the first being the use of social media to locate participants to join the group and to access the link. Word of mouth was the chosen method to locate participants and answering the survey was contingent upon participant's having a Facebook account. Perhaps given more time, additional participants could be located through the still active Facebook group. However, a few possible participants opted out of being members in the group for confidentiality purposes and not wanting others to be made aware that they were once identified Intellectually Gifted in childhood. The Facebook group contained 126 possible participants and only 57 participants responded, resulting in a forty-five percent (45%) participation rate. Those who did not respond, but were located and joined the Facebook group, may not have been as successful as group members that consented to respond to the survey. Future researchers with this group could possibly use blind-copied emails to contact possible participants to participate in future studies.

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APPENDICES

APPENDIX A: SURVEY

Consent

General outcomes for students identified intellectually gifted in rural Tennessee
You are being asked to take part in a research study of locating and describing prior gifted students that were certified intellectually gifted in the Wayne County School System from the years of 1982-2003. Please read this form carefully and ask any questions you may have before agreeing to take part in the study.

What the study is about: The purpose of this study is to compare the standard of living based on acquired education, occupation, and income of an adult gifted population in a southern, poor, rural county to the county's general population using the U.S. Census reports.
What we will ask you to do: Complete a survey by following the link to Qualtrics. The survey will take approximately 5 minutes. Upon completing the survey, all data will be aggregated and no identification variables will be collected.
Risks: I do not anticipate any risks to you participating in this study other than those encountered in day-to-day life.
Your answers will be confidential. All data will remain aggregated and the researchers will not attempt to identify participants. No identifying information will be recorded from the participants. The aggregated data and records of this study will be kept private. In any sort of report we make public we will not include any information that will make it possible to identify you. Research records will be kept in a locked file; only the researchers will have access to the records.
Taking part is voluntary: Taking part in this study is completely voluntary. You may skip any questions that you do not want to answer.
If you have questions: The researchers conducting this study are Ragan Greer Stooksberry and Dr. Monica Wallace. If you have questions later, you may contact Ragan Stooksberry at rdg2n@mtmail.mtsu.edu. You can reach Dr. Wallace at monica.wallace@mtsu.edu. If you have any questions or concerns regarding your rights as a subject in this study, you may contact the Institutional Review Board (IRB) at 615-898-2400 or access their website athttps://www.mtsu.edu/irb/.

Statement of Consent: I have read the above information, am over the age of 18, and have received answers to any questions I asked. By clicking the button below, I consent to take part in the study.

○ I consent, begin the study

○ I do not consent, I do not wish to participate

Do you live in Wayne County, Tennessee? If no, please type in county and state of current residence.

☐ Yes

☐ No

What is your gender?

○ Male

○ Female

What is the highest degree or level of school completed?
GED or alternative credential
Some college credit but less than 1 year of college credit
1 or more years of college credit; no degree
Associates degree (for example: AA, AS)
Bachelor's degree (for example: BA, BS)
Master's degree (for example: MA, MS, Med, MSW, MBA)
Professional degree beyond a Bachelor's (for example: EdS, MD, DDS, DVM, LLB, JD)
Doctorate Degree (for example: PhD, EdD)

Please type below the specific majors, if any:

Associate's degree(s): _____

Bachelor's degree(s): _____

Master's degree(s): _____

Professional degree(s) beyond a Bachelor's: _____

Doctorate degree(s): _____

What kind of field, business, or industry do you currently work in?
Education
Finance
Government
Management
Medical
Other:

What is your occupation/ job title?

Occupation/job title _____

What is your individual annual gross income?

$ _____

What is your gross annual household income?

$ _____

APPENDIX B: INSTITUTIONAL REVIEW BOARD APPROVAL

IRB
INSTITUTIONAL REVIEW BOARD
Office of Research Compliance,
010A Sam Ingram Building,
2269 Middle Tennessee Blvd
Murfreesboro, TN 37129

MIDDLE TENNESSEE STATE UNIVERSITY

IRBN001 - EXPEDITED PROTOCOL APPROVAL NOTICE

Wednesday, May 16, 2018

Principal Investigator	**Ragan Greer Stooksberry** (Student)
Faculty Advisor	Monica Wallace
Co-Investigators	NONE
Investigator Email(s)	*rdg2n@mtmail.mtsu.edu; monica.wallace@mtsu.edu*
Department	Psychology
Protocol Title	***General outcomes for students identified intellectually gifed in rural Tennessee***
Protocol ID	**18-2240**

Dear Investigator(s),

The above identified research proposal has been reviewed by the MTSU Institutional Review Board (IRB) through the **EXPEDITED** mechanism under 45 CFR 46.110 and 21 CFR 56.110 within the category *(7) Research on individual or group characteristics or behavior* A summary of the IRB action and other particulars in regard to this protocol application is tabulated below:

IRB Action	APPROVED for one year from the date of this notification
Date of expiration	5/31/2019
Sample Size	400 (FOUR HUNDRED)
Participant Pool	**General Adults (18 years or older) - individuals who were previously certified as "Intellectually Gifted"**
Exceptions	1. Permitted to recruit through a Facebook group. 2. Online data collection through Qualtrics and online informed consent are permitted.
Restrictions	**1. Mandatory active infoemed consent.** **2. Implementation of the proposed inclusion/exclusion criteria is mandatory** **3. No identifiable information must be stored after data analysis.** **4. Audio/video data must be destroyed after data processing.**
Comments	NONE

This protocol can be continued for up to THREE years (5/31/2021) by obtaining a continuation approval prior to 5/31/2019. Refer to the following schedule to plan your annual project reports and be aware that you may not receive a separate reminder to complete your continuing reviews. Failure in obtaining an approval for continuation will automatically result in cancellation of this

protocol. Moreover, the completion of this study MUST be notified to the Office of Compliance by filing a final report in order to close-out the protocol.

Continuing Review Schedule:

Reporting Period	Requisition Deadline	IRB Comments
First year report	4/30/2019	NOT COMPLETED
Second year report	4/30/2020	NOT COMPLETED
Final report	4/30/2021	NOT COMPLETED

Post-approval Protocol Amendments:

Only two procedural amendment requests will be entertained per year in addition to changes allowed during continuing review. This amendment restriction does not apply to minor changes such as language usage and addition/removal of research personnel.

Date	Amendment(s)	IRB Comments
NONE	NONE.	NONE

The investigator(s) indicated in this notification should read and abide by all of the post-approval conditions imposed with this approval. Refer to the post-approval guidelines posted in the MTSU IRB's website. Any unanticipated harms to participants or adverse events must be reported to the Office of Compliance at (615) 494-8918 within 48 hours of the incident. Amendments to this protocol must be approved by the IRB. Inclusion of new researchers must also be approved by the Office of Compliance before they begin to work on the project.

All of the research-related records, which include signed consent forms, investigator information and other documents related to the study, must be retained by the PI or the faculty advisor (if the PI is a student) at the secure location mentioned in the protocol application. The data storage must be maintained for at least three (3) years after study completion. Subsequently, the researcher may destroy the data in a manner that maintains confidentiality and anonymity. IRB reserves the right to modify, change or cancel the terms of this letter without prior notice. Be advised that IRB also reserves the right to inspect or audit your records if needed.

Sincerely,

Institutional Review Board
Middle Tennessee State University

Quick Links:

Click here for a detailed list of the post-approval responsibilities.
More information on expedited procedures can be found here.

APPENDIX C: WAYNE COUNTY SUPERINTENDENT LETTER

Wayne County Board Of Education
P. O. BOX 658
WAYNESBORO, TENNESSEE 38485

MARLON DAVIS
Superintendent

BARRY HANBACK
Chairman

March 2018

To whom it may concern:

Ragan Stooksberry, an employee of the school system, has been granted permission to access the Certification Rosters for the gifted program from the years of 1982 to 2003 for the purpose of conducting a research study. It is understood that these students are no longer minors and are no longer enrolled in the Wayne County School System. Besides individual names, these files do not contain any personal information concerning individual's test scores, grades, individual education plans, developmental history, prior addresses, or parent information. It is my understanding that the proposed study will not reveal individual's names at the conclusion of the study and the data will remain aggregated.

Sincerely,

Marlon Davis
Superintendent of Wayne County Schools, TN

APPENDIX D: PARTICPANT FLIER AND LETTE

Research Participants Needed

Study Title: General outcomes for students identified intellectually gifted in rural Tennessee
Protocol ID 18-2240 **Approval** 05/16/2018 **Expiration** 05/31/2021

Study Description & Purpose

The purpose of the study is to compare a population of intellectually gifted adults, who were identified between the years of 1983 and 2003 in the Wayne County, Tennessee School System, to the general population between based on US Census data. The study aims to answer the following questions:

1. Have children, who were identified as intellectually gifted between 1983 and 2003 in the Wayne County School System, continued living within the county into adulthood?
2. What is the post-secondary educational/career history of the population, who were identified as intellectually gifted between 1983 and 2003?
3. Have the occupations which the adult gifted population acquired allowed them to remain in Wayne County; if so, what are those occupations, and do those occupations contribute to the general population? If not, which occupations required a homing or living relocation?
4. Is there a significant difference in the occupational earnings of adults, who were identified as intellectually gifted in Wayne County, Tennessee from 1983-2003, compared to the county's general population?

These questions will be answered through participants completing a short survey via Qualtrics. All data will be aggragated and no individual identifying information will be analyzed, collected, or stored.

Target Population

Adults over the age of 18 who were identified Intellectually Gifted by the Wayne County School System, Tennessee between the years of 1983 and 2003.

Risk & Benefits

The benefit is to society and what the remaining adult population means to a rural southern community in Wayne County, Tennessee. The proposed research seeks out information concerning how many of the identified population remain in the county or leave. The research could be used to aid in economic development and also to improve the rural community's gifted education program.

As the participant selection and survey will all take place online, complete confidentiality cannot be ensured. However, all appropriate steps will be taken to keep participants names and information confidential from others. Once the survey link has been posted and/or completed, the data will be aggregated and there will be no attempts at identifying individual group members.

Additional Information

The aggregated data and records of this study will be kept private. In any sort of report we make public we will not include any information that will make it possible to identify you. Research records will be kept in a locked file; only the researchers will have access to the records.

Taking part in this study is completely voluntary. You may skip any questions that you do not want to answer.

Contact Information

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Monica Wallace, Ph. D. MTSU Professor, Psychology Department monica.wallace@mtsu.edu

Institutional Review Board, Middle Tennessee State University
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