Graduate Theses and Dissertations

12-2022

The Relationship between Grit, Perceived Social Support, and Educational Gains In the Adult Basic Education Classroom

Jennifer D. Shearon
University of Arkansas, Fayetteville

The Relationship between Grit, Perceived Social Support, and Educational Gains
In the Adult Basic Education Classroom

A dissertation submitted in partial fulfillment
of the requirements for the degree of
Doctor of Education in Adult and Lifelong Learning

by

Jennifer Shearon
Mercer University
Bachelor of Business Administration, 1993
Argosy University
Master of Education in Instructional Leadership, 2009
Western Governors University
Master of Business Administration, 2022

December 2022
University of Arkansas

This dissertation is approved for recommendation to the Graduate Council.

_____
Kevin Roessger, Ph.D.
Dissertation Director

_____
Kenda Grover, Ed.D.
Committee Member

_____
Gary Udouj, Ed.D.
Committee Member

Abstract

Adult Basic Education (ABE) is a critical part of the educational landscape in the United States; its aim is to improve the basic reading, writing, and numeracy skills of the very diverse population of adults in America who lack proficiency in these skills, and more often than not, a high school graduation credential (U.S. Department of Education, 2021a). Each program year, federal funding for ABE state administrated programs under the Workforce Innovation and Opportunity Act (WIOA, 2014) is tied to percentages of participants who make measurable skills gains (MSGs). One type of MSG is Educational Functioning Level (EFL) gains, which are based on scale scores. However, research shows that the attrition rate can be high for ABE programs, and many students leave before reaching any educational milestones (Kerka, 1995). For this reason, programs must concentrate on participants making MSGs through EFL gains, or scale score improvements, for the time period they are active in the program in order to ensure continued funding. Many student-level factors exacerbate the problem of attrition (Miller, et al., 2011), and thus contribute to the lack of classroom performance in the ABE setting; however, there are other student-level factors that have long been discussed by adult educators and administrators as factors that help students persist in programs and make educational gains. Student persistence, or Grit, and perceived social support are factors mentioned extensively by practitioners in the adult education field, but there is little empirical research into their actual effectiveness, particularly as it relates to Adult Basic Education. The purpose of this cross-sectional regression study is to investigate the relationship between Grit, perceived social support, and scale score change in the Adult Basic Education General Education Diploma classroom in Georgia. This study fills a need for increased research in the field of Adult Basic Education in terms of understanding some of the student-level factors that impact educational gains. The information gathered in this study will be particularly useful to ABE program

administrators and teachers working in ABE programs to impact practice; if found to be predictive of student success in the classroom, classroom interventions designed to help students improve their level of Grit and build better systems of social support can be incorporated into instruction. These interventions could provide a cost-effective way for programs to affect educational gains while striving to meet federally mandated goals and ensure continued funding for their programs.

Acknowledgements

The journey to this lifelong goal has been anything but brief and straightforward. I did not intend to become an educator when I began my career path many years ago. But after many twists and turns, my true calling found me. After working with children for more than twenty years, working with adults has been eye-opening and rewarding in an entirely different way. Finding my niche in adult education and the perfect terminal degree for the rest of my career has been priceless. I could not have completed this journey without the love and support of so many. They are:

- my heavenly Father, who nudged me lovingly along this path and gave me strength, courage, wisdom, and peace when I needed it.

- my family, who supported me in all manner of ways. From preparing meals, transporting a teenager to countless sporting and social events, taking on more chores, and graciously excusing my absence at many family functions--they have been there every step of the way with true devotion. I love you all and am so thankful for you.

- my doctoral committee and other faculty and staff within the ADLL department. Your passion for adult learning and your level of teaching professionalism, encouragement, and support have surpassed anything that I could have imagined. I am truly thankful for this experience and that I waited for the perfect ending for my educational journey.

- my work family. They are caring, devoted, and self-sacrificing adult educators who put students first and who truly care about each other.

- my amazing ADLL2020 cohort. When we started this journey, none of us could have imagined that a pandemic was in store, nor could we have imagined the strong support system that would arise as a result.

Table of Contents

Chapter 1

Introduction

  In this chapter, I illustrate how Adult Basic Education (ABE) program funding is tied, in part, to the percentage of students who make educational gains in the classroom each year and how these programs suffer from a distinct lack of empirical evidence analyzing those student-level factors that can enable programs to best affect student educational gains. Next, I theoretically define concepts related to ABE and the factors of Grit and perceived social support that research suggests may contribute to participants' educational gains in an adult education program. I then describe the research questions guiding this quantitative study; I will be gathering and examining data of those students enrolled in an adult education General Education Diploma (GED) program in Georgia in order to ascertain their level of Grit and perceived social support in relation to their educational gains. If an effect is found, gaining insight into this relationship will be beneficial to participants, adult education programs, practitioners, policymakers, and community stakeholders. Finally, I conclude the chapter with a discussion of the proposed study's scope and limitations.

Background

  Adult education is a critical part of the education landscape in the United States; its aim is to improve the basic reading, writing, and numeracy skills of the very diverse population of adults in America who lack proficiency in these skills, and more often than not, a high school graduation credential (U.S. Department of Education, 2021a). A study conducted by the National Center for Education Statistics (NCES, 2017) gives more insight into the scope of this problem. A representative sampling of those adults aged 16 to 65, who had attained less than a high school education, showed that 40% scored at the lowest level of literacy and 58% scored at the lowest

level of numeracy (NCES, 2017). According to data from the National Reporting System (NRS, n.d.) for Adult Education, for program year 2020-2021, nationwide enrollment in Adult Basic Education programs (grade levels 0.0 to 8.9) and Adult Secondary Education (ASE) (grade level 9.0+) was 342,628 and 78,423, respectively; however, this figure was significantly lower than previous years due to the impact of Covid19 (NRS, n.d.). For the year 2020, the U. S. Census Bureau (2022) indicated that approximately 20 million people over the age of 25 did not have a high school credential. The end-goal for most participants within ABE and ASE programs is a high school equivalency diploma. For the purposes of this study, the term Adult Basic Education will be used collectively to encompass Adult Secondary Education as well; in NRS reporting, the data is divided between the two categories at times. In adult education programs, the broader term, Adult Basic Education (grades 0.0 through 12.9), is most often used to describe the entire program.

Federal funding for ABE has been provided to programs on an annual basis since Congress passed the Economic Opportunity Act (1964), specifically Title II of the legislation, which authorized the Adult Basic Education Grants to States Program. A subsequent update to the legislation, the National Literacy Act (1991), recognized the need for longevity for participants in literacy programs rather than the idea of a quick-fix for employment entry which the former legislation had centered on. However, a few years later, basic skills needed for employment became the focus again and the Workforce Investment Act of 1998 (WIA, 1998) created a national accountability system, the National Reporting System (NRS, 2019), and tied program performance to federal funding. WIA was due to expire in 2003, but was extended and finally updated in 2014 (Belzer, 2017). Consequently, current Adult Basic Education programs are funded under the Adult Education and Family Literacy Act, Title II of the Workforce

Innovation and Opportunity Act of 2014 (WIOA, 2014). This update to WIA essentially strengthened many of the former requirements of the former legislation by requiring an "integrated approach to education and training. In fact, WIOA further establishes adult education as an integral part of federal employment goals. This signals a shift away from conceptions of adult education as helping learners more effectively fulfill a range of roles in addition to that of worker" (Belzer, 2017, p.15). The last seven decades in America have seen federal accountability policies for adult education mainly focused on employment. These outcome measures have increasingly shaped the types and scope of adult education programs available to adult learners (Pickard, 2021).

Under WIOA (2014), the primary performance indicators by which programs are measured include: the percentage of program participants in unsubsidized employment during the second and fourth quarter after exit; median earnings second quarter after exit; percentage of participants who obtain a postsecondary credential or diploma during participation or within one year after exit; participants achieving measurable skill gains; the percentage of Title I Youth participants who are in education or training activities or in unsubsidized employment during the second and fourth quarter after program exit; and effectiveness in serving employers (WIOA, 2021). For the purposes of this research, I will focus on one particular performance measure, measurable skills gains.

Each program year, funding for ABE state administrated programs under WIOA (2014) is tied to percentages of participants who make measurable skills gains (MSGs). One type of MSG is Educational Functioning Level (EFL) gains, which are based on scale scores. Every year, programs that are funded under WIOA (2014) to provide ABE negotiate a minimum percentage of EFL gains that their participants must make in order to continue funding for the

program without threat of sanctions or loss of grant funding. For the purposes of this study, I will be looking at EFL gains as measured by changes in scale scores in the Adult Basic Education program, more commonly known as the General Education Diploma (GED) program, specifically in Georgia. Within the GED program in Georgia, as assessed through use of the Test of Adult Basic Education (TABE, 2021) upon program entry, there are six levels of EFL in which a program participants' scores can fall into, from Adult Basic Education Level 1 (ABE1), beginning literacy, to Adult Basic Education Level 6 (ABE6), high adult secondary. Scale scores within these levels range from 300 to 800 respectively. Table 1 shows the scaled scores located within the ABE levels for Reading, Math, and Language:

Table 1

Scale Scores for Reading, Math, and Language by ABE Level

Subject	NRS/ABE Level 1	NRS/ABE Level 2	NRS/ABE Level 3	NRS/ABE Level 4	NRS/ABE Level 5	NRS/ABE Level 6
Reading Scale Scores	300-441	442-500	501-535	536-575	576-616	617-800
Math Scale Scores	300-448	449-495	496-536	537-595	596-656	657-800
Language Scale Scores	300-457	458-510	511-546	547-583	584-630	631-800

Note. Adapted from "TABE 11 & 12 Scoring Levels: Best Practice Guide," by Data Recognition Corporation, 2019. https://tabetest.com/PDFs/TABE_11_12_Scoring_ Best_Practice_ Guidelines.pdf

Every participant who obtains a high-school credential also counts as an MSG for the program, but not every participant will stay to complete the program after enrollment. Research shows that the attrition rate can be high for ABE GED programs, and many students leave before reaching any educational milestones (Kerka, 1995). Miller, et al. (2011) discussed some of the reasons for this high attrition rate including: learner motivation for entering the program that may change over time, prior educational experiences, nature and quality of the program, unclear understanding of program requirements before entry, and learning difficulties. The reasons for participant attrition are numerous. For this reason, programs must concentrate on participants making MSGs through EFL gains, or scale score improvements, for the time period they are active in the program.

Many student-level factors exacerbate the problem of attrition, and thus contribute to the lack of classroom performance in the ABE setting; however, there are other student-level factors that have long been discussed by ABE teachers and administrators as factors that help students persist in programs and make educational gains. In a study by Tighe et al. (2013) of what constitutes success in an ABE classroom, one recurring student-level motivational theme that was mentioned by both students and teachers for its importance to student success was persistence and dedication to goals, or perseverance. In other educational settings, research suggests that long-term student perseverance, or Grit, improves performance outcomes for students (Duckworth et al., 2007). In another study, Bogin (2017) found Grit to be predictive for achievement over other personality variables and measures of academic aptitude.

In the same previously cited study by Tighe et al. (2013), another recurring student-level motivational theme that participants within the successful ABE classroom context mentioned extensively was family, or social ties. Other research outside the context of ABE indicates that

reliance on social ties may help students achieve educational goals and that social ties can facilitate a person's capacity to grow and develop. Social ties can help build a socially supportive system for students. Social support, both actual and perceived, has been shown to reduce stress and anxiety and improve self-esteem, all of which is important to academic success (Kawachi & Berkman, 2001).

When students have an adequate support system and the motivation to persevere, they can more easily achieve their educational goals. In the context of ABE, this more than likely manifests itself in a participant's ability and willingness to spend more hours in the classroom concentrating on their studies. Pauly (2019) investigated the relationship between hours spent in the ABE classroom and Educational Functioning Level gains. For students who persisted in the program and made gains, the minimum mean hours spent in the classroom to achieve a gain was over 84. For 90% percent of the students interviewed for the study, personal motivation was cited as being important in maintaining consistent attendance and educational progress and for some students, family was a specific motivator. As Grit is similar to perseverance and enables a person to focus on and remain motivated to reach a goal, and social support involves building a supportive system on which students can depend, the two constructs should also prove beneficial to students within the ABE context. The problem is that the relationship between Grit, perceived social support, and scale score change has not been examined in ABE programs.

Need and Purpose

The purpose of this cross-sectional regression study is to investigate the relationship between Grit, perceived social support, and scale score change in the Adult Basic Education General Education Diploma classroom in Georgia. This study fills a need for increased research in the field of Adult Basic Education in terms of understanding some of the student-level factors

that impact educational gains. Student persistence, or Grit, and perceived social support are factors mentioned extensively by practitioners in the adult education field, but there is little empirical research into their actual effectiveness, particularly as it relates to Adult Basic Education. The information gathered in this study will be particularly useful to Adult Basic Education program administrators and teachers working in ABE programs to impact practice; if found to be predictive of student success in the classroom, classroom interventions designed to help students improve their level of Grit and build better perceived social support systems can be incorporated into instruction. These interventions could provide a cost-effective way for programs to affect educational gains while striving to meet federally mandated goals and ensure continued funding for their programs. For participants in the programs, increasing student Grit and perceived social support while in the ABE classroom can provide not only a short-term help in terms of educational gain, but also a long-term benefit that can help participants build their capacity to succeed in life that they can utilize for the rest of their lives.

Understanding the relationship between Grit, perceived social support, and educational gains is important if it enables ABE programs to help participants improve their Grit and perceived social support systems. According to leading researcher Angela Duckworth, Grit can probably be taught (2015). Grit is a character trait. Character education has been around for a long time. One researcher (Lyon, 2014) examined Grit score in fifth graders before their participation in a one-year curriculum designed to teach optimism, self-control, and perseverance, or what she called monthly "Grit lessons". After analyzing data on pre and post-test scores, the researcher noted statistically significant improvement in Grit scores. Angela Duckworth, the primary psychologist behind Grit Theory and the Grit-S Scale, is teaching the same types of lessons to college students in her "Grit Lab" at the University of Pennsylvania

(Berger, 2020). Other researchers highlight students' beliefs and how changing them can help students improve their outcomes and help them become Grittier. According to Pappano (2013), it is the quality of the interactions and interventions rather than the types of strategies used. "Human change occurs more readily in the context of caring and trusting relationships" (pg. 2).

In the ABE classroom, relationships (instructor to student, student to student, and student to support systems) are of fundamental importance to engagement and positive outcomes (Ziegler and Durant, 2001). Relationships can help foster Grit and are the primary component of participants' perceived social support. Kassab and Prins (2013) studied the effect that participation in adult education and family literacy programs had on women's perceived level of social support. What they discovered was that certain program qualities and increased hours spent in the programs was significantly related to increased levels of perceived social support. Studies have shown that levels of Grit and perceived social support can be increased in certain settings. Further research is required to discover if these interventions would prove successful in the ABE classroom. If Grit and perceived social support levels are shown to impact educational gains in the ABE classroom, and classroom interventions are shown to improve upon these constructs, ABE programs would be well served to incorporate these interventions in the classroom for improved outcomes for participants and programs.

Definitions of Concepts

Several concepts will be prominent in this study. Their definitions and the context and setting in which they are used are addressed below:

Adult Basic Education - Adult Basic Education (ABE) refers to an instructional program for the undereducated adult, planned around those basic and specific skills most needed to help

participants function adequately in society, that is funded under Title II of the Workforce Innovation and Opportunity Act of 2014 (WIOA, 2014).

General Educational Diploma **-** The General Educational Diploma (GED) program was developed to allow those citizens who have not earned a high school equivalency diploma by graduating from formal education an opportunity to demonstrate a competent level of achievement by testing in four subjects: Reasoning Through Language Arts, Mathematical Reasoning, Social Studies, and Science (U.S. Department of State, 2021).

Workforce Innovation and Opportunity Act - The Workforce Innovation and Opportunity Act (WIOA, 2014) is U.S. legislation that replaced the previous Workforce Investment Act of 1998 (WIA, 1998) as the primary federal workforce development legislation. The updated legislation was designed to bring about increased coordination among federal workforce development and related programs. WIOA is designed to strengthen and improve the public workforce system and help get Americans, including youth and those with significant barriers to employment, into high-quality jobs and careers and help employers hire and retain skilled workers.

Adult Education and Family Literacy Act – The Adult Education and Family Literacy Act (AEFLA), Title II of the Workforce Innovation and Opportunity Act (WIOA, 2014), is the principal source of federal funding for states for adult education programs. The purpose of AEFLA's basic state grant program is to: assist adults to become literate and obtain the knowledge and skills necessary for employment and economic self-sufficiency, assist adults who are parents or family members to obtain the education and skills that support educational development of their children and/or leads to sustainable improvements in the economic opportunities for their family, assist adults in attaining a secondary school diploma and in the

transition to postsecondary education and training, including through career pathways, and assist immigrants and other individuals who are English language learners in improving their English reading, writing, speaking, and comprehension skills, math skills, and understanding of government and citizenship (WIOA, 2014).

Educational Functioning Level gain – Educational Functioning Level (EFL) gain is an educational improvement shown by movement of at least one level up in ABE levels on a TABE post-test. This is the difference between a pre-test and a post-test score (TABE, 2021).

Measurable Skills Gain – Measurable Skills Gain (MSG) is the percentage of program participants who, during a program year, are in an education or training program that leads to a recognized postsecondary credential or employment and who are achieving measurable skill gains (meaning an increase in their educational functioning level (EFL) for one subject) toward such a credential or employment (Technical College System of Georgia, 2020).

Grit- Grit is defined as "perseverance and passion for long-term goals" (Duckworth et al., 2007, p. 1087).

Perceived social support - Perceived social support is the level at which a person feels like they are cared for by others, have assistance when needed, and are part of a social network. (Cohen & Syme, 1985).

Educational Functional Level descriptors- Educational Functioning Level (EFL) descriptors are intended to guide both teaching and assessment for adult learners. The descriptors are divided into six educational functioning levels: Beginning ABE Literacy; Beginning Basic Education; Low and High Intermediate Basic Education and low and high Adult Secondary Education (Data Recognition Corporation, 2019).

Test of Adult Basic Education - Test of Adult Basic Education (TABE) is a comprehensive academic assessment for assessing the skills and knowledge of adult learners in the domains of Reading, Math, and Language (TABE, 2021).

Attrition – This refers to students leaving a program of study before it is completed (Tinto, 1975).

Persistence – This refers to the ability of a student to remain in full or part-time status at an educational institution (Tinto, 1975).

Scale Scores **-** The purpose of the scale score is to provide an equal-interval interpretation of an examinee's score that can be comparable across all levels and tests in TABE within a content area (Test of Adult Basic Education, 2021).

Program Year - The fiscal year time period of an adult education program as set by the US Department of Education: July 1 of one year to June 30 of the following year (Technical College System of Georgia, 2020).

Classroom hours – For the purpose of this study, classroom hours will be defined as on-line independent studies, virtual class, and on-campus class hours.

Research Questions

Several research questions surrounding the concepts and the problem of the study have been identified. Investigation into their relationships to each other and the problem of the study will provide insight for the stakeholders of Adult Basic Education programs.

1. What is the relationship between student GRIT score and scale score change in the Adult Basic Education classroom, after controlling for perceived social support?

2. What is the relationship between perceived social support and scale score change in the Adult Basic Education classroom, after controlling for student GRIT score?

3. Does the number of hours a student spends in an Adult Basic Education classroom influence the relationship between GRIT and scale score change?

4. Does the number of hours a student spends in an Adult Basic Education classroom influence the relationship between perceived social support and scale score change?

Scope and Limitations

The scope of this research will be a sampling of those students enrolled in an Adult Basic Education program through the Technical College System of Georgia enrolling and remaining in the program within one program year. This research will be limited to student-level variables only. In addition, only those students whose educational gains are measured in scale scores on a TABE test who are enrolled in an ABE program will be included; English as a Second Language (ESL) students will be excluded from the research as their progress is not assessed through scale-scores. This research sample should be large enough to provide generalizations for the overall Adult Basic Education student population in Georgia. Another limitation will be that the two measurement tools used, the Grit survey and the perceived social support survey, are both measures of self-reported student data. Self-reported survey information can cause biased results as people can tend to report dishonestly. In the case of Grit, respondents can answer the questions so that they appear Grittier. Reference bias can also happen when people who self-evaluate compare themselves to others (Duckworth & Yeager, 2015).

The problem of a lack of research in general in the field of Adult Basic Education and particularly empirical research into those student-level factors that are predictive of student achievement is also a limitation; this lack of research means that some empirical research in fields of education other than ABE will need to be generalized to the ABE population for this study. Threats to internal and external validity are possible in the study. They are: maturation,

testing, selection bias, situation, and non-representative samples. These threats and how they will be minimized in the study will be fully discussed in Chapter 3.

Summary

Adult Basic Education programs suffer from a lack of empirical research, particularly into those student-level factors that best predict student success in terms of Educational Functioning Level gains (measured in scale scores), one of the primary ways by which ABE programs are evaluated and funded by federal and state governments. Research suggests that student levels of Grit and perceived social support may be indicative of student outcomes in adult education programs. This research will seek to determine if there is a relationship between the factors of student Grit score, perceived social support, and scale score change in the ABE GED classroom in Georgia. Limitations to the study are acknowledged such as student attrition, self-reporting of information, and the current lack of empirical research in the field. This research will potentially add to the empirical research in the field thereby informing practice and improving student outcomes.

Chapter 2

Literature Review

Overview

Currently, there is little research into student-level factors that have been empirically shown to predict scale-score gains in the Adult Basic Education classroom. Student persistence, or Grit, and perceived social support are factors mentioned extensively in the adult education field as factors that may support student achievement, but there is little empirical research into their actual effectiveness, particularly as it relates to Adult Basic Education. In this literature review, I will define the concepts surrounding Adult Basic Education, Adult Learners, Grit, and perceived social support that I will use to drive my research. Next, I will review and summarize the historical and conceptual research and the theoretical and empirical research surrounding the concepts and the relationships and themes that were seen. The relationships between the concepts and the themes that arose from the research led to four hypotheses. Social Cognitive Theory and Grit Theory form the theoretical framework for this study.

The initial search for current peer-reviewed articles less that ten years old was conducted via the online library at the University of Arkansas. The databases used included: Academic Search Complete, ERIC, JSTOR, Sage Journals, Ebook Central, and ProQuest Central. Google Scholar was also utilized to locate open access articles. The following search terms were used to locate articles specific to this study: Adult Basic Education, General Education Diploma program, Grit, perceived social support, adult learners, persistence, perseverance, Social Cognitive Theory, Grit Theory, and attendance in different combinations. I obtained other sources by reviewing the references of articles that I found relevant to my study. Due to the lack

of relevant articles and a general lack of research in Adult Basic Education, I extended my search to include a much broader time frame.

Conceptual Framework

Adult Basic Education and Adult Literacy

Formalized, federally funded Adult Basic Education in the United States spans nearly seven decades. During this length of time, adult education has encompassed various programs, but there is still persistent disagreement on what adult education should be and what constitutes an adult. In order to discuss Adult Basic Education (ABE), a definition of what constitutes an "adult" and then an adult learner must be determined. For the purposes of this research, I will rely heavily on Knowles' definition of an adult and the adult learner:

> Biologically, we become adults when we reach the age at which we can reproduce (i.e., early adolescence). Legally, we become adults when we reach the age at which the law says we can vote, get a driver's license, or marry without consent. Socially, we become adults when we start performing adult roles, such as the role of full-time worker, spouse, parent, or voting citizens. Psychologically, we become adults when we arrive at a self-concept of being responsible for our own lives, of being self-directing (Knowles et al., 2005, p. 64).

Of particular relevance is the social aspect of the definition as my research will focus on students' perceived social support while enrolled in ABE. Additionally, other researchers, Merriam and Brockett (2007), defined adult education as "activities intentionally designed for the purpose of bringing about learning among those whose age, social roles, or self-perception, define them as adults" (p.8).

Understanding the adult learner is important to understanding problems in Adult Basic Education (ABE). Knowles' Theory of Andragogy (1984) distinguished adult learning as being different than pedagogy, or child learning. Andragogy gives adult learners five distinctive characteristics: self-concept—as people mature, they move toward being more self-directed human beings; experience—as people mature, they accumulate experiences that influence their learning; readiness to learn—as a people mature, their learning becomes more social in nature; orientation to learning—as people mature, they place more importance on immediate application of knowledge and learning becomes more problem based; and motivation to learn—as people mature, the motivation to learn becomes internal (Knowles, 1984). Andragogy, or the way in which adults learn, can be applied to all adult learners. ABE learners, although a different population than the traditional secondary adult learner, utilize these adult learning characteristics in the ABE classroom.

At this present time, ABE is a federally funded program under Title II of the Workforce Innovation and Opportunity Act (WIOA) of 2014, which re-authorized and updated the Workforce Investment Act of 1994. Funding is provided under WIOA for adult education programs that provide instruction below the postsecondary level to adults who are 16 years or older. These programs include Adult Basic Education (ABE), Adult Secondary Education (ASE), and English as a Second Language (ESL). They are designed to improve basic reading, writing, numeracy, and English language skills; assist adults in completing secondary school; prepare them for successful transition to postsecondary education and work; and support civics education for new Americans who are learning English. According to the U. S. Department of Education Office of Vocational and Adult Education, all ABE programs are available to those who are at least 16 years old, who are not enrolled in school and are not required to do so under state law,

and who have academic skills below the 12th-grade level (U.S. Department of Education, 2021a).

All ABE programs that will be evaluated in my research are available to adults over the age of 16 years, who are not in school and are not required to do so under Georgia state law, and who have academic skills below the 12th-grade level. Limited research has shown ABE to have many positive outcomes for learners besides gaining academic skills; learners include enrolling in higher education, supporting their children's learning, and getting a better job as examples of success beyond academics. What constitutes success for learners, however, may not for the funding agent (Tighe et al., 2013). Grant funding for ABE programs is tied to educational gains, for the most part, thus, historically, increasing academic skills is what programs focus on. Not all students make educational gains, however, but they still may benefit from programs in other ways such as career advisement, program referrals, and soft-skills attainment. This lack of recognition of these types of non-educational gains by the funding agent causes problems for ABE programs and for learners enrolled in programs seemingly more focused on gains than learner needs.

Historical Foundations. Historically, adult learners not enrolled in post-secondary education were an ignored population. This improved somewhat after the American Association for Adult Education was founded in 1926 (Horne et al., 2012). However, the subsequent decades saw more of a focus on workforce development in order to help the American economy than on learners' academic and literacy needs. Quigley (1997) said that the origins of ABE must be understood within a human capital model, born of the need to fill the workforce. Literacy education was not the focus. As far back as 1962, in fact, the first bill introduced to promote literacy education within the ABE context by creating state programs for ABE did not make it

out of the House Rules Committee (U.S. Department of Education, 2013). Enrollment in ABE

programs at that time was more focused on labor force development than basic skill acquisition.

(Knowles et al., 2005). It would be another two years until the federal government's passage of

the Economic Opportunity Act of 1964 and its Title II provision created the Adult Basic

Education Program; Title II provided for grants to states for the purpose of initiating "programs

of instruction for individuals who have attained age eighteen and whose inability to read and

write the English language constitutes a substantial impairment of their ability to get or retain

employment commensurate with their real ability" (Economic Opportunity Act, 1964). In 1966,

however, Congress passed legislation which moved ABE from the Office of Economic

Opportunity (OEO) to the U.S. Office of Education (OE). Presently, adult education is housed

within the Division of Adult Education and Literacy of the U.S. Department of Education's

Office of Vocational and Adult Education (2021). Still, before the 1990s, most policy toward

ABE placed importance on tying it to development of the workforce. ABE programs were

initially designed for older, goal orientated, self-directed adult learners such as these, but

younger students below the age of 18 have, in recent years, been attracted to the program for

various reasons. Adult education and the GED were created to meet the educational needs of an

older demographic; younger students tend to have different skill sets and instructional needs than

their more mature counterparts. This shift in the ages of enrolled students has introduced even

more challenges for Adult Basic Education programs that are funded based on whether or not

their performance goals are met each year (Rachal & Bingham, 2004).

      Empirical and Theoretical Research. Empirical research is limited in Adult Basic

Education. Most research that has been done is prescriptive or descriptive in nature; there is very

little quantitative research in ABE. In addition, Adult Basic Education is often considered

synonymous to adult literacy education. For the basis of my research, and in order to obtain a broader research perspective, I have included research in adult literacy as it is difficult to separate adult literacy and Adult Basic Education; the two terms are often used synonymously in the research and students enrolled in ABE at the lower levels are considered to be low-literacy learners. Beder (1999) performed a meta-analysis into the outcomes and impacts of adult literacy education through a qualitative assessment of research conducted since the late 1960s. This extensive longitudinal study found that, in general, it is likely that participants in adult literacy education (as self-evaluated) receive gains in employment; believe their jobs improve over time; earn more; see a positive influence on their continued education; rely less on welfare; see improvement in their skills in reading, writing, and mathematics; gain a more positive self-image; see personal goals achieved; and see a positive impact on their involvement in their children's education. In general, according to the study, adult literacy education provides gains in GED acquisition for participants entering at the ninth-grade level or above.

In another study, Tighe et al. (2013) employed quantitative and qualitative research approaches to investigate what constitutes "success" in Adult Basic Education (ABE) programs from the perspectives of multiple educational stakeholders. In general, successful programs used multiple instructional approaches, positive and collaborative teacher-student interactions, and had students engaging in goal setting and citing motivational factors such as family and personal fulfillment. However, other research indicates that about 25% of adult students separate from formal adult basic and secondary education programs before completing one educational level (Mellard, 2012). Understanding the Grit and perceived social support level of those who do persist and make educational gains in ABE could help programs decrease attrition and improve outcomes.

In an earlier study, Kestner (1994) investigated 4,371 Adult Basic Education students and 282 Adult Basic Education teachers in six varied classroom settings to examine the relationship between selected student and teacher variables and student achievement in Adult Basic Education programs in Kentucky. Teacher education level, adult education credit hours in college, years of ABE teaching experience, level of professional development, and certification all showed significance as it related to student achievement in math, reading, or both. Student variables of gender, race, years out of school, highest grade completed, and age were analyzed as they compared to student achievement. Few student variables demonstrated a relationship with achievement. Female gender showed a significant relationship with math performance and highest grade completed showed significant for reading and math. In addition, total number of hours spent in the classroom showed significance in both reading and math; in fact, of the six types of classrooms studied, only the class that required students to attend 20 or more hours per week showed to be significant to predict student achievement.

Summary. Adult Basic Education is for students who are over the age of 16, who, for whatever reason, did not graduate from high school, or did not attain an adequate educational level to transition to college or career programs. There is little empirical research into those student factors that best predict educational gains in an Adult Basic Education classroom. Most research that does exist is older, qualitative, and prescriptive in nature; however, hours spent in the classroom as a predictor of achievement was a common theme found in the literature that does exist. Information found in my study about student Grit and perceived social support levels, if found to predict educational gains, can add to the research in the field and improve practice and thereby outcomes for programs and participants.

Grit

Persistence is a concept that has been talked about extensively as a positive attribute for those enrolled in ABE programs to have in order to make educational gains and complete the program. Persistence, albeit with other concepts included, is the precursor to the modern notion of Grit.

Duckworth et al. (2007) posited the concept of Grit and defined it as "perseverance and passion for long term goals" (p. 1087). According to the researchers, Grit entails working strenuously toward challenges and maintaining effort and interest over years despite failure, adversity, and plateaus in progress. The Gritty individual uses their stamina to their advantage to complete long-term goals. Dweck et al. (2014) used the term "academically tenacious student" to describe those students whose "perseverance to accomplish long-term or higher-order goals in the face of challenges and setbacks is dependent upon their ability to use their psychological resources such as academic mindsets and self-control" (p. 5). The researchers characterized the academically tenacious student as believing they belong in school academically and socially, actively engaging in learning, viewing effort positively and not being threatened by difficulty, and placing schoolwork as the priority before enjoyable activity. These students view obstacles as opportunities to learn rather than attacks on their abilities. Dweck et al. (2014) said the "tenacious students know how to remain engaged over the long haul and how to deploy new strategies for moving forward effectively" (p. 6). SRI International (2018) defines Grit as "perseverance to accomplish long-term or higher-order goals in the face of challenges and setbacks, engaging students' psychological resources, such as their academic mindsets, effortful control, and strategies and tactics" (p. 3). The amalgamation of this idea of Grit then would be perseverance to achieve long-term goals in the face of challenges and setbacks while navigating

the relationship or interactions between themselves and the institution. As is relates to my study, research shows that students in the ABE program, particularly those entering at the lower educational functioning levels, will need to attend many hours in the classroom before gains are seen. Students must have Grit to face the challenges and setbacks that may occur over what may be an extended period of time for them to achieve their goals.

      Historical Foundations. Historically, the idea of Grit has been around for centuries. Ris (2015) examined Grit's emergence and change in literature and life over the centuries. The author described how precursors of "Grit" were seen as early as the 1850s when philosophers, psychologists, and writers were talking about systemic difficulties of the poor. Over the ensuing decades, Grit changed from being talked about mostly as a characteristic that the poor could use to overcome or at least endure poverty and hardship, to a necessary trait for the athlete or the soldier. Toward the end of the 20th century going forward, the term was and is generally discussed as an attribute that the successful student must have in order to complete or persist in an academic program.

      Persistence in academic settings is of paramount importance in today's educational culture. It is important not only to the student, but also to the institution. Institutions need students in order to survive and they are highly interested in what makes a student finish a program of study. Thus, because much of the research in adult education is centered around retention, the constructs of Grit, perseverance, retention, and persistence are somewhat intertwined in the literature. According to Reason (2009), research into retention in higher education settings can be seen as early as the 1960s. Two major works, Astin's (1975) *Preventing Students from Dropping Out* and Tinto's (1975) Persistence Theory studied individual student characteristics, along with institutional characteristics, that affected student

retention. Tinto's theory suggested that a combination of student and institution factors and their interaction determined persistence.

Most research into student persistence is in the realm of higher education. However, some studies have addressed persistence as it relates to the Adult Basic Education classroom. Comings et al. (1999) identified four supports that contributed to persistence for ABE students: (1) awareness and management of facilitators and constraints, (2) self-efficacy, (3) goal-setting, and (4) progress towards a goal. The authors noted that other studies have shown goal-setting to have a positive influence on persistence in ABE programs.

Foster et al. (2011) discussed barriers the ABE student may face in completing a program. The majority of ABE programs are sequential in nature. The longer a student must take to complete the program, the higher the cost to the student in terms of lost wages and missed work experience. Lower skilled participants could spend months or even years completing basic skills classes. In addition, work and family responsibilities may inhibit participation in an ABE program where much time must be spent to achieve a GED. These barriers can influence student persistence. Many students drop out before they have enough hours to be eligible to post-test for educational level gains. Tamassia (2007) found that the majority of students stay in an ABE program for 30 to 80 hours when students generally need up to 150 hours of instruction to advance one instructional level. Student persistence and graduation rates impact the sustainability of adult education because administrators must maintain ongoing evidence of increased retention and strong student academic performance to meet annual federal funding guidelines and accountability measures. These barriers and needs make understanding and fostering student Grit of tantamount importance.

Empirical and Theoretical Research. Empirical research into the concept of Grit began in the early 2000s with the seminal work of Duckworth. In early research, Duckworth et al. (2007) studied several different groups validating the Grit scale. In adolescents, the researchers found a positive relationship between Grit and grade point average (GPA) and a negative relationship with hours watching television. In another group, West Point cadets, Grit was shown to be a predictor of retention. In another group, Scripps National Spelling Bee competitors, Grit was shown to be a predictor of final round attainment after controlling for lifetime spelling practice. However, in the sample of West Point cadets, Grit was not predictive of first-year GPA after controlling for self-control, high school class rank, Scholastic Aptitude Test (SAT) score, leadership, and physical aptitude. But in a sample of Ivy League psychology students, Grit was shown to be predictive of GPA after controlling for SAT score. Overall, the results of this research showed Grit to be associated with goal attainment, certain GPA predictions, and fewer career changes in adults.

Akos and Kretchmar (2017) studied a group of undergraduate students at the University of North Carolina to investigate the predictive validity of Grit on first year GPA, hours earned, and change in major. The study used student self-reported Grit scale scores and controlled for the variables of standardized test scores, high school curriculum strength, high school GPA, gender, underreported minority status, and first-generation college attendance. The study showed Grit score to be positively related to undergraduate students' first year GPAs.

Other research shows Grit's predictive validity questionable. Maddi et al. (2012) studied first year cadets at West Point and the effectiveness of their hardiness and Grit scores on performance as measured by GPA and retention. While Grit was predictive of retention, it did not show significance in terms of predicting GPA.

Lucas et al. (2015) studied the phenomenon of the costs some participants with higher levels of Grit might incur. They hypothesized that those with higher Grit scores might incur losses when choosing to persist instead of moving on. The researchers used short-term, experimental laboratory tests to gather data on participants' Grit. They found that those with higher Grit scores were less likely to give up even when they were not performing well on tasks. When they could have moved on to easier tasks, they persisted to the point of failure to finish more difficult tasks. They were willing to expend more effort to persist and stay longer in a task than quit. The researchers also found that participants with higher Grit scores had more positive attitudes toward tasks and this mediated their persistence on tasks, no matter the outcome.

Summary. Grit is a concept that has been talked about as a positive attribute for those enrolled in ABE programs to have in order to make educational gains and complete the program. While researchers have found that individuals who scored higher on assessments of Grit were more likely to complete tasks no matter the potential outcome, no transfer of Grit has been definitively shown to support academic outcomes in all educational settings. In fact, Grit's prediction of college success has demonstrated mixed results; however, high measures of Grit were shown to predict retention in these studies. Studies have shown goal-setting, which some say is a component of Grit, to have a positive influence on persistence in ABE programs, but no research has compared participants' Grit scores to educational gains in ABE. As a result of the conflicting outcomes and lack of a cohesive theoretical definition, the predictive validity of Grit is far from certain. Mixed academic results aside, if Grit is predictive of student retention and persistence to complete a goal, it is relevant to ABE students whose end goal is typically earning a GED, which for some, will require a long-term commitment. The results of my research study can add to the research on Grit's predictive validity in alternate educational settings.

Perceived Social Support

The concept of perceived social support is the feeling that one has that they are cared for by others and are part of a social network of support, whether it is real or perceived (Cohen & Syme, 1985). Social capital is an extension of this which focuses on the value of seeking connections among individuals in society, their social networks, and the patterns of reciprocity and trust-worthiness that arise from them. Social capital relates also to human capital, which includes having access to educational and personal skills in order to secure and maintain satisfactory employment (Putnam, 1995). Social inclusion is defined as "the combination of social participation and social connectedness, whereas social capital refers to the resources that arise from people's social networks" (Cocquyt et al., 2017, p. 1). Social stimulation encompasses "relief from boredom, breaking routines, doing something, overcoming frustration, relieving loneliness, and escaping a relationship, whereas social contact entails making friends, meeting new or different people, having a good time, and interacting with friendly people" (Prins et al., 2009, p. 337). For the purpose of my research, I will use a combination of these definitions to define perceived social support in the Adult Basic Education classroom to be the feeling that one is cared for, connected to, or supported by a social support system whether that is family, friends, coworkers, or ABE teachers or fellow class members.

Historical Foundations. Boshier et al. (2006) identified social stimulation and social contact as two out of seven "motivational orientations" for participation in adult education. In addition to this, proponents of social capital theory have long emphasized that improving social networks is one of the most favorable ways in which to empower people to build sustainable communities and increase economic self-sufficiency. Research has tied these two concepts together over the last few decades in extensive studies of welfare recipients, especially

marginalized women, and their participation in adult education. Women, in fact, make up the majority of participants in ABE in the United States; in 2021, over 63% of participants were women (U.S. Department of Education, 2021b). McIntire and Robins (1999), in their study of welfare recipients and one-stop job centers, emphasized that in order for participants to succeed in the goal of being economically self-sufficient and helping sustain their communities, the offerings of adult education classes (ABE, ESL, job placement, and workforce development) need to become increasingly creative in ways to support them such as support services for child-care and transportation, supports that primarily support mothers with children. In 1989, Kerka argued that poor single mothers with low literacy skills face barriers so overwhelming that literacy and job training programs must not maintain focus on literacy as an isolated goal. The author argued that there need to be networks of support in workplaces and communities to support women's efforts to overcome economic hardship. Social support can play a key role in helping participants overcome barriers to economic independence and educational attainment.

Many ABE participants who do overcome obstacles and achieve their goal of a high school diploma hope to transition to college or certificate programs after GED completion. However, according to Foster et al. (2011), many students with low basic skills may also have a lack of social capital. These students often cannot transition to post-secondary education without help navigating the process and often do not pursue higher education for this reason. They do not see themselves as "college material". Others may have a strong desire to attend college, but no support in order to help them do so.

Empirical and Theoretical Research. Reynolds (2013) used what they called four pillars to identify the individual, family, institution, and community as assets to assess GED students support levels. These pillars are assets which participants rely on for support when

confronting challenges or barriers. Students reported that encouragement and support from family members gave them the confidence to set higher goals for themselves, but most encouragement seemed directed at passing the GED. There was no specific mention of family members encouraging students to continue education beyond the GED.

A socially supportive network encouraging student persistence may need to come from sources other than family. Alhassan's (2012) research suggested that learners, especially younger adults, still need and will benefit from institutional and environmental support to persist to completion of the program. Allodi (2010), in fact, emphasized the role of the institution when they developed a model for evaluating and changing the social climate of learning environments. In this model, the author emphasized the need for schools to create supportive learning environments where students can feel valued and appreciated. By fostering safe and nurturing, positive settings such as these, where participants' sense of inclusion is optimized, teachers and schools will promote active involvement in the learning process and impact academic performance.

Research, in fact, indicates that some participants are motivated to enroll in adult education as a means to increase their social connections. Prins et al. (2009) demonstrated that there is a growing body of evidence which shows that marginalized women value and benefit from social interaction with peers and teachers in educational and community projects such as adult and family literacy programs. Other research by Cocquyt et al. (2017), which studied student experience in blended and online learning environments, showed that participation in blended learning was positively related to social outcomes, such as adults' social inclusion and social capital. This research was conducted throughout six adult education centers in Belgium. The research showed that social participation was influenced by informational support and

process guidance from the teacher. Support from peers was also shown to enhance adult learner's social connectedness. Teacher information transfer and peer support had a significant relationship with social connectedness and both types of social capital measured.

Summary. Research has shown that adults' outcomes in terms of academic skills and literacy improvement and attainment can be impacted by fostering increased social support systems for those students. Many ABE learners who do not have a social support system at home utilize the ABE classroom experience as a way of building social connections and networks. One research study assessed the individual, family, institution, and community support levels of GED students. Family support was shown to offer encouragement to attain a GED, but in general did not encourage higher educational or goal attainment. Other research points to the ongoing needs of younger students in the ABE classroom in terms of increased institutional and environmental support. Another subgroup of the ABE population, marginalized women, has been shown to benefit from social interaction with peers and teachers in the ABE classroom. Researchers point to the need for a supportive environment in the ABE classroom to build social capital and inclusion, foster retention, and thereby promote academic achievement. Proponents of social capital theory emphasize that the improvement of social networks is one of the most powerful ways to empower people to build sustainable communities and increase economic self-sufficiency. Perceived social support has not been studied in relationship to scale score change in the ABE classroom. If found to be predictive of scale score change, interventions to build a higher level of perceived social support in participants can be incorporated into instruction, theoretically improving educational gains.

Relationship Between Concepts in the Research Problem

Throughout this literature review, the convergence of themes was seen. One recurring theme was the time students spend in the ABE classroom. Students with high levels of Grit will be more likely to persist in meeting their goals, no matter the time constraints. Those participants who have a socially supportive system or who value the classroom as their support system will spend more time in the classroom than those who do not. Tinto's (1975) research of college dropouts offers insight into the interplay of these themes. Tinto viewed persistence, Grit's precursor, as "not just the product of individual characteristics, prior experiences, or prior commitments, but the outcome of interactions between the individual and the institution" (p. 96). Grit and perceived social support as constructs then would appear to be intertwined and supported in the literature as student-level factors that may contribute to scale score change in the classroom for ABE students given an environment where those concepts are fostered. The theme of time spent in the classroom for those students with higher levels of Grit and perceived social support that emerged from this literature review will be investigated in this study.

Theoretical Framework

I will use the theoretical frameworks of Grit and Social Cognitive Theory to guide my research. Both theories are necessary to frame the study because the concepts, although seemingly interwoven at times in the literature, are in fact distinct and must be approached through different lenses of understanding.

Grit Theory

Student perseverance, or Grit, is a necessary student characteristic mentioned extensively in the adult education field as a potential factor that may support student achievement, but there is little empirical research into Grit's actual effectiveness, particularly as it relates to Adult Basic

Education. Grit Theory (Duckworth et al., 2007) conceptualized Grit as a trait-level personality construct that consists of two components: perseverance of effort (PE) and consistency of interest (CI). Perseverance of effort describes a participant's reported tendency to sustain the time and effort necessary to accomplish long-term goals even in the face of adversities and distractions. This is relevant in the Adult Basic Education classroom because participants are there because they have experienced some life event that kept them from finishing high school. Some of them still have situations that are not ideal for educational attainment. They need to continuously show perseverance of effort even in the face of these challenges in order to move from level to level.

Consistency of effort, on the other hand, reflects a participant's tendency to adhere to certain goals over long periods of time. Some participants come into the GED program almost ready to take and pass the GED. Some students will need to spend much longer, even years in some cases, to obtain their GED. This is a long-term goal and without Grit, virtually unattainable. According to its definition, Grit is relevant to success outcomes due to its emphasis on task persistence and consistency in goal pursuit, which are prerequisites for higher accomplishments. In the GED classroom, in theory, this trait of Grit should aid students in making educational gains and completing the program.

Social Cognitive Theory

Bandura's (2005) Social Cognitive Theory (SCT) posits that learning occurs in a social context with a dynamic and reciprocal interaction of the person, environment, and behavior. The unique feature of SCT is the emphasis on social influence and its emphasis on external and internal social reinforcement. Social Cognitive Theory considers the unique way in which individuals acquire and maintain behavior, while also considering the social environment in

which individuals perform the behavior. People are most likely to model their beliefs after someone with whom they feel familiar-teachers, parents, family members, caregivers, and community members. Studies have shown that the GED classroom and GED instructors provide a social support system for some learners that do not otherwise have one. For others, it increases their social support and awareness of the need of effective support systems. Furthermore, other studies have shown that a knowledgeable and personable GED instructor serves as a mentor whom participants look up to and model their behavior after (Herman & Mandel, 2005). Since learners will have been in the program for at least 40 hours, they may have built relationships in the classroom with the teacher and other students that make them feel socially supported even if this is not the case at home. In theory, this should increase participation and progression in the GED program.

Hypotheses

The research into the literature surrounding adult learners, Adult Basic Education, Grit, perceived social support, Grit Theory, and Social Cognitive Theory led to several hypotheses surrounding the research questions. These hypotheses will be used to investigate the relationship between Grit, perceived social support, hours participants spend in the classroom, and scale score change. Each of four research questions will be addressed with a hypothesis:

Research Question 1

Is there a relationship between student Grit score and scale score change in the Adult Basic Education classroom, after controlling for perceived social support?

Hypothesis 1. For learners who participate in an ABE program, as Grit increases, so too does scale score change in a program year.

Rationale. Grit Theory and other research into student perseverance demonstrates that those students with high levels of Grit persist even in the face of difficulty. Students functioning at the lower Adult Basic Education levels need persistence to move through the program with the goal of completion. For those with high levels of Grit, even at the lower ABE levels, some scale score change should be seen. Those starting out in the program at higher educational functioning levels need to persist as well, perhaps just not for as long as others. These higher functioning students with higher Grit scores may demonstrate even greater scale score change.

Research Question 2

Is there a relationship between perceived social support and scale score change in the Adult Basic Education classroom, after controlling for Grit?

Hypothesis 2. For learners who participate in an ABE program, as perceived social support increases, so too does scale score change in a program year.

Rationale. The theory of social cognitivism and research surrounding social support suggests that those learners in the ABE classroom who have an adequate support system in place have the opportunity to perform better academically than those who do not. Those who do not have a meaningful support system, and even some who do, often use the adult education classroom as a system of support and social engagement. A more supportive social system, both at home and in the classroom, provides learners opportunities and incentive to spend more time in the classroom, which in turn should influence learner educational gains.

Research Question 3

Does the number of hours a student spends in an Adult Basic Education classroom influence the relationship between Grit and scale score change?

Hypothesis 3. For those with a higher number of classroom hours, Grit has a positive relationship with scale score change; but for those with a low number of classroom hours, it has no relationship.

Research Question 4

Does the number of hours a student spends in an Adult Basic Education classroom influence the relationship between perceived social support and scale score change?

Hypothesis 4. For those with a higher number of classroom hours, perceived social support has a positive relationship with scale score change; but for those with a low number of classroom hours, it has no relationship.

Rationale. Throughout the literature into the investigation of Grit and perceived social support as predictors of student achievement, the recurring theme of time spent in the classroom was seen. Learners who have high levels of Grit and/or those who have high levels of social support tend to spend more time in class working on tasks. More time on tasks, according to the literature, should result in greater educational gains.

Summary

In this chapter I defined the concepts surrounding Adult Basic Education and adult learners, Grit, and social support. I identified the definitions I will use and the relevant historical, theoretical, and empirical research surrounding the concepts. Throughout my review of the literature, themes emerged that guided my research in new directions. I saw Grit and social support intertwined in various research studies and theories and began to see the concept of time as a moderator throughout. Also, I had not considered before that participants often choose to enroll in ABE for gaining a social support system even though I have seen this system play out in my classroom. Finally, at the end of the chapter, I discuss the theoretical framework I will use to

guide my study, how those theories influenced and led to my hypotheses, and how the theories contributed to my rationale for them.

Chapter 3

Introduction

Adult Basic Education programs (adult literacy, GED, and ESL classes) provide vital services to over one million people in America each year (National Center for Education Statistics, 2021). In this chapter, I will discuss my research questions and hypotheses surrounding the concepts of student Grit and perceived social support as predictors of scale score change in the ABE classroom. Next, I will introduce the study design, study setting, and participants that I plan to include in my research. I will then discuss the instruments I will use to collect data and how each variable will be measured, both conceptually and operationally. Finally, I will discuss how I will collect and analyze the gathered data and address any threats to internal and external validity posed throughout this process.

Research Questions and Hypotheses

Improving basic academic skills and attaining a high school credential is the goal of most Adult Basic Education participants but improving their Grit and perceived social support levels can have an impact on their lives far beyond the ABE classroom. To strengthen the argument for the impact that improving Grit and perceived social support can have on participants' outcomes, the relationship between Grit, perceived social support, and scale score change in the ABE classroom must be established. To this end, the following research questions and their hypotheses will be addressed:

Research Question 1

Is there a relationship between student Grit score and scale score change in the Adult Basic Education classroom, after controlling for perceived social support?

Hypothesis 1. For learners who participate in an ABE program, as Grit increases, so too does scale score change in a program year.

H_0: $b_1 = 0$

H_1: $b_1 > 0$

Research Question 2

Is there a relationship between perceived social support and scale score change in the Adult Basic Education classroom, after controlling for Grit?

Hypothesis 2. For learners who participate in an ABE program, as perceived social support increases, so too does scale score change in a program year.

H_0: $b_2 = 0$

H_1: $b_2 > 0$

Research Question 3

Does the number of hours a student spends in an Adult Basic Education classroom influence the relationship between Grit and scale score change?

Hypothesis 3. For those with a higher number of classroom hours, Grit has a positive relationship with scale score gain; but for those with a low number of classroom hours, it has no relationship.

H_0: $b_3 = 0$

H_1: $b_3 > 0$

Research Question 4

Does the number of hours a student spends in an Adult Basic Education classroom influence the relationship between social support and scale score change?

Hypothesis 4. For those with a higher number of classroom hours, perceived social support has a positive relationship with scale score change; but for those with a low number of classroom hours, it has no relationship.

H_0: $b_4 = 0$

H_1: $b_4 > 0$

Methods

Study Design

For this quantitative study, I will be performing cross-sectional ordinary least squares multiple linear regression. Cross-sectional research is observational in nature and utilizes data taken from secondary datasets and surveys at one given point in time. Multiple linear regression is a statistical analysis that allows the researcher to examine the predictive relationship of two or more independent variables on a dependent variable; it provides the researcher with a tool to show the total variance of the research model-that is, how much of the variance in the dependent variable can be explained by the independent variables within the model-and then the relative variance of each independent variable on the dependent variable (Roberts & Roberts, 2021). This study will use data from both a secondary data set and data collected from two Likert-type surveys taken at one point in time. A multiple linear regression analysis will be performed on the dataset and Likert survey data to establish if there is a relationship between the independent variables of Grit score and perceived social support and the dependent variable of scale score gain. Because this study will utilize secondary data and survey data and hopes to show a predictive relationship on the dependent variable by two independent variables, a cross-sectional multiple linear regression analysis is appropriate for this study.

Study Setting

The setting for my study will be the Technical College System of Georgia (TCSG, 2020) Adult Basic Education (ABE), General Education Diploma (GED) program. TCSG administrates federally funded GED programs in Georgia including those on technical college campuses, community-based programs, and in local school districts. The TCSG Office of Adult Education (OAE) is a pass-through entity of federal Workforce Innovation and Opportunity Act (2014) Title II funds and maintains oversight over each GED program. The funding for these programs comes primarily from federal Adult Education and Family Literacy Act (WIOA, 2014) funds and some state matching funds. The OAE is responsible for ensuring that programs are in-compliance with federal and state rules and regulations regarding these grants including the meeting of performance objectives like percentage requirements for Educational Functioning Level gains based on scaled scores and mandatory data reporting (TCSG, 2020). To this end, TCSG requires all programs under their oversight to input all student information and TABE test result data into their Georgia Adult Learners Information System (GALIS) database. One TCSG technical college will be included in the study because there are enough participants in that setting. All ABE teachers from all campuses of that college will be asked to facilitate identification of students who would be willing to participate in the study.

Participants and Placement

Per WIOA (2014) guidelines, students must post-test on a TABE assessment when they have acquired between 40 and 60 hours of classroom attendance in the program. If a student makes an EFL completion, that student may not test again in that program year, even if they acquire 40 or more hours a second time. Sometimes teachers and programs choose to pursue other testing options after the mandatory testing requirement has been met. If the student does

not make an EFL gain, however, the program will normally continue to post-test after each

subsequent 40 to 60 hours of attendance in order to try to get the EFL gain for the program.

Students may have unlimited number of classroom hours in a program year. The participants for

my study will be a random sampling of those students in the TCSG Adult Basic Education GED

program at a particular technical college who have completed at least 40 hours in the program

and have taken at least one TABE post-test, but no more than three, in the program year. I will

use these participants for my study because, as a GED instructor at a TCSG school, I am familiar

with the GED program and GALIS. All students who meet the criteria will be invited to

participate. Demographic information for the most current fiscal year available is for year fiscal

2020 and is as follows: by gender, female (58%), male (42%); by race, black (37%), white

(26%), Hispanic (24%), Asian (9%), other (4%); by age, 16-18 years old (15%), 19-24 years old

(20%), 25 to 44 years old (44%), 45-54 years old (12%), 55 and older (9%) (TCSG, 2021). The

number of participants needed for my study was found using G*Power, a statistical power tool

(Faul et al., 2021). For an F test, fixed-model multiple linear regression, R^2 deviation from zero

analysis, using an effect size of $r^2 = 0.15$, α err prob = 0.05, power (1-β err prob) = 0.80, and

number of predictors = 3, the calculated sample size was 77.

Materials

To collect secondary demographic information, email information, and specific scale

score change in a program year, I will utilize the Georgia Adult Learners Information System

(GALIS, 2021). GALIS is the information system that TCSG requires all programs under its

umbrella to use to store student data and testing information to remain in compliance with the

WIOA (2014) mandatory reporting requirement. As an instructor, I have access to portions of

GALIS as it pertains to student data at one TCSG technical college and will utilize the

information once I have permission for my study. Once given IRB clearance, I will distribute a scripted flyer and sign-up sheet to all ABE GED teachers that they will read to their classes informing them about the study. Students who wish to participate will provide their names and email information on the sign-up sheet. Then, I will utilize Survey Monkey in order to create and send the surveys that students will complete that will be auto-returned to me.

Measures

In order to perform a thorough analysis of the relationship between the variables in this study, the definitions and means of measurement of each variable must be established. All variables are measured at the student-level. For all students who choose to participate in the study, I will utilize two self-reporting scales, one to assess Grit and the other to assess perceived social support.

The independent variable of Grit has been defined as "perseverance and passion for long-term goals" (Duckworth et al., 2007, p. 1087). Grit is operationalized by Duckworth and Quinn's (2007) 12-item, 5-point Likert-scale, the Grit-S (see Appendix A), that "measures trait-level perseverance and passion for long-term goals" (p. 166). According to the author, the Grit-S has shown consistent evidence since its creation in 2007 for its internal consistency, test–retest stability, and predictive validity.

The independent variable of perceived social support has been defined as the feeling that one has that they are cared for by others and are part of a social network of support, whether it is real or perceived (Cohen & Syme, 1985). The independent variable of perceived social support is operationalized by the Multidimensional Scale of Perceived Social Support (MSPSS) (Zimet et al., 1990), a 12-item, 7-point Likert-scale designed to measure perceived social support from three sources: family, friends, and a significant other (see Appendix B). The MSPSS has shown

good internal and test-retest reliability and validity. It has been in use since 1988 and is still in use extensively in academic and mental health applications today.

The dependent variable in this study is the continuous variable of scale score change. This concept of scale score change is defined as an increase or decrease in scale score on a Test of Adult Basic Education (TABE) post-test after a student has spent at least 40 hours in an ABE GED program at a TCSG school. Scale score change is operationalized by participants post-testing on a TABE test as given by an adult education program. Scale score change will be computed by finding the difference in pre-test and post-test scale scores (post-test score minus pre-test score) (TABE, 2021).

One theme from the previous literature review was time spent in the classroom and its impact on achievement in the ABE classroom. Thus, time spent in class will be used as a moderating variable in my study and is expected to have an interaction effect on the relationship between Grit and perceived social support and scale score change, the dependent variable. Students who have high levels of Grit and perceived social support may spend more time in the classroom than other participants. Time spent in the classroom is defined as hours spent in face-to-face class, in online class, or hours obtained through use of approved software programs. Time spent in class is operationalized by a student's contact hours in GALIS.

Data Collection

Initially, through cooperation with the TCSG Office of Adult Education, I will ask ABE classroom teachers at the technical college I plan to study to invite their students who have taken at least one post-test and have been in the program no more than one program year to participate in the study. Those students will be asked to give their contact information on a sign-up sheet including name, phone number, and email. Teachers will send those sign-up sheets to me

through email or interoffice mail after a period of one week. I will then contact those students giving them more information about the study and asking them to sign an online waiver agreeing to the research procedures and acknowledging any potential risks. Those students who agree to be in the study will be assured of anonymity and confidentiality and will be identified in the results of the study by number rather than name. Participants will be offered a $20 gift card upon completion of both surveys. Those who agree to participate and who complete the waiver will then be sent an email with the Survey Monkey links for each survey. Those students who receive the email with the links will be given one week to fill out the surveys, which will be set to return to me by email. After one week, a follow-up email will be sent to those who completed the surveys along with a $20 electronic gift card in thanks for participation. Emails will also be sent to those individuals who agreed to participate in the study but have not filled out the surveys, giving them an additional week to fill out the surveys. After the second week has passed, or I have obtained 77 complete responses, the survey links will close. At that time, the number of participants will be collected. If additional participants are needed for an adequate sample size, the process of identifying more eligible students from another TCSG technical college will need to be repeated.

Once a student submits their surveys, secondary data concerning student demographics and hours spent in the classroom during the program year will be collected. Student demographic information, scale score change, Grit score, perceived social support, and hours spent in the classroom will then be data matched to the survey information. Students will then be given number identifications while specific name identification will be destroyed. All data collected will be entered into an Excel document to summarize it before analyzing.

Data Analysis

Each of my hypotheses will be tested through the use of hierarchical multiple regression. Multiple regression is a statistical tool that can be used to analyze the relationship between a single dependent variable and two or more independent variables. The objective of multiple regression is to predict the dependent variable to the best of ability through the use of the known independent variables. According to Roberts and Roberts (2021), "It is almost always more realistic for there to be multiple influences on a dependent variable than to suppose that truly only a single factor influences Y" (p. 23). Multiple regression does not show a causal relationship but rather a predictive one.

The modeling approach I will use for this study is hierarchical modeling. Hierarchical linear regression is a form of a multiple linear regression analysis in which more variables are added to the model in separate steps called "blocks." This is often done to statistically control for certain variables, to see whether adding variables significantly improves a model's ability to predict the criterion variable and/or to investigate a moderating effect of a variable (Roberts & Roberts, 2021). Blocking of the variables in the different models can help the researcher to see the impact that variables can have on each other.

Hierarchical multiple regression is important to answer my research question because, if Grit and perceived social support are found to be predictive of scale score gains in the classroom, GED programs can incorporate ways to help students improve and build upon these constructs into classroom instruction. Hierarchical multiple regression will allow me to see how hours in the classroom moderates the relationship between Grit and perceived social support, the independent variables, and scale score change, the dependent variable. The research into the effectiveness of these relationships could give GED programs a cost-effective, evidence- based

means of improving student outcomes in the classroom; improved instruction based on the

research could instill effective life skills in students. Gaining a high school equivalency diploma

is important; however, students who improve their Grit and/or their social support systems have

the potential to positively impact all aspects of their lives and futures with these important non-

academic skills.

Models

      The first model answers the question of what effect Grit score and perceived social

support score have on scale score change, after controlling for each respectively. The first model

is: $\hat{Y}$(scale score change)= b_0 + b_1 (Grit score) + b_2 (perceived social support score).

      The second model answers the question of whether or not time spent in the classroom has

a moderating effect on the relationship between Grit and the dependent variable, scale score

change. The second model is: $\hat{Y}$(scale score change)= b_0 + b_1(Grit score) + b_2(perceived social

support score) $_+$ b_3(hours spent in class) + b_4(Grit score * hours spent in class).

      The third model answers the question of whether or not time spent in the classroom has a

moderating effect on the relationship between perceived social support and the dependent

variable, scale score change. The third model is: $\hat{Y}$(scale score change)= b_0 +b_1(Grit score) +

b_2(perceived social support score) $_+$ b_3(hours spent in class) + b_4(perceived social support score *

hours spent in class).

      Multiple regression makes several assumptions. The assumption of linearity will be

addressed through the use of scatter plots to determine if the data is linear or nonlinear. The

assumption of normality will be addressed through the analysis of Q-Q Plots and histograms.

Another assumption of multiple regression is that the independent variables are not too highly

correlated with one another. Multi-collinearity will be addressed in two ways. I will analyze a

Pearson correlation using the upper threshold of .80 to determine if variables are too highly correlated. I will also check multi-collinearity using the Variance Inflation Factor (VIF) for each independent variable. VIF is a measure of multicollinearity in the set of multiple regression variables. The higher the value of VIF, the higher the correlation between this variable and the rest.

Finally, the assumption of homoscedasticity will be addressed through the use of scatterplots to ensure that there is no clear, cone-shaped pattern to the data. A cone pattern would show that the assumption of homoscedasticity had been violated. The software that will be used to perform the data analysis is IBM Statistical Package for the Social Sciences (IBM SPSS, 2021), Version 28.

Internal and External Validity

Internal validity refers to the confidence that can be placed in the independent variables in a study actually having an effect on the dependent variable. Certain threats to internal validity are noted as potentially inherent in my study and will be addressed to minimize the threat to finding valid results. Maturation is the process by which people may grow and change. This can certainly happen in an educational setting like the GED classroom. To minimize this threat, I will only use participants who have been in the program for less than one program year. Another threat to internal validity that could be present in my study is testing. Because participants pre-test and then post-test on the same instrument, although a different form, some participants could perform better on the post-test simply because of practice effects. However, since 40 to 60 hours of classroom instruction must occur before a student can retest, which often takes months, this threat should be minimal. Nevertheless, an upper threshold of three post-tests will be established

and those participants who have tested more than that in a program year will not be included in the study.

External validity refers to the ability of being able to apply the findings of a study to other contexts. One common threat to external validity that may also threaten my research study is situation. There are specific qualities of this study that make it unique to Adult Basic Education GED programs. However, should there be impactful findings, they could be generalizable to other GED programs, which is the end goal. Another threat to external validity is non-representative samples of the intended population. Should this occur, other samples would need to be collected.

Summary

In this chapter, I have discussed the background, need, and rationale for my research study. I have enumerated my research questions and hypotheses. The dependent and independent variables, as well as a moderating variable I will include in my study have been defined and operationalized. I have discussed the type of analysis I will perform and the models that will be used to test the relationship between Grit, perceived social support, and scale score change. I have also included information on the participants I will study, the context and place of that study, and how I will collect data. Threats to internal and external validity that may be present in my study, as well as how those threats will be mitigated have been addressed. In doing so, I am hopeful that my findings may be valid and useful to impact practice and add to the quantitative research in the field of Adult Basic Education.

References

Akos, P., & Kretchmar, J. (2017). Investigating Grit as a non-cognitive predictor of college success. *The Review of Higher Education 40*(2), 163-186. doi:10.1353/rhe.2017.0000

Alhassan, A. M. (2012). Factors affecting adult learning and their persistence: A theoretical approach. *European Journal of Business and Social Sciences, 1*(6), 150–168. Retrieved from http://www.ejbss.com/data/ sites/1/septemberissue/ejbss12-1156-factorsaffectingadultlearning.pdf

Allodi, M. W. (2010). Goals and values in school: A model developed for describing, evaluating and changing the social climate of learning environments. *Social Psychology of Education, 13*(2), 207–2 35. doi:10.1007/s11218-009-9110-6

Astin, A. W. (1975). *Keeping Students from Dropping Out* (First Ed.). Josey-Bass.

Bandura A. (2005). The evolution of social cognitive theory. In K. G. Smith & M. A Hitt (Eds.) *Great Minds in Management*. (pp. 9-35) Oxford: Oxford University Press.

Beder, H. (1999). *The outcomes and impacts of adult literacy education in the United States*. National Center for the Study of Adult Learning and Literacy. https://files.eric.ed.gov/fulltext/ED431870.pdf

Belzer, A. (2017). Focusing or narrowing: Trade-offs in the development of adult basic education, 1991 – 2015. *New Directions for Adult and Continuing Education, 2017*(155). http://dx.doi.org/10.1002/ace.20236

Berger, M. (2020, November 10). *A lesson in Grit from Angela Duckworth.* Penn Today. https://penntoday.upenn.edu/news/lesson-Grit-angela-duckworth

Bogin, L. (2017). *A portrait of college success: Grit, theories of intelligence, and cumulative life adversity* (Order No. 10689593). [Doctoral Dissertation, Pace University]. ProQuest Dissertations & Theses Global. (2013312507).

Boshier R., Huang, Y., Song, Q. & Song, L. (2006). Motivational orientations of adult learners in Shanghai. *Adult Education Quarterly, 56*(3), 201-222. doi:10.1177/0741713605286174

Cocquyt, C., Diep, N. A., Zhu, C., De Greef, M., & Vanwing, T. (2017). Examining social inclusion and social capital among adult learners in blended and online learning environments. *European Journal for Research on the Education and Learning of Adults, 8*(1), 77-101. doi: 10.3384/rela.2000-7426.rela9011

Cohen, S., & Syme, S. L. (1985). Issues in the study and application of social support. S. Cohen & S. L. Syme (Eds.), *Social support and health*, 3-22. Academic Press. https://www.cmu.edu/dietrich/psychology/stress-immunity-disease-lab/publications/books/symechap85.pdf

Comings, J. P., Parrella, A., & Soricone, L. (1999). *Persistence among adult basic education students in pre-ged classes.* National Center for the Study of Adult Learning and Literacy. https://files.eric.ed.gov/fulltext/ED437579.pdf

Cornell Law School. (2021). *Adult Basic Education*. Legal Information Institute. https://www.law.cornell.edu/cfr/text/38/21.142

Data Recognition Corporation. (2019). *TABE 11 & 12 scoring levels: Best practice guide.* https://tabetest.com/PDFs/TABE_11_12_Scoring_Best_Practice_Guidelines.pdf

Duckworth, A. L., Peterson, C., Matthews, M. D. & Kelly, D. R. (2007). Grit: Perseverance and passion for long-term goals. *Journal of Personality and Social Psychology, 92*(6), 1087–1101. https://doi.org/10.1037/0022-3514.92.6.1087

Duckworth, A. L. & Quinn, P. D. (2007). Development and Validation of the Short Grit Scale (Gris-S). *Journal of Personality Assessment, 91*(2), 166-174. https://doi.org/10.1080/00223890802634290

Duckworth, A. L. & Yeager, D.S. (2015). Measurement matters: Assessing personal qualities other than cognitive ability for educational purposes. *Educational Researcher, 44* (4), 237–251. https://doi.org/10.3102/0013189X15584327

Dweck, C., Walton, G. M., & Cohen, G. L. (2014). *Academic tenacity: Mindsets and skills that promote long-term learning.* Bill & Melinda Gates Foundation. https://files.eric.ed.gov/fulltext/ED576649.pdf

Economic Opportunity Act of 1964, Title II § Section 213 (1964). https://www.govinfo.gov/content/pkg/STATUTE-78/pdf/STATUTE-78-Pg508.pdf

Faul, F., Erdfelder, E., Lang, A.-G., & Buchner, A. (2007). G*Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods, 39*(2), 175–191. https://doi.org/10.3758/BF03193146

Foster, M., Strawn, J., & Benfield, A. (2011). *State strategies to connect low-skilled students to an employer-valued postsecondary education.* Center for Postsecondary and Economic Success. https://files.eric.ed.gov/fulltext/ED538035.pdf.

Georgia Adult Learners Information System. (2021). *Adult education year in review: Fiscal year 2020*. https://www.tcsg.edu/wp-content/uploads/2021/05/FY20-EOY-Board-Report_20201016.pdf

Georgia Adult Learners Information System. (2021). *NRS reports*. [Dataset]. https://galis2016.tcsg.edu/Galis/Default.aspx.

Herman, L., & Mandell, A. (2005). *From teaching to mentoring: Principles and practice, dialogue and life in adult education*. Routledge.

Horne, L. M., Rachal, J. R., & Shelley, K. (2012). Academic rigor and economic value: GED and high school students' perceptions and misperceptions of the GED vs. the high school diploma. *Journal of Research and Practice for Adult Literacy, Secondary, and Basic Education*, *1*(1), 4-18. https://eric.ed.gov/?id=EJ984638

IBM. (2021, December 6). *How-to guide for IBM SPSS statistics software* [Software]. https://methods.sagepub.com/dataset/howtoguide/hierarchical-linear-regression-prison-inmates

Kassab, C. & Prins, E. (2013). *How involvement in adult education and family literacy programs shapes women's social networks, social support, and mental health* [Paper presentation]. Adult Education Research Conference, St. Louis, Missouri, United States. https://newprairiepress.org/aerc/2013/papers/38

Kawachi, I., & Berkman, L. F. (2001). Social ties and mental health. *Journal of Urban Health, 78(*3), 458-467. https://doi.org/10.1093/jurban/78.3.458

Kerka, S. (1989). *Women, work, and literacy.* ERIC. https://files.eric.ed.gov/fulltext/ED312456.pdf

Kerka, S. (1995). *Adult learner retention revisited.* ERIC. https://files.eric.ed.gov/fulltext/ED389880.pdf

Kestner, S. F. S. (1994). *A study of selected programmatic and personal factors associated with reading and math achievement scores of Adult Basic Education students in Kentucky* (Order No. 9519756). [Doctoral dissertation, University of Kentucky] ProQuest Dissertations & Theses Global. (304106759). https://www.proquest.com/docview/304106759/fulltextPDF/566EACEE72614737PQ/1?accountid=8361

Knowles, M. and Associates (1984). *Andragogy in action: Applying modern principles of adult learning.* San Francisco: Jossey-Bass.

Knowles, M. S., Holton, E. F., Swanson, R. A., & Robinson, P. A. (2005). *The adult learner: The definitive classic in adult education and human resource development*. Routledge.

Lucas, G.M., Gratch, J., Cheng, L., & Marsella, S. (2015); When the going gets tough: Grit predicts costly perseverance. *Journal of Research in Personality, 59*, 15-22. https://doi.org/10.1016/j.jrp.2015.08.004

Lyon, A. C. (2014). Teaching and fostering qualities related to Grit (Order No. 3636966) [Doctoral dissertation, New England College] ProQuest Dissertations & Theses Global. (1616622618) https://www.proquest.com/docview/1616622618?pq-origsite=gscholar&fromopenview=true

Maddi, S. R., Matthews, M. D., Kelly, D. R., Villarreal, B., & White, M. (2012). The role of hardiness and Grit in predicting performance and retention of USMA cadets. *Military Psychology*, *24*(1), 19–28. https://doi.org/10.1080/08995605.2012.639672

McIntire, J. L., & Robins, A. F. (1999). *Fixing to change: A best practices assessment of one-stop job centers working with welfare recipients.* ASPE, U. S. Department of Health and Human Services. https://aspe.hhs.gov/reports/fixing-change-best-practices-assessment-one-stop-job-centers-working-welfare-recipients

Mellard, D. F., Krieshok, T., Fall, E., & Woods, K. (2012). Dispositional factors affecting motivation during learning in adult basic and secondary education programs. *Reading and Writing*, *26*(4), 515–538. https://doi.org/10.1007/s11145-012-9413-4

Merriam, S. B., & Brockett, R. (2007). *The profession and practice of adult education: An introduction.* Jossey-Bass.

Miller, B., Esposito, L., & McCardle, P. (2011). A public health approach to improving the lives of adult learners: Introduction to the special issue on adult literacy interventions. *Journal of Research on Educational Effectiveness, 4*(2), 87–100. doi:10.1080/19435747.2011.555287

National Center for Education Statistics. (2021). *Digest of education statistics*. https://nces.ed.gov/programs/digest/d20/tables/dt20_507.20.asp

National Center for Education Statistics. (2017). *Highlights of U.S. national results.* https://nces.ed.gov/surveys/piaac/national_results.asp

National Literacy Act of 1991, Title II § Section 201. (1991). https://www.congress.gov/102/statute/STATUTE-105/STATUTE-105-Pg333.pdf

National Reporting System. (n.d.). *Who participates in adult education?* https://nrsweb.org/sites/default/files/Topic-1-Enrollment-508.pdf

National Reporting System. (2019). *Test benchmarks for NRS educational functioning levels.* https://nrsweb.org/resources/test-benchmarks-nrs-educational-functioning-levels-efl-updated-august-2019

Pappano, L. (2013). Grit and the new character education. *Harvard Education Letter*, *29*(1). https://www.hepg.org/hel-home/issues/29_1/helarticle/grit%E2%80%9D-and-the-new-character-education

Pauly, K. E. (2019). *An investigation of the relationship between student attendance and educational functioning level gains by level for Adult Basic Education students* (Order No. 22624027). [Doctoral dissertation, Wingate University] ProQuest Dissertations & Theses Global. (2375530538) https://www.proquest.com/dissertations-theses/investigation-relationship-between-student/docview/2375530538/se-2

Pickard, Amy. (2021). Accountability in adult basic education: The marginalization of adults with difficulty reading. *Journal of Literacy Research 53*(1), 53–74. DOI: 10.1177/1086296X20986910

Prins, E., Toso, B. W., & Schafft, K. A. (2009). The importance of social interaction and support for women learners: Evidence from family literacy programs. *Adult Education Quarterly*, *59*(4), 335–352. https://doi.org/10.1177/0741713609331705

Putnam, R. (1995). Bowling alone: America's declining social capital. *Journal of Democracy 6*(1): 65-78.

Quigley, B. A. (1997). The role of research in the practice of adult education. *New Directions for Adult and Continuing Education*, *1997*(73), 3–22. https://doi.org/10.1002/ace.7301

Rachal, J. R., & Bingham, M. J. (2004). The adolescentizing of the GED. *Adult Basic Education, 14*(1), 32-44. https://www.proquest.com/scholarly-journals/adolescentizing-ged/docview/227646370/se-2?accountid=8361

Reason, R.D. (2009). An examination of persistence research through the lens of a comprehensive conceptual framework. *Journal of College Student Development 50*(6), 659-682. doi:10.1353/csd.0.0098.

Reynolds, S. J. (2013). Pillars of support: A functional asset-based framework for ABE learners. *Journal of Research and Practice for Adult Literacy, Secondary, and Basic Education.* https://eric.ed.gov/?id=EJ1049140

Ris, E. W. (2015). Grit: A short history of a useful concept. *Journal of Educational Controversy: 10*(1), 1-20. https://cedar.wwu.edu/jec/vol10/iss1/3

Roberts, A., & Roberts, J. M. (2021). *Multiple regression: A practical introduction*. SAGE Publications.

SRI Education. (2018). *Promoting Grit, tenacity, and perseverance: Critical factors for success in the 21st century.* SRI International. https://www.sri.com/work/publications/promoting-grit-tenacity-and-perseverance-critical-factors-success-21st-century

Test of Adult Basic Education. (2021). *Tabe 11 & 12*. https://tabetest.com/.

Tamassia, C., Lennon, M., Yamamoto, K., & Kirsch, I. (2007). *Adult education in America: A first look at results from the adult education program and learner surveys*. Educators Testing Service. https://www.ets.org/Media/Research/pdf/ETSLITERACY_AEPS_Report.pdf

Technical College System of Georgia, Office of Adult Education. (2020, April). *Adult education grant application guidelines*. https://tcsg.edu/wp-content/uploads/2020/02/TCSG-Adult-Education-Grant-RFA_Revised-August-2020.pdf.

Tighe, E. L., Barnes, A. E., Connor, C. M., & Steadman, S. C. (2013). Defining success in adult basic education settings: Multiple stakeholders, multiple perspectives. *Reading Research Quarterly*, *48*(4), 415–435. https://doi.org/10.1002/rrq.57

Tinto, V. (1975). Dropout from higher education: A theoretical synthesis of recent research. *Review of Educational Research, 5*(1)*,* 9-125.

U.S. Census Bureau. (2022, February 24). *CPS historical timeframe visualization*. https://www.census.gov/library/visualizations/time-series/demo/cps-historical-time-series.html

U.S. Department of Education. (2021a, January 12). *Adult education and literacy.* https://www2.ed.gov/about/offices/list/ovae/pi/AdultEd/index.html

U.S. Department of Education. (2021b). *Accountability and reporting.* https://www2.ed.gov/about/offices/list/ovae/pi/AdultEd/accountability-reporting.html

U.S. Department of Education. (2013). *An American heritage: Federal adult education, a legislative history 1964-2013.* https://lincs.ed.gov/publications/pdf/Adult_Ed_History_Report.pdf

U.S. Department of State. (2021). *Adult education*. https://www.state.gov/global-community-liaison-office/education-and-youth/adult-education/

Workforce Investment Act of 1998, Title II §Section 212. (1998). https://www.govinfo.gov/content/pkg/PLAW-105publ220/pdf/PLAW-105publ220.pdf

Workforce Innovation and Opportunity Act of 2014, Title II § Section 201, *Adult Education and Family Literacy Act*. (2014). https://www.govinfo.gov/content/pkg/PLAW-113publ128/pdf/PLAW-113publ128.pdf

Ziegler, Mary and Durant, Chas (2001). *Engagement: A necessary ingredient for participation in adult basic education.* Adult Education Research Conference. https://newprairiepress.org/cgi/viewcontent.cgi?article=2354&context=aerc

Zimet, G., Powell, S., Farley, G., Werkman, S., & Berkoff, K. (1990). Psychometric characteristics of the multidimensional scale of perceived social support. *Journal of Personality Assessment*, *55*(3), 610–617. doi: 10.1080/00223891.1990.9674095.

Appendix A

12- Item Grit Scale

Directions for taking the Grit Scale: Here are a number of statements that may or may not apply to you. For the most

accurate score, when responding, think of how you compare to most people

not just the people you know well, but most people in the world. There are no right or wrong

answers, so just answer honestly!

1. I have overcome setbacks to conquer an important challenge.

 Very much like me

 Mostly like me

 Somewhat like me

 Not much like me

 Not like me at all

2. New ideas and projects sometimes distract me from previous ones.*

 Very much like me

 Mostly like me

 Somewhat like me

 Not much like me

 Not like me at all

3. My interests change from year to year.*

 Very much like me

 Mostly like me

Somewhat like me

Not much like me

Not like me at all

4. Setbacks don't discourage me.

Very much like me

Mostly like me

Somewhat like me

Not much like me

Not like me at all

5. I have been obsessed with a certain idea or project for a short time but later lost interest.*

Very much like me

Mostly like me

Somewhat like me

Not much like me

Not like me at all

6. I am a hard worker.

Very much like me

Mostly like me

Somewhat like me

Not much like me

Not like me at all

7. I often set a goal but later choose to pursue a different one.*

 Very much like me

 Mostly like me

 Somewhat like me

 Not much like me

 Not like me at all

8. I have difficulty maintaining my focus on projects that take more than a few months to

complete.*

 Very much like me

 Mostly like me

 Somewhat like me

 Not much like me

 Not like me at all

9. I finish whatever I begin.

 Very much like me

 Mostly like me

 Somewhat like me

 Not much like me

 Not like me at all

10. I have achieved a goal that took years of work.

 Very much like me

Mostly like me

Somewhat like me

Not much like me

Not like me at all

11. I become interested in new pursuits every few months.*

Very much like me

Mostly like me

Somewhat like me

Not much like me

Not like me at all

12. I am diligent.

Very much like me

Mostly like me

Somewhat like me

Not much like me

Not like me at all

Scoring:

1. For questions 1, 4, 6, 9, 10 and 12 assign the following points:

5 = Very much like me

4 = Mostly like me

3 = Somewhat like me

2 = Not much like me

1 = Not like me at all

2. For questions 2, 3, 5, 7, 8 and 11 assign the following points:

1 = Very much like me

2 = Mostly like me

3 = Somewhat like me

4 = Not much like me

5 = Not like me at all

Add up all the points and divide by 12. The maximum score on this scale is 5 (extremely Gritty), and the lowest score on this scale is 1 (not at all Gritty).

Duckworth, A.L., Peterson, C., Matthews, M.D., & Kelly, D.R. (2007). Grit: Perseverance and

passion for long-term goals. Journal of Personality and Social Psychology, 9, 1087-1101.

© 2013 Angela Duckworth

Do not duplicate or distribute without the consent

Appendix B

Multidimensional Scale of Perceived Social Support

Instructions: We are interested in how you feel about the following statements. Read each statement carefully.

Indicate how you feel about each statement.

Circle the "1" if you Very Strongly Disagree

Circle the "2" if you Strongly Disagree

Circle the "3" if you Mildly Disagree

Circle the "4" if you are Neutral

Circle the "5" if you Mildly Agree

Circle the "6" if you Strongly Agree

Circle the "7" if you Very Strongly Agree

1. There is a special person who is around when I am in need.　　1 2 3 4 5 6 7

2. There is a special person with whom I can share joys and sorrows. 1 2 3 4 5 6 7

3. My family really tries to help me.　　　　　　　　　　1 2 3 4 5 6 7

4. I get the emotional help & support I need from my family.　　1 2 3 4 5 6 7

5. I have a special person who is a real source of comfort to me.　1 2 3 4 5 6 7

6. My friends really try to help me.　　　　　　　　　　1 2 3 4 5 6 7

7. I can count on my friends when things go wrong.　　　　1 2 3 4 5 6 7

8. I can talk about my problems with my family.　　　　　1 2 3 4 5 6 7

9. I have friends with whom I can share my joys and sorrows.　　1 2 3 4 5 6 7

10. There is a special person in my life who cares about my feelings.　1 2 3 4 5 6 7

11. My family is willing to help me make decisions.   1 2 3 4 5 6 7

12. I can talk about my problems with my friends.   1 2 3 4 5 6 7

Scale Reference:

Zimet GD, Dahlem NW, Zimet SG, Farley GK. The Multidimensional Scale of Perceived Social Support.

Journal of Personality Assessment 1988;52:30-41.

Scoring Information:

To calculate mean scores:

Significant Other Subscale: Sum across items 1, 2, 5, & 10, then divide by 4.

Family Subscale: Sum across items 3, 4, 8, & 11, then divide by 4.

Friends Subscale: Sum across items 6, 7, 9, & 12, then divide by 4.

Total Scale: Sum across all 12 items, then divide by 12.

More information at:

http://gzimet.wix.com/mspss

Other MSPSS Scoring Options:

There are no established population norms on the MSPSS. Also, norms would likely vary on the basis of culture and nationality, as well as age and gender. I have typically looked at how social support differs between groups (e.g., married compared to unmarried individuals) or is associated with other measures (e.g., depression or anxiety). With these approaches you can use the mean scale scores. If you want to divide your respondents into groups on the basis of MSPSS scores there are at least two ways you can approach this process:

1. You can divide your respondents into 3 equal groups on the basis of their scores (trichotomize) and designate the lowest group as low perceived support, the middle group as medium support, and the high group as high support. This approach ensures that you have about the same number of respondents in each group. But, if the distribution of

scores is skewed, your low support group, for example, may include respondents who report moderate or even relatively high levels of support.

2. Alternatively, you can use the scale response descriptors as a guide. In this approach any mean scale score ranging from 1 to 2.9 could be considered low support; a score of 3 to 5 could be considered moderate support; a score from 5.1 to 7 could be considered high support. This approach would seem to have more validity, but if you have very few respondents in any of the groups, it could be problematic.