To See Ourselves: A Mixed Methods Study of the Relationship Between Place, Mindset, and Grit in Appalachian First Year College Students

A Dissertation

Presented in Partial Fulfillment of the Requirements for the

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With a

Major in Educational Leadership in the

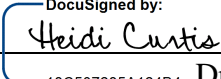Department of Graduate Education

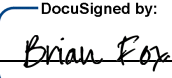Northwest Nazarene University
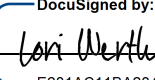
by

Amanda Slone

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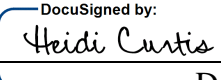Major Professor:  Heidi Curtis, Ph.D.
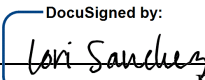
AUTHORIZATION TO SUBMIT

DISSERTATION

This dissertation of Amanda Jo Slone submitted for the degree of Doctor of Philosophy with a
major in Educational Leadership and titled "To See Ourselves: A Mixed Methods Study of the
Relationship Between Place, Mindset, and Grit in Appalachian First Year College Students," has
been reviewed in final form.  Permission, as indicated by the signatures and dates given below, is
now granted to submit final copies.

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|---|---|---|---|
| Major Professor | *Heidi Curtis* — Dr. Heidi Curtis | Date | 4/19/2020 \| 22:23:17 MDT |
| Committee Members | *Brian Fox* — Dr. Brian Fox | Date | 4/21/2020 \| 14:30:48 PDT |
| | *Lori Werth* — Dr. Lori Werth | Date | 4/21/2020 \| 12:57:49 PDT |
| Program Director | *Heidi Curtis* — Dr. Heidi Curtis | Date | 4/19/2020 \| 22:23:17 MDT |
| Discipline's College Dean | *Lori Sanchez* — Dr. LoriAnn Sanchez | Date | 4/21/2020 \| 15:26:23 MDT |

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Finally, I am grateful for my children, Corey, Adrianna, and Adam. Thank you for being my reasons to keep pushing, and for giving me the love, courage, and confidence to pursue my goals. You are the embodiment of grace and love. Everything I do is for you.

DEDICATION

This work is dedicated to the unique and brilliant students who are the future of Appalachia. Thank you for your light. To my parents, my children, to Alice, Kim, and Sumer. Thank you for your support.

ABSTRACT

Recent educational research has focused on non-cognitive success factors such as mindset and grit. The belief that intelligence is malleable and the ability to persevere in the face of challenges are considered two factors that are more reliable success predictors than academic grades or test scores. Non-cognitive factors are also believed to be stronger predictors than socio-economic status. There has been no previous research that explores the potential connection between place identity and mindset and grit. This mixed-methods study sought to find patterns in mindset and grit in first year college students in Appalachia and how students' place identity influenced their non-cognitive factors. Quantitative survey data showed first year students in Appalachia score in the low end of the growth mindset scale and the average range of the grit continuum. Qualitative data showed students perceived themselves as grittier than their quantitative scores suggest. Exploration of students' identity perception revealed students in Appalachia felt conflicting motivational forces that affected their non-cognitive factors. Positive aspects of their identity, such as familial support, pushed them forward, while negative factors such as stereotypes and poverty pushed back. The conflicting forces hinder students from further developing the mindset and grit they perceive for themselves and indicate cultural factors have a strong influence on non-cognitive traits.

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## Introduction

You've heard that prayer that goes:
Help us to see ourselves as others see us.
Buddy, that's not a prayer we want to pray.
I believe we ought to pray:
Lord, help us to see ourselves—and no more.
Or maybe: Help us to see ourselves,
help us to be ourselves
help us to free ourselves
from seeing ourselves
as others see us.
--Jim Wayne Miller, "The Brier Sermon"

## Introduction

When one hears the word Appalachia, many images may come to mind. The collection of images that have been used to represent Appalachia is often eclectic and contradictory. Some might imagine the area full of romantic rolling mountains covered in mist and crystal-clear creeks and rivers. Some might picture the cliché of the Hillbilly, perhaps from popular television shows like The Beverly Hillbillies or Hee Haw. Other familiar images of Appalachia feature coal camps with rickety houses and abundant heaps of coal. There are also popular images from the War on Poverty media campaign that stormed the region in the 1960s. These photographs display dilapidated houses and filthy children wearing rags. None of these images seem to be related. The stories they tell of Appalachia are conflicting and confusing. The reality is that Appalachia is varied in its people, and culture and none of these images accurately show the complex and nuanced truths of the region.

According to the Appalachian Regional Commission (2015), the Appalachian Mountains stretch from upstate New York to Georgia and encompass multiple counties in as

many as twelve states. Appalachians have contributed immensely to the world of scientific innovation, politics, and the arts (Biggers, 2006; Eller, 2008). Despite global contributions, Appalachians have long been regarded as "other" in the United States. Appalachian people and culture are often exploited in the media and targeted for the differences that separate them from what is considered the mainstream American experience. Even before the 1960's War on Poverty publicized the images of poverty-stricken mountain youth, the region was labeled as isolated and antiquated, and its people as lazy, ignorant, and inbred (Billings, Norman, & Ledford, 1999; Cooper, Knotts, & Elders, 2011; Eller, 2008).

While stereotypes about Appalachian people are false and grossly exaggerated, Appalachia is not without weaknesses. There have been substantial gains in the past decades, but Appalachia still trails the rest of the country in the areas of poverty and educational attainment. The number of students completing high school in Appalachia has increased in the past several years, but higher education attainment remains low. In the Appalachian region of the United States, approximately 78% of adults have yet to obtain a bachelor's degree (Appalachian Regional Commission, 2015). A report from the Appalachian Higher Education Network confirms lower graduation rates in Appalachia when compared to national rates and a higher proportion of students from lower socioeconomic backgrounds. According to the report, one in ten children in Appalachia lives in severe poverty (Wright, Cunningham, & Strangle, 2016).

Some attention has been given to external obstacles that students in rural areas must face to achieve academic success (Azano & Stewart, 2015; Brashears, 2014; Burriss & Gantt, 2013; Dunstan & Jaegar, 2015; Hendrickson, 2012). Research has found that rural Appalachian students are more likely to experience poverty, overwhelming familial obligations, and a lack of

true family and community support (Hendrickson, 2012). Research has concluded that barriers to success are also created by the external factor of negative stereotypes that surround the region. Appalachian students often feel shame about their cultural identity, dialect, and intelligence (Brashears, 2014; Dunstan & Jaeger, 2015). College students in Appalachia cite the perception of their dialect as a reason not to participate in classroom activities (Dunstan & Jaegar, 2015). Teachers in Appalachia are often aware of sensitive cultural pride surrounding dialect and are uncertain how to teach Standard English in a way that both corrects students and honors their heritage. Therefore, many issues that hinder student success often go unaddressed in the classroom (Brashears, 2014). Often teachers internalize negative Appalachian stereotypes, even when they disagree and do not identify with them, which affects their classroom expectations (Brashears, 2014; Winter, 2013). A lack of understanding of Appalachia and the multiple Appalachian identities can allow stereotypes to have a negative influence on academic achievement (Azano & Stewart, 2015; Berry, Obermiller, & Scott, 2015; Brashears, 2014; Winter, 2013).

Broader educational research includes topics beyond external barriers to success. Also important are internal aspects such as social and emotional factors that predict success. One such factor is the concept of mindset, as explained by Stanford Psychology Professor Carol Dweck (2006). Studies show mindset has a powerful influence on academic achievement (Claro, Paunesky, & Dweck, 2016; Cook, Wildschut, & Thomas, 2017; Dweck, 2006). People with a growth mindset recognize factors such as intelligence and talent as malleable traits that can be changed with effort (Dweck, 2006).

In contrast, people who subscribe to a fixed mindset believe their capacity for talent and intelligence is a trait they have always possessed and cannot change (Dweck, 2006). Students

with a growth mindset outperform their peers regardless of outside factors such as family income (Claro et al., 2016). Further, research shows students who possess a growth mindset experience fewer and less intense instances of negative achievement emotions such as shame related to their education experience (Cook et al., 2017; Dweck, 2006).

Another predictor of academic success is the theory of grit, as developed by psychologist Angela Duckworth (2016). Grit is described as having the ability to maintain passion and perseverance over a long period of time. A person with the grit attribute nurtures interest and passion for long-term projects and values the learning opportunities that come with challenges and adversity. Grit has proven to be a more accurate predictor of retention and success than past performance and experience, intelligence, or talent (Duckworth, Peterson, Matthews, & Kelly, 2007).

**Statement of the Problem**

Despite an increase in high school graduates in the past several decades, the Appalachian region is still trailing the rest of the United States in post-secondary degrees. According to a College Completion Map created by the Appalachian Regional Commission (2015), the mostly rural areas of central Appalachia have a college completion rate between 5.2% and 14.8%. Research focused on non-cognitive success factors proves student perception of ability is vital to academic retention and achievement. Students who possess a growth mindset and believe intelligence is something that can be grown and nurtured outperform their peers with a fixed mindset even when faced with other factors that typically hinder success, such as socioeconomic status (Claro et al., 2016; Dweck, 2006). Further, students with high scores on the Grit Scale (Duckworth et al., 2007) demonstrate the necessary perseverance to persist and complete difficult tasks.

The mix of central Appalachia's complex cultures and the stereotypes that have plagued the region could influence student self-perception. Research identifies how negative stereotypes impact students academically (Cooke-Jackson & Hansen, 2008; Cramer, 2018; Dunstan & Jaegar, 2015; Dweck, 1999a). Negative stereotypes can cause individuals to separate themselves from their culture and feel shame about their identity and ability (Cooke-Jackson & Hansen, 2008). Stereotypes can also affect the way students perform in the classroom or the level of comfort they have participating in front of peers and faculty whom they perceive to be more intelligent (Dunstan & Jaeger, 2015).

There have been no studies that explore the impact of place identity on non-cognitive success predictors. The current mixed-methods study aims to explore how students perceive their Appalachian identity in relation to how it interacts with their academic self-concepts. The study seeks to investigate a potential relationship between how students perceive their place, how they react to others' portrayals of their place, and their mindset and grit in relation to education. Research on how students view their academic ability in relation to their place may lead educators and administrators to a greater understanding of Appalachian students' needs.

**Background**

Appalachian Studies is a relatively new construct in the realm of education but has gained momentum in educational institutions since its inception in the 1970s (Berry et al., 2015). Because of the diversity in land and people, it is nearly impossible to describe one universal Appalachian identity or experience (Billings et al., 1999; Cooper et al., 2011; Eller, 2008; Kingsolver, 2015). Scholarship on education, economics, literature, and culture in the Appalachian area has been collected for years, and academic institutions have followed with programs tailored explicitly around studying the region. Appalachian Studies programs are

interdisciplinary and aim to examine all aspects of the Appalachian region in hopes students will be able to apply critical knowledge gained in learning about Appalachia in universal ways (Berry et al., 2015; Burris, 2013).

The Appalachian Regional Commission was created by Congress in 1965 and is composed of political leaders from Appalachian states. According to the Commission's website (2015), the charge of the group is to invest in economic development throughout the region with a focus on five goals:

- Economic Opportunities

- Ready Workforce

- Critical Infrastructure

- Natural and Cultural Assets

- Leadership and Community Capacity

The Commission conducts research, gathers information, and offers financial assistance in the form of grants and awards to progress these goals in distressed counties of Appalachia. The most recent Appalachian Regional Commission (2015) data on post-secondary education showed a college completion rate of just over 20% for students enrolled in four-year institutions.

Educational research in Appalachia has focused mainly on external factors and the barriers students face in rural areas. Some research has shown a connection between aspects of rural culture and academic success. A study by Hendrickson (2012) showed that students in rural areas feel disconnected from their coursework and struggle to find meaningful ways the curriculum relates to their lives and plans. This disconnect between students and the curriculum, and often between students and faculty, leads students to feel disinterested and disengaged from

the classroom (Hendrickson, 2012). Even teachers who hail from rural areas often have a weak understanding of cultural identity and the realities of education in rural schools (Azano & Stewart, 2015; Winter, 2013).

A smaller sector of educational research has explored the effect of stereotypes on students in Appalachia. The Appalachian region has long been the center of negative stereotypes in the media. Billings (2001) states confronting the negative stereotypes in Appalachia is essential not just for the residents' peace of mind, but because these stereotypes influence the way the region is treated in the public and political realm. Rural Appalachian students who attend college are often introduced to the diversity that was not present in their hometowns and high schools. Many face stereotypes, particularly in relation to their accents and dialect, which create barriers for academic achievement (Brashears, 2014; Duckworth et al., 2019; Dunstan & Jaeger, 2015; Hendrickson, 2012).

Broader educational research shows internal factors are also reliable predictors for student success. Dweck (2006) and Duckworth (2016) argue mindset and grit are two non-cognitive factors that determine the likelihood of student achievement. Students with a fixed mindset are more likely to believe and hold onto stereotypes about themselves and others. Dweck (1999b) determines stereotypes are not typically formed out of malice, but because people with a fixed mindset believe all people, including themselves, are born with specific traits that cannot be changed. Many studies have proven mindset can be altered with an intervention (Blackwell, Trzesniewski, & Dweck, 2006; Dweck 2017; Singer-Freeman & Bastone, 2017; Strahan, Hansen, Meyer, Buchanan, & Doherty, 2017). Messaging about effort and the reflexivity of the brain can help students understand their abilities are malleable and can be changed with growth (Blackwell et al., 2007; Dweck 2006).

**Research Questions**

The goal of this research is to explore the interaction and influence of place identity on the non-cognitive academic success factors of mindset and grit in first year Appalachian College students. The mixed-methods approach will allow for exploration of students' self-perception and implicit theories while also examining their experience and performance (Creswell, 2018). The research questions that guide this study include:

1. What are the patterns associated with mindset and grit in first year college students in Appalachia?

2. How do first year college students in Appalachia perceive their Appalachian identity?

3. To what extent does perception of place influence mindset and grit?

**Description of Terms**

In an effort to provide clarity and consistency, the definition of terms used throughout this study are below:

**Academic tenacity –** Academic tenacity is the result of the combination of non-cognitive skills to promote long-term work and success (Dweck, Walton, & Cohen, 2014).

**Appalachia –** Appalachia is described as the geographical location that falls along the Appalachian Mountain Range. Appalachia spans from upstate New York to central Georgia (Appalachian Regional Commission, 2015). This study focuses on areas in central, rural Appalachia, including Kentucky, Virginia, West Virginia, Tennessee, and North Carolina.

**Appalachian Regional Commission -** The Appalachian Regional Commission (2015) is a government agency created in 1965 to oversee economic development in the Appalachian Region.

**First Year Seminar –** First Year Seminar is a course designed to aid students' transition to college. First Year Seminar courses vary in content and structure and are widely accepted as effective high impact practice courses (Skipper, 2018).

**Fixed mindset –** A fixed mindset occurs when an individual believes their intelligence or talents are static and are incapable of change (Dweck, 2006).

**Grit** – Grit is a non-cognitive success indicator that can be described as having long-term and persistent passion and perseverance (Duckworth, 2016).

**Growth Mindset –** A growth mindset occurs when an individual believes their intelligence is malleable and can grow and improve (Dweck, 2006).

**Implicit theory –** Implicit theory, also called *mindset,* refers to a person's belief that abilities are malleable (Dweck, 2006; Haimovitz & Dweck, 2017).

**Place Identity –** Place identity refers to the section of social identity that involves a person's complete relationship with a physical place (Proshansky, Fabian, & Kaminoff, 1983).

**Mindset –** Mindsets, also called *Implicit theories,* refer to a person's belief that abilities are malleable (Dweck, 2006; Haimovitz & Dweck, 2017).

**Non-cognitive factors** – Non-academic, or psychological, factors that affect student learning. Non-cognitive factors can include students' feelings about their abilities and school. Non-cognitive factors are considered to be as important as academic factors in predicting student success (Dweck et al., 2014).

**Sense of Place –** Sense of place refers to the ways in which people feel and communicate about their physical place. A sense of place is considered to be part of Place Identity (Lewicki, 2011).

**Significance of the Study**

The purpose of this study is multi-faceted. First, the researcher hopes to gain an understanding of non-cognitive factors in first year Appalachian college students. The study seeks to explore patterns in mindset and grit scores for first year students and investigate potential relationships among scores and demographic variables. Further, the study explores the lived experiences of Appalachian students with a focus on how their perceptions of Appalachia and outside perceptions of Appalachia have influenced their non-cognitive factors. The ultimate goal of the study is to explore how these factors influence each other and impact the mindset and grit of students who are attending university in the Appalachian region.

Rural Appalachia is a unique place with a rich and nuanced culture (Billings et al., 1999; Eller, 2008). The ways in which Appalachia differs from the rest of the United States makes it difficult for educators to understand the unique circumstances of the Appalachian student (Donovan, 2016; Winters, 2013). The long history of stereotypes about the region has been well documented, but research addressing how these stereotypes directly affect student self-perceptions is scarce. In a study of pre-service teachers' perception of Appalachian identity, Winters (2013) found college-age students in education programs overwhelmingly denied having traits associated with negative stereotypes but also listed those same traits as challenges they expected to face with their future students. The author questions if the internalization of outside negative stereotypes caused subjects to project stereotypical features in their responses. Since teacher expectation is directly related to student performance, research on how students experience their Appalachian identity and relate that experience to their academic self-perception can help better prepare educators in rural areas.

Hendrickson (2012) argues students in rural areas feel a disconnect between standardized school curriculum and their lives. Students are often unable to find a connection with faculty or find content that can be transferred and applied to their unique culture and personal circumstances. Because students cannot see themselves and their families in the classroom, they fail to see the advantage of succeeding in education. Research that shows how students connect their lived experiences with factors that advance or hinder success in the classroom will help bridge the gap between the classroom and culture (Hendrickson, 2012). Educators can gain insights into the Appalachian experience that can be used to develop a more student-focused curriculum.

With a college completion rate trailing the rest of the United States, colleges in Appalachia, particularly the rural areas of central Appalachia, need to focus on how to improve retention and persistence. Mindset and grit are two non-cognitive factors that have been proven to be relevant in predicting academic success (Duckworth, 2016; Duckworth et al., 2007; Dweck, 2006). No studies have investigated the mindset and grit in first year Appalachian college students. Research has shown mindset and grit can be influenced and changed with messaging (Blackwell, Trzesniewski, & Dweck, 2007; Duckworth, 2016). Data that reveals how students perceive their abilities can assist administrators and educators in planning curriculum, programming, and interventions that can improve student mindset, thus leading to greater success in the classroom.

Appalachian Studies is a fairly new structure in educational systems (Berry et al., 2015). This study will add to the growing body of literature that focuses on Appalachian student success and add to the literature that examines the influence of place and stereotypes. The results of this study are not singular to Appalachia. Research focused on place, stereotypes,

and non-cognitive factors can be used to assist educators and administrators who aim to improve the academic success of any marginalized or oppressed group. Research connecting these common factors can assist faculty in creating a curriculum that honors students' culture and experience and maximizes student potential.

**Overview of Research Methods**

The research was conducted using an explanatory sequential mixed-methods design. The mixed-methods design allows for a deeper understanding of complex situations by combining information from quantitative and qualitative research (Creswell, 2018). Quantitative data was collected to examine demographics and determine mindset and grit scores. Qualitative data was collected and analyzed to better understand the personal experience and perception of participants. The current study focuses on rural central Appalachia, which includes Kentucky, Tennessee, Virginia, West Virginia, and North Carolina. Three campus partners were chosen in three separate states in the area. The study was conducted with students enrolled in the campus partners' First Year Seminar or equivalent courses during the fall semester.

Quantitative data was collected with a series of surveys. Participants completed a demographics survey as well as the Mindset survey developed by Dweck (2006) and the Grit scale developed by Duckworth et al. (2007). Descriptive and frequency statistics were analyzed to explore connections and patterns in mindset and grit. Pearson's correlation was conducted to investigate possible correlations between demographic information and mindset and grit scores. Analysis of Variances (ANOVA) analysis was conducted to compare means within demographic groups. Qualitative data was collected through semi-structured interviews. An information sheet attached to the initial surveys solicited volunteers for the interview process. Ten student participants were chosen. The interviews were designed to explore participants'

lived experience in Appalachia and their perception of and reaction to Appalachian identity.

Interviews were recorded, transcribed, and coded for themes.

**Chapter II**

**Review of Literature**

**Introduction**

College completion rates in Appalachia are lower than that of the national average (Appalachian Regional Commission, 2015; Wright et al., 2016). Studies have shown students in rural Appalachia face unique barriers that negatively affect their education. Some challenges could be classified as economic and cultural, such as poverty, familial and community pressures, and lack of support (Azano & Stewart, 2015; Brashears, 2014; Burriss & Gantt, 2013; Dunstan & Jaegar, 2015; Hendrickson, 2012). Negative stereotypes targeting the Appalachian culture and dialect can also hinder students from fully engaging in positive educational experiences (Brashears, 2014; Donovan, 2016; Dunstan & Jaeger, 2015). Further challenges for Appalachian students arise from a lack of deep understanding of Appalachian identity that causes a disconnect between student performance and teacher expectations (Obermiller & Maloney, 2016; Winter, 2013). Students also feel disconnected from a standardized curriculum that does not recognize the unique aspects of their cultural identity (Hendrickson, 2012; Obermiller & Maloney, 2016).

Non-cognitive factors, including mindset and grit have been proven indicators for success in education (Duckworth, 2016; Dweck, 2006). In an effort to better understand factors that could influence student success in Appalachia, the current mixed-methods study seeks to explore how issues of place identity impact grit and mindset in first year college students in the region. The study investigates a potential connection between student perception of Appalachian identity, outside perception of Appalachia, and student perception of educational ability. This literature review will examine the demographics of Appalachia with a focus on Central Appalachia and rural areas. It will provide an in-depth examination of the circumstances of rural

students and the challenges and motivations that influence rural students' academic success. The review will look at common negative Appalachian stereotypes and how they affect education in rural Appalachia. Further, the literature review will give an in-depth discussion of the theories of fixed and growth mindset as set forth by Dweck (2006, 2017), the theories of grit as discovered by Duckworth (2016), and the role of these non-cognitive factors in education.

**Theoretical Framework**

The factors of college student success have been the focus of educational research for several decades. Researchers have found academic skill and innate intelligence are not the only, and often not the most important, indicators of whether a student will persist in the classroom. Non-cognitive factors are non-academic, or psychological, factors that affect student learning and can include students' feelings about their abilities and school (Dweck et al., 2014). Non-cognitive factors have emerged as essential traits for students to possess in order to achieve in academia (Blackwell et al., 2007; Duckworth, 2016; Duckworth et al., 2007; Dweck, 2006).

Mindset and grit are two non-cognitive factors used to predict academic success (Duckworth, 2016; Dweck, 2006). Mindset refers to student belief in ability and the malleability of human talent and intelligence (Dweck, 2006). Grit is the ability to persist in long-term goals (Duckworth, 2016). This study uses the lens of mindset and grit as success indicators to understand how first year college students in Appalachia view themselves, their place, and their academic ability.

**Mindset**

As a Professor of Psychology at Stanford, Carol Dweck (2006) studied success factors and investigated how people respond when faced with challenges. Dweck discovered intelligence and talent alone are not good indicators of whether people will persist and succeed and proposed

self-theories of mindset determine how a person views their intellect, talent, and personality, and is directly related to achievement. There are two types of mindset, fixed and growth and all people can have a combination of the two. The dominant mindset can depend on situations and circumstances and can be changed by various factors (Dweck, 2006; Hochanadel & Finamore, 2015).

A person who subscribes to a fixed mindset believes traits such as intelligence and talent are static and impossible to change or develop. A fixed mindset leads people to think they either inherently have the ability to be successful or they do not, and no external or internal factor can change that fate. In contrast, a person with a growth mindset believes in the ability to learn and develop qualities and believes intelligence and talent can be cultivated (Dweck, 2006). A person's mindset determines how they approach learning opportunities and how they respond to various aspects of the learning process.

A growth mindset can be an important factor in academic success. A growth mindset may even have more of an effect on student achievement than common negative factors such as poverty (Claro et al., 2016; Haigen & Hao, 2017). Research has proven low-income students with a growth mindset outperform their fixed mindset peers of the same socioeconomic background. Even more importantly, low-income students with a growth mindset outperform their fixed mindset peers from a higher income background (Claro et al., 2016). Mindset can have an impact on students' emotional and mental health (Romero, Master, Paunesku, Dweck, & Gross, 2014; Schroder, Dawood, Yalch, Donnellan, & Moser, 2015). In a study focused on middle schoolers, students who possessed a growth mindset and believed intelligence and emotions can be controlled expressed better well-being and fewer instances of depression (Romero et al., 2014). In another study, college students who scored high on the mindset scale

(Dweck, 2006) reported feeling fewer negative mental health symptoms (Schroder et al., 2015).

Fixed mindsets can lead people, especially students, into a false belief that they do not need to exert effort into a task, or even if they put effort into the task, the outcome would be the same. A fixed mindset can make students apathetic to education if they believe they do not have innate intelligence or talent. If students believe they do not have natural ability, they find studying to be a waste of time, as they believe they will never be able to attain academic achievement (Dweck, 2006). Students who believe they are not intelligent are not the only ones at risk of the dangers of a fixed mindset. Students who are confident in their academic abilities, but subscribe to the fixed mindset, also suffer. People with a fixed mindset convince themselves that if they have a natural talent or ability, they do not need to practice or study (Dweck, 2006; Job, Walton, Bemecker, & Dweck, 2015). A fixed mindset forces people to fixate on judgment. People with a fixed mindset are not concerned with the learning process, but with demonstrating and protecting the image of their ability. If they believe they have innate talent or intelligence, they will actively avoid situations that could put that image at risk (Dweck, 2006).

People with fixed mindsets may even self-sabotage their educations and opportunities because of the risk of failure (Dweck, 2006; Snyder, Malin, & Linnenbreck-Garcia, 2014). Students in a fixed mindset rely on behavioral self-sabotaging to protect themselves from the possibility of failing, even to the point of manipulating their physical surroundings. Snyder et al. (2014) studied a group of high school students who were labeled as gifted. One set of students were given messaging that talked about the fixed nature of giftedness, while the other group was given messaging about the changeable nature of giftedness. Students were then told they would be given a set of math problems to solve with high stakes surrounding their success. Students were asked to adjust the lighting in the room after the researcher left. The results showed

students who received messages that giftedness was a fixed trait would often adjust the lighting to a much lower setting. The students relied on the idea that the lack of lighting could be used as an excuse if they failed to succeed at the math questions. Self-sabotaging behavior gives students with a fixed mindset a factor to blame in case they fail, thereby keeping the image of their talent and intelligence intact. Failure is not a learning opportunity but a disaster for these students (Dweck, 2006). Students with a fixed mindset also believe willpower is limited and can be spent quickly during high-stress situations (Job et al., 2015). These students do not practice persistence in stressful situations but believe there is a limit to how much stress they can handle and how much effort they can exert. When students feel their willpower is limited, they participate in negative self-regulation habits such as procrastination. These habits are common forms of self-sabotage that give students with a fixed mindset an easy target to blame for their failure (Dweck, 2006; Job et al., 2015).

Mindset can be influenced by messaging **(**Brummelman, Thoaes, Overbeek, deCastro, van den Hout, & Bushman, 2014; Dweck, 2006, 2017; Snyder et al., 2014). A growth mindset is not automatically translated to children through modeling by adults who possess a growth mindset but must be intentionally transferred (Haimovitz & Dweck, 2017). The ways in which students are praised for their successes can lead to a fixed or growth mindset. When parents and/or teachers praise a student for their talent or intelligence, they are instilling a fixed mindset (Dweck, 2006, 2017). Students should be praised for their accomplishments, but the praise should be geared toward their effort, their strategies, and their willingness to learn (Dweck, 2006, 2017).  Brummelman et al. (2014) discovered adults are more likely to give accomplishment or whole-person praise to students who exhibit low self-esteem. The same students were shown to exhibit more feelings of shame and hopelessness when faced with a challenge after receiving the

accomplishment praise. Children as young as pre-school age exhibit hopelessness in the face of failure after receiving whole-person and accomplishment praise. Cimpian, Arce, Markman, and Dweck (2007) conducted research with pre-school children and determined even small linguistics cues that hint toward whole person praise inspires children to give up on more significant challenges after a tiny success. When students are labeled as gifted and talented, they are more likely to engage in the fixed mindset methods of behavioral self-sabotage in order to protect the image of giftedness (Snyder et al., 2014).

Mindset can be taught and encouraged through mindset interventions (Broda, Yun, Schneider, Yeager, Walton, & Diemer, 2018; Chao, Visaria, Mukhopadhyay, & Dehejia, 2017; Dweck, 2006, 2017). Students can be taught about the neuroplasticity of the brain and encouraged to think about challenges they face with a growth mindset attitude (Dweck, 2006). Growth mindset intervention works well when paired with incentives, but only when students can choose their rewards. Autonomy encourages students to adapt to the idea their intelligence and performance can improve (Chao et al., 2017). Growth mindset interventions have also proven beneficial to other aspects of students' social and emotional lives. In a study of students enrolled in an academic recovery course, Bowering, Mills, & Merrit (2017) found those who participated in growth mindset lectures, motivational activities, and reflections demonstrated less anxiety and depression than students who did not participate. Interventions can be particularly beneficial for underprepared or underrepresented groups and increase mindset while also increasing a sense of belonging in academia (Broda et al., 2018). Further, growth mindset interventions have been proven to help mitigate the negative factors of stereotype threat. Good, Aronson, and Inzlicht (2003) found improving growth mindset leads to lessening negative results of stereotypes related to gender, race, and income.

Not all mindset research has found that growth mindset interventions work as intended. Educators considering mindset interventions should take into consideration some students may believe in the growth mindset concept, but not accept it in terms of their own abilities. In a study of high school students in Australia, researchers introduced a revised self-theories measure and found that some students believe it's possible for intelligence in general to be malleable, but do not accept possible change for themselves (De Castella & Byrne, 2015). Another study attempted to integrate mindset intervention into curriculum rather than a separately implemented program. High school teachers taught the mindset intervention in the context of their Physics curriculum. The study showed that while growth mindset was strengthened through the intervention, it was not strong enough to hamper the effects of demotivation when learning material became more difficult (Zeeb, Ostertag, & Renkl, 2020). One study found students who possessed a growth mindset demonstrated more positive post failure performance but found no indication that mindset intervention was effective when faced with moderate level tasks. Moreover, the study showed harmful effects of growth mindset on scores when students were faced with difficult tasks (Li & Bates, 2019).

**Grit**

Psychologist Angela Duckworth (2016) was also interested in studying the factors that influence people to succeed when she discovered the theory of grit as a strong success predictor. A person with a high level of grit could be described as having passion and perseverance to maintain success and achieve long-term goals. Grit is comprised of the abilities to stay focused and dedicated to a task and to maintain interest and passion for long periods of time. Duckworth (2016) insists that passion is not the equivalent of intensity. Rather, passion is the consistency to which one sticks with an activity in order to reach a long-term goal. Gritty people also often

create a hierarchy of goals. Lower-level goals are often immediate and short-term and a means to an end used to reach the higher, whole-life oriented goal. Duckworth (2016) believes that gritty people possess and cultivate interest, deliberate practice, purpose, and hope.

Duckworth (2016) conducted original studies that revealed a high level of grit was the variable that best predicted success in groups of cadets at West Point Military Academy. Cadets were initially admitted and ranked by their Whole Candidate Scores, which was comprised using prior academic achievement, standardized test scores, and physical fitness. In a longitudinal study, cadets' rank on the grit scale proved to be a better predictor of success than the Whole Candidate Score. Further, Duckworth (2016) found that cadets' grit scores and their Whole Candidate Scores had no relation. A high score on one did not guarantee a high score on the other. A later longitudinal study of West Point Cadets which looked at decades of data revealed academic performance was best predicted by cognitive factors, but noncognitive factors more accurately predicted completion of the cadet training program (Duckworth et al., 2019). These results were repeated in a study of participants in the National Spelling Bee. In these studies, grit was a greater predictor of success than IQ or previous achievement levels. Grit scores corresponded with hours spent studying and practicing, but not with previously recorded intelligence or talent (Duckworth et al., 2007).

A study of high school Juniors in Chicago discovered grit was the most accurate predictor of graduation. This study controlled for other factors such as feelings of school safety, academic conscientiousness, and standardized test scores (Eskreis-Winkler, Shulman, Beal, & Duckworth, 2014). Further, grit has proven to be to be the best predictor of teacher effectiveness. In a longitudinal study that explored beginning teachers in low-income areas, grit scale scores predicted which teachers would persist through the school year with positive

remarks over participants' college records and standardized test scores (Robertson-Kraft &

Duckworth, 2014).

There are shadow-sides and oppositions to the theory of grit. One argument is gritty

people find it more important to continue a project than to succeed and often do so with great

sacrifice. Studies show that even in failure, gritty people maintain positive attitudes about their

endeavors and are willing to take risks such as monetary loss in order to reach completion

(Lucas, Gratch, Cheng, & Marsella, 2015). The focus on grit can also downplay the effects of

social and cultural factors. Educators who believe failing students simply are not gritty enough

place the blame for failure directly on the student and dismisses the fact that many outside

factors play a role in student success (Golden, 2017).

Duckworth (2016) argues grit and growth mindset go together. In a study of high-

schoolers, students who scored higher on the grit scale also showed to have a growth mindset.

The most obvious place the two theories intersect is in how they address instances of challenge

and failure in the learning process. Figure 1 shows the overlapping traits of people with growth

mindset and high grit scores in regard to challenge and failure. People who possess grit are not

likely to be negatively affected by failure. Instead, gritty people pursue challenges and persist

despite failure and adversity (Duckworth et al., 2007). Students with a high grit attribute are

likely to persist even when faced with negative or no feedback.

Growth mindset
Believes
intelligence is
malleable and can
be cultivated

Grit
Demononstrates
persistence and
perseverance for
long-term goals

Embraces failure as part of
the learning process

• Seeks out challenges
• Learns from criticism
• Believes failure is a natural part
  of the learning process
• Experiences frustration at
  failure, but does not give up
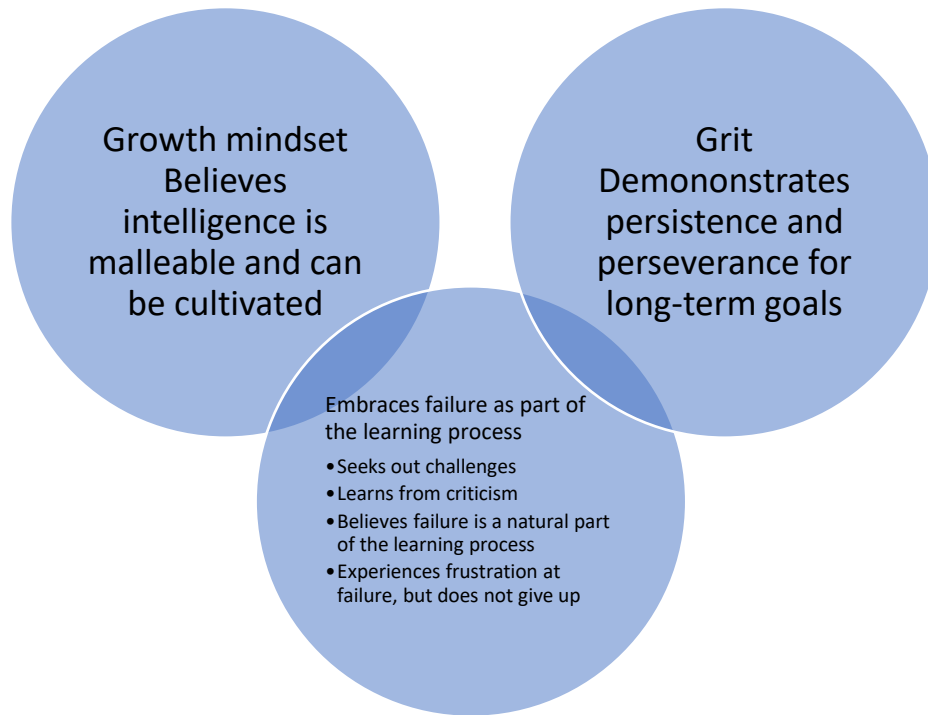
*Figure 1*. Intersection of Grit and Growth Mindset. Adapted from Duckworth (2016) and Dweck (2006).

Likewise, growth mindset encourages students to seek out challenges and view failure as a natural step in the learning process (Dweck, 2006). Even in instances of failure, students with growth mindset demonstrate greater coping skills and fewer negative emotions related to their academic experience. Cook et al. (2017) explored the connection between mindset and achievement emotions in high schoolers and found those who held a growth mindset experienced fewer instances of shame and more instances of pride in the classroom in a two-week period. When students with fixed mindset experienced shame, the feelings were more intense and affected the way they approached future tasks. Though the growth mindset does not protect students from feeling any instances of shame, the feelings of shame they do experience are shorter and less intense than those felt by students with fixed mindset (Cook et al., 2017). Growth mindset can lead to resilience in social situations as well. Studies show students who

possess a growth mindset believe social traits are malleable and are less likely to respond to negative social interactions such as exclusion or victimizing in an aggressive or stressful way, thus creating resilience in a social setting (Yeager & Dweck, 2012; Yeager, Trzesniewski, & Dweck, 2013).

The combination of growth mindset, grit, and other non-cognitive skills has been described as academic tenacity (Dweck et al., 2014). Students who possess academic tenacity have the ability and the motivation to accomplish long-term goals, even when faced with challenges, failure, and adversity. Academically tenacious students exhibit the mindset belief that intelligence and skill can be malleable as well as the grit traits of passion and perseverance.

**Appalachia**

According to the Appalachian Regional Commission (2015) official map, the Appalachian Mountains range from upstate New York to Georgia. The area of concern for the current study is rural Appalachia, which could be considered central Appalachia regarding the Appalachian Regional Commission (2015) map. This area includes parts of eastern Kentucky and Tennessee, southwestern Virginia, and the entirety of West Virginia. As stated in Chapter One, 78% of Appalachian adults above the age of twenty-five have not obtained a bachelor's degree, and the rate of bachelor's degrees among adults in Central Appalachia is slightly below 14% (Appalachian Regional Commission, 2015). Figure 2 shows a College Completion Map for Appalachia.
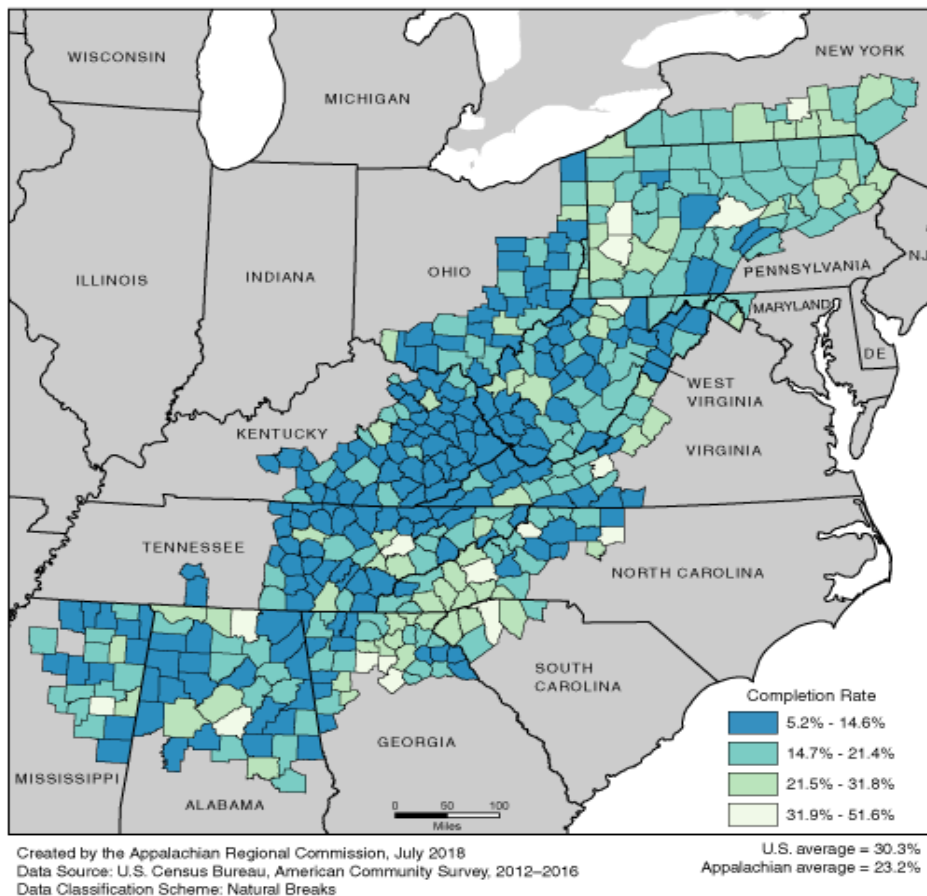
Figure 2. College Completion Map. From Appalachian Regional Commission (2015).

Much research has been conducted about the challenges faced by rural students. Many rural Appalachian students face issues of poverty, family pressures, and lack of support (Appalachian Regional Commission, 2015; Hendrickson, 2012). The annual household income in Appalachia is 80% of that of the rest of the United States, with Central Appalachia's annual household income falling far below the national poverty level (Appalachian Regional Commission, 2015). People in Appalachia often talk about the issue of out-migration of educated people. The average age of Appalachian residents is forty years old, indicating many youths do leave the area (Appalachian Regional Commission, 2015).

**Challenges in Rural Education**

Students in rural areas face many unique challenges and barriers to their educational success. Many students in rural Appalachia are first-generation students, meaning neither of their parents have completed a bachelor's degree (Appalachian Regional Commission, 2015). First-generation college students have a much lower graduation rate than non-first generation students (Alvarado, Spiratiu, & Woodbury, 2017; Blackwell & Pinder, 2014). Often parents who are not college graduates do not place an emphasis on higher education. They encourage their children to join the workforce, often passing down a trade or family business. When they do encourage their children to pursue education, they encourage them to stay close to home. Rural students have a strong connection to family, and often either do not wish to leave their communities or cannot leave due to the pressure of family obligations (Hendrickson, 2012).

Further, parents who have not obtained a degree often offer their children verbal support for education but cannot offer the technical help needed in navigating the higher education system. These parents cannot offer assistance nor advice in obtaining financial aid or ensuring students on are an appropriate educational path (Bryan & Simmons, 2009; Hlinka, 2017; Nelson, 2016). Even with verbal and emotional support, first-generation students' parents often do not realize the amount of time and energy needed to dedicate to studies. First-generation rural students are often tasked with financial and familial responsibilities they must juggle along with their school work (Hlinka, 2017). Research has shown rural students value their relationship with family, especially parents, and often that relationship is taxed by their college experience. Some of the stress on those relationships come from changes the students feel they experience when they reach college (Bryan & Simmons, 2009).

Often, rural students struggle with building and fostering additional relationships in school. It is often difficult for rural students to feel the full effects of the community that is involved in education because of the proximity of their residencies to town. Many rural students and their families must make long commutes to work and school and are unable to return after going home in the evenings, which causes them to miss out on social opportunities related to school. Distance becomes a barrier to being fully integrated into the educational system (Preston, 2013). Rural students feel further ostracized by the cultural barriers that often exist between them, their teachers, and classroom material. Hendrickson (2012) found rural students often fail to see a connection between their lives and the classroom material and often believe their teachers do not care for them and do not take into the considerations their unique situations that sometimes includes outside jobs, family obligations, and healthcare.

Rural students also face academic challenges and often face more difficulty when they do make it to college than they did in high school because they are ill-prepared for the cognitive pressures of college. If rural students do not feel prepared to make the jump between memorization skills and critical thinking, they will often give up on the pursuit of higher education in the beginning (Hlinka, 2017). Lack of academic preparation can be caused by the outside challenges and barriers naturally presented in rural education. It can also be due to a lack of funding for rural county schools or the lack of teacher preparedness.

Besides demographic issues that can cause complications for education in rural Appalachia, there is also the issue of teacher preparedness (Azano & Stewart, 2015; Thompson, McNicholl, & Menter, 2016). Research shows even teachers who hail from rural areas themselves are often underprepared to deal with some of the realities of teaching in rural schools (Azano & Stewart, 2015). Often teachers are unprepared to handle the needs of under-

funded schools or the pressures of working with students who live in poverty. Teachers often also complain about the lack of family communication and support in rural areas. Living in a rural area does not adequately prepare teachers to connect their teaching material to students and does not automatically make them able to motivate students who are at a socioeconomic disadvantage (Azano & Stewart, 2015). Teachers who hail from rural areas may be better able to make surface-level connections between course work and the every-day lives of their students, but there is a lack of deep connection and meaning that must come from more specialized training.

**Motivation and Place**

There has been much research directed at the motivation of rural students and the factors that influence their college decision making processes (Heinneman & Handler, 2015; Hendrickson, 2012; Hlinka, 2017; Hoffman et al., 2017; Nelson, 2016). Despite the challenges first-generation students face, they demonstrate a higher level of resilience and emotional intelligence than their peers (Alvarado et al., 2017).  First generation college students often cite their difficult upbringings and issues of poverty as motivation to succeed in higher education (Blackwell & Pinder, 2014). Rural students who perceive themselves to be high achievers also self-report strong social skills, parental involvement, and peer involvement. Rural students who report a lower achieving self-perception also report that they rank lower in economic categories such as free or reduced lunch qualifications (Hoffman, Anderson-Butcher, Fuller, & Bates, 2015). Rural students place a high amount of value on place and relationships, particularly family relationships (Hendrickson, 2012; Hlinka, 2017). First generation college students are strongly influenced by their parents as well as their peers and place a strong dependence on

mentors both in the educational system and in the community (Blackwell & Pinder, 2014; Gibbons & Woodside, 2014; Hlinka, 2017; Nelson, 2016).

Place-attachment is a dominant factor in determining student academic success in rural areas (Alleman & Holly, 2013; Anton & Lawrence, 2014; Nelson, 2016; Theodori & Theodori, 2014). Place attachment can be defined as the entire set of experiences a person has with a place and the emotions and meaning-making that are associated with these experiences. Place attachment includes the interaction within a community and shared experiences and is typically thought of as being built up over a long period of time (Altman & Low, 1992; Lewicka, 2011). A strong attachment to place is considered to be both physical and emotional and can lead to greater senses of well-being and satisfaction. Place attachment allows people to feel as though their needs are being met, they are cared for emotionally, and their goals are aligned with their community (Proshansky et al., 1983).

Rural people tend to have more place attachment than non-rural people, and report connection to place as one of the highest motivating factors in decision making. Place-attachment is improved, and students are encouraged to stay in their home areas if they develop a strong sense of community during their education (Alleman & Holly, 2013; Preston, 2013; Theodori & Theodori, 2014; Wright, 2012). Rural schools that have the highest achievement levels also have the highest levels of community involvement including opportunities for internships, support for academic and career success through advising and information and organizing and hosting special events available for students in the community (Alleman & Holly, 2013). Demonstration of commitment to education from the greater community is important for students to succeed (Alleman & Holly, 2013). Students with strong place-attachment and community ties recognize the negative aspects of their communities, such as

limited economic resources, but hope to apply their degrees to programs that will improve the conditions. Student perception of school and self rely heavily on how they and others view their place (Wright, 2012).

Researchers have found when educators and administrators focus on understanding and utilizing place in curriculum, students perform at a greater rate (Ajaya, 2014; Azano, 2011; Donovan, 2014; Goodlad & Leonard, 2018). In individual studies among high school students, curriculum focused on the appreciation of place encouraged students to perform better, and also allowed students to gain a deeper understanding of their identities. Once they were able to connect place and learning, students were able to reflect on a deeper level and produce more meaningful and more active work (Azano, 2011; Donovan, 2014).

Though place attachment and sense of place are similar, they are not the same concept. Sense of place is considered a part of the more holistic place attachment. The sense of place is not connected to a physical space, but rather the emotions and beliefs a person holds about a space. A person can have a sense of place without having long-term attachment. A sense of place can be developed by living in a particular place but can also be developed by learning about or visiting a place. For residents of an area, a strong sense of place often leads to attachment (Altman & Low, 1992; Lewicki, 2011).

**Negative Appalachian Stereotypes**

Related to rural students' sense of place is the issue of negative Appalachian stereotypes. The Appalachian region has long been the center of negative media images (Billings, 2001; Cookie-Jackson & Hansen, 2008; Eller, 2008). Some scholars trace the image of the ignorant hillbilly back to Civil War tensions and political disputes over land and minerals (Billings, 2001; Eller, 2008). Other forms of stereotypes were originally formed without malice.

Missionaries, intent on improving conditions in isolated mountain areas, also perpetuated the stereotype by focusing on the poorest images in the region and exploiting those images as a call to action for assistance in funding and resources (Billings, 2001). The 1960s War on Poverty media campaign also spread photographs of poverty-stricken mountain people in hopes of boosting the nation's assistance as well as for political gain. Regardless of how they emerged, the image of the poor, ignorant hillbillies of Appalachia remained in the public eye. Even today, negative Appalachian stereotypes are prevalent in popular culture and in the media. Many of the most widely known stereotypes for the region, which have been perpetuated by reality television shows and sitcoms, include the ideas that people from Appalachia are ignorant, inbred, and lazy (Cooke-Jackson & Hansen, 2008).

Popular television has remained one of the leading causes for the spread of Appalachian stereotype. Television shows such as The Beverly Hillbillies and Hee Haw relied on comical images of innocent, ignorant country folk for ratings. Ballard (2001) argues within the negative image of rural people, in shows such as The Beverly Hillbillies, there is a sliver of positive. In comedy shows of that era, the mountain folk possessed no culture or intelligence, and they often caused more trouble than they solved, but in the end, they also showed more moral character, more thoughtfulness, and more resilience than their urban counterparts. Not all media portrayal of rural people includes any sort of such generosity. A recent explosion of reality shows such as MTV's Buckwild and TLC's Honey Boo portray rural people and their lives as worthy of freakshow type exploitation. These shows do not go to any lengths to highlight positive aspects of their subjects' personalities. They are portrayed as reckless, unintelligent, and crude (Cook et al., 2017).

Billings (2001) insists it is important to address negative stereotypes not only for personal reasons, but because stereotypes affect the way people in the stereotyped region are treated. Decisions about politics, funding, and education can be made based on inaccurate and negative stereotypes. Recent publications and productions are proof this is an ongoing and currently critical issue. During the 2016 Presidential election, Appalachia was thrust back into the national media spotlight with publications dubbing Appalachia "Trump Country" and posing questions like "What's the Matter with Eastern Kentucky" in their headlines (Lowrey, 2014). Historians, authors, and artists once again found themselves analyzing stereotypes and defending the region against generalizations. Historian Elizabeth Catte (2018) published a book of essays that offered an in-depth look at what she believes the media is "getting wrong" about the area. Filmmaker Ashley York received critical acclaim for a 2018 documentary film, *Hillbilly,* which analyzed media representations of Appalachia through the lens of political and cultural studies during the election season. York (2018) and Billings (2001) agree stereotypes have always and will always persist because national culture encourages the othering of people with less to offer. This form of victim-blaming allows the person or group applying the stereotype to deny any responsibility for the well-being of the stereotyped.

Stereotypes are not only present in the media. Some literature focuses on how grouping demographics of particular regions and assigning labels can cause harmful stereotypes (Obermiller & Maloney, 2016). These scholars claim by trying to narrow down what Appalachian culture is, even those with good intentions do a disservice to the region. The authors insist those with interest in Appalachia should encourage complex examination of the multiple heritages and cultures within the region (Obermiller & Maloney, 2016). The failure to consider multiple cultures within Appalachia have led to dangerous stereotypes that affect

student achievement, teacher expectation, and educational policy (Brashears, 2014; Dustan & Jaegar, 2015; Gorski, 2012; Obermiller & Maloney, 2016). Further, constantly seeing or hearing negative stereotypes about one's region and heritage can lead to the loss of self-confidence and could cause a person to actively distance themselves from or deny their culture (Cooke-Jackson & Hansen, 2008).

Literature shows two identity traits common in Appalachia that have been most targeted by negative stereotypes are poverty and dialect (Brashears, 2014; Dunstan & Jaeger, 2015; Gorski, 2012; Hayes, 2011). Hayes (2011) projects the disdain for Appalachian dialect may stem from the fact there are so many cultures and dialects within the region, that it is difficult to describe, and therefore unaccepted in Standard English curriculum. Students in Appalachia often cite the perception of their dialect as a reason not to participate in classroom activities (Dunstan & Jaeger, 2015). Students recognize there is a difference between the way in which they speak at home or with friends and the way they are expected to speak in a classroom (Hayes, 2011).

Students feel uncomfortable speaking up in class because they believe their dialects make them seem less intelligent and because they fear other students and professors will literally not understand them. Self-consciousness that comes from the negative view of Appalachian dialect causes students in rural areas to feel added pressure to have to prove their cognitive abilities and find their place in universities (Dunstan & Jaeger, 2015). Feelings of inferiority about dialect also has a negative impact on their self-esteem and causes them to feel a greater disconnect with their homes and communities (Hayes, 2011).

Instructors also have a difficult time dealing with Appalachian dialect in the classroom (Brashears, 2014; Donovan, 2016). Teachers, even those who hail from the Appalachian area

and speak with an Appalachian dialect, recognize the need for students to learn Standard English, but also honor the dialect of their communities and families (Brashears, 2014). Teachers are often afraid to approach the topic of dialect in the classroom for fear of offending community members and students, therefore many of the issues of Appalachian dialect go unaddressed in the classroom. Further, teachers from the Appalachian area have a difficult time modeling Standard English for their students, posing another problem of teacher expectation and preparedness (Brashears, 2014). Teacher expectation and perception of stereotypes can directly affect student behavior. Students are more likely to express views of Appalachia, their dialect, and their culture based on what they perceive teachers expect from them (Webb-Saunderhaus, 2016).

Potentially even more damaging are the negative stereotypes associated with poverty. According to Gorski (2012), stereotyping is natural and in some cases, even a healthy way to fill in the blanks of information that might be missing from a situation. However, allowing stereotypes to seep into the educational system is a dangerous way to perpetuate a cycle of underachievement (Gorski, 2012; Thompson et al., 2016; Winter, 2013). Common stereotypes that go along with the topic of poverty include those that say poor people do not value education, poor people are lazy, poor people are substance abusers, and poor people are linguistically deficient (Gorski, 2012). These stereotypes are damaging to students when they internalize them, but even more so when the teachers in charge of the classrooms internalize them also, thereby allowing the negative stereotypes to affect their student expectations (Thompson et al., 2016; Winter, 2013). Teachers-in-training who subscribe to commonly used negative Appalachian stereotypes use a deficit model when discussing the effects of poverty on education. They believe students who are affected by poverty would have lower instances of

parental support and lower success rates (Thompson et al., 2016). Future teachers who are familiar with negative Appalachian stereotypes believe their students will meet the expectations set forth in those stereotypes even when they do not believe the stereotypes are accurate. Winter (2013) discovered when asked to label their personal identities, a majority of pre-service teachers were conflicted about their labels. Many did not label themselves Appalachian and demonstrated an unclear understanding of what Appalachian identity might mean. The same subjects were provided a list of common Appalachian stereotypes and asked to rank which ones they identified with or ones described people they know. In most instances, participants rejected the stereotypes for themselves, but did indicate they knew others who could be described by the stereotypes. On a separate survey, participants identified the sane negative traits as challenges they predict they will face with their future students (Winter, 2013). Instruction on the falsehood of stereotypes is not enough to erase this deficit model in future teachers (Gorski, 2012; Thompson et al., 2016). Hailing from the region is not even enough to erase the ideas of negative stereotypes from future teachers. Among future teachers who view their students in a deficit model of stereotyping, many claim to be from the Appalachian region but do not claim to identify with Appalachian as an identity marker (Winter, 2013).

**Conclusion**

Students in rural Appalachia face unique barriers during their educational journeys. They often feel pressure from economic issues and familial responsibilities. Many rural Appalachian students are first-generation students, which means even if they have familial support, they often do not have the technical help to navigate their new experiences at college (Azano & Stewart, 2015; Brashears, 2014; Burris & Gantt, 2013)

On top of these disadvantages, rural Appalachian students often feel a disconnect between their classroom curriculum and experience and their real lives. Negative Appalachian stereotypes are common in the media and often have a huge impact on rural students. Stereotypes can cause students to develop low self-esteem and a desire to distance themselves from their culture and communities. Stereotypes, particularly about Appalachian students' dialect, can cause them to underperform in classes because they are too nervous to speak out (Dunstan & Jaegar, 2015, Henrickson, 2012).

Research has proven that the non-cognitive factors of mindset and grit are excellent predictors of academic success (Duckwork & Guinn 2007; Duckwork, 2016; Dweck (2006). The current study seeks to examine the mindset and grit of first year students in Appalachia. The purpose of the study is to explore potential connections between the lived experience of Appalachian students and how their perceptions of their place as well as outside perceptions of their place affect the non-cognitive factors that contribute to educational attainment.

**Chapter III**

**Design and Methodology**

**Introduction**

Appalachia trails the rest of the United States by approximately eight percent in the area of degree attainment. According to Appalachian Regional Commission data, 78% of adults in the Appalachian region do not hold bachelor's degrees (Appalachian Regional Commission, 2015; Wright et al., 2016). Further, Appalachia falls behind the national income average, with 17% of families in Appalachia living below the poverty line. Among other factors that contribute to difficulties in the classroom such as overwhelming familial obligations, and a lack of community support (Hendrickson, 2012), Appalachian students also suffer from the effects of negative Appalachian stereotypes, which can have a negative impact on academic achievement (Azano & Stewart, 2015; Berry et al., 2015; Brashears, 2014; Winter, 2013).

The purpose of this study was to investigate the potential connection of place identity and non-cognitive factors of mindset and grit in first year students in Appalachia. The growing body of literature examining the role of non-cognitive factors in academic success led the researcher to discover the theory of mindset as set forth by Carol Dweck (2006) and the theory of grit by Angela Duckworth (2016). Dweck (2006) determined there were two primary mindsets. A fixed mindset occurs when an individual believes their intelligence or talent is static and cannot change. A growth mindset occurs when one believes intelligence or talent is malleable and can be cultivated (Dweck, 2006). Grit is described as the ability for a person to maintain passion and perseverance for long-term projects. People with high level of grit do not back down from a challenge or give up in the face of adversity (Duckworth, 2016). Both mindset and grit have been proven to be better predictors of academic success than traditional

factors such as prior academic performance (Duckworth, 2016; Dweck, 2006). Further, mindset and grit have both been proven to be more influential to success than common factors that negatively impact education such as low socioeconomic status (Claro et al., 2016). Many factors influence mindset and grit, and multiple factors can contribute to whether a person will demonstrate a growth or fixed mindset or possess grit in different situations (Blackwell et al., 2007; Duckworth, 2016; Dweck, 2006).

The study of Appalachian educational data and mindset and grit in connection to academic success led the researcher to develop the following research questions:

1. What are the patterns associated with mindset and grit in first year college students in Appalachia?

2. How do first year college students in Appalachia perceive their Appalachian identity?

3. To what extent does perception of place influence mindset and grit?

**Research Design**

To learn more about the perception of place and non-cognitive academic success factors, the researcher used an explanatory sequential mixed methods research design. A mixed methods design allows researchers to gather the numerical and statistical evidence to support a hypothesis, while also gathering more personalized qualitative data that allows for a deeper understanding (Creswell, 2018). The quantitative data tends to answer questions of whether something exists, while the qualitative data explains how something exists. Mixed methods research does not simply look at two types of data but combines the data in a way that allows deeper and more meaningful understanding of the research problem than would be possible with

a quantitative or qualitative design (Creswell, 2018). This study combined data from quantitative surveys with qualitative data from semi-structured interviews.

**Participants**

Appalachia spans across twelve different states. Since rural, central Appalachia has the lowest college completion rates (Appalachian Regional Commission, 2015; Wright et al., 2016), and negative Appalachian stereotypes typically target small rural areas in Appalachia (Billings et al., 1999; Cooke-Jackson & Hansen, 2008), the researcher focused the study on students enrolled in small independent colleges in such areas. The Appalachian College Association is comprised of independent institutions throughout the Appalachian region. The researcher contacted four institutions in central Appalachian states with similar enrollment demographics in their first year class. All contacted colleges also require incoming students to participate in First Year Seminar. Three institutions from separate central Appalachian states responded to the researcher's call for participation and were chosen as research sites.

Each participating institution requires students to enroll in a First Year Seminar or equivalent course during their first semester on campus. Since the study focused on perception of first year college students, the First Year Seminar courses offered the most appropriate and accurate place to collect data. To gain access to participants, the researcher first sent an email outlining the study to the chief academic officers of each institution (see appendix B). Once site permission was attained (see appendix C), the researcher contacted the director of First Year Experience or the equivalent contact at each institution.

Participating students were provided a letter outlining the study (see Appendix E). No students were denied access to the study. In the letter, students were informed they could opt out of the study without implications to their grades. Students were given informed consent forms

(see Appendix D). Students were informed that by signing, they agreed to complete the series of surveys prepared by the researcher. The form also let students know that once they completed the surveys, they had the opportunity to volunteer to be selected for an interview (see appendix D). Student names and contact information were not required unless students volunteered to participate in the interview process. The qualitative portion of the study included one interview approximately sixty minutes in length. Interviews were conducted in person and via telephone.

**Data Collection**

Before collecting data, the researcher participated in training and received approval from the National Institute of Health (See Appendix A). The first purpose of the study was to discover patterns of mindset and grit in first year college students in Appalachia. To determine this information, students completed a series of three surveys (see appendix F). The first survey asked students to disclose demographic information. The demographic survey asked students to self-disclose gender. The survey also asked students how long their families have lived in Appalachia by selecting either *I moved here from outside of Appalachia*, *My parents moved here from outside of Appalachia*, or *My grandparents or other ancestors moved here from outside Appalachia*. The final question on the demographics survey asked for information about the college completion of the participants' parents.

Students then completed the mindset survey as developed by Dweck (2006) and the grit scale developed by Duckworth et al. (2007). Both surveys use a Likert scale that ask participants to choose the response they relate to most closely. Collecting demographic information attached to the mindset survey and grit scaled allowed the researcher to compare scores to demographic variables, particularly time lived in Appalachia and whether or not participants were first generation students.

The data collected with these instruments answered research question one. At the end of the surveys, students had the opportunity to submit their contact information and volunteer for an interview with the researcher. It is not feasible to gather qualitative data from all participants in the study, therefore a sample that is representative of the population should be chosen (Marshall & Rossman, 2016). Purposeful sampling was used to choose a sample of interview participants. Twenty-four of the survey participants volunteered for the interview portion of the study. This portion of the study focused on students' lived experience in Appalachia, so time spent in the region was pertinent. Interview participants were chosen from the pool of volunteers who marked either *My parents moved here from outside Appalachia* or *My grandparents moved here from outside Appalachia* on the demographics survey. Of the twenty-four volunteers, fourteen participants met the criteria of time spent in Appalachia. All fourteen participants were contacted via email and telephone, but only ten participants responded to the request for interview. Those ten participants were selected for the qualitative portion of the study.

Interviews are effective means of collecting qualitative data because they allow the researcher to gather personalized information about the participants' experiences and yield a vast amount of data with the opportunity to have immediate feedback and follow-up (Marshall & Rossman, 2016). For this study, qualitative data was collected by semi-structured interviews. Prior to the beginning of the study, the researcher created an interview protocol and script (see appendix G). An interview script allows the researcher to structure the order and flow of interview questions and align topics with research questions. Marshall & Rossman (2016) state the most beneficial aspect of interviews is the opportunity for rich data collected in follow-up or

probe questions, so it is important for the researcher to leave room in the interview protocol for additional comments and questions.

Also prior to data collection, the researcher conducted four pilot interviews with colleagues. Pilot interviews allow the researcher to discover potential barriers in the interview process. Piloting also allows the interviewer to gain a level of comfort with the technical process of interviewing (Marshall & Rossman, 2016). Two of the colleagues were native to Appalachia and two were long-term residents. Pilot volunteers also participated in the surveys and offered feedback on interview questions and process. Changes to interview process were made based on the pilot volunteers' responses. One pilot volunteer, a trusted colleague, agreed to serve in the role of debrief interviewer for the duration of the data collection period. Collins, Onwuegbuzie, Johnson, and Frels (2013) suggest the use of debriefing interviews during mixed methods studies in order to allow the researcher to reflect on the process and potential biases. It is suggested that researchers participate in at least four debriefing interviews during data collection (Collins et al., 2013). The researcher met with the debrief interviewer four times throughout the duration of the study. Debrief interviews allowed the researcher to address potential bias that arose during the duration of data collection and to reflect on the process to further revisions to interview process or data analysis along the way.

Interviews were conducted either in person or via telephone or Skype, depending on student location. All interviews were audio recorded. Interviews began by asking students to reflect on their perception and image of Appalachia. Students were asked to describe what it means to be Appalachian and what traits or values they associate with Appalachia, particularly ones they feel they possess. Participants were also asked to reflect on how living in Appalachia has impacted their desire and ability to succeed. The remainder of the interview asked students

to reflect and discuss their experience with negative Appalachian stereotypes. The researcher asked students to reflect on where they think stereotypes come from and how they react when faced with negativity about their place. Students were also asked to discuss how they think living in Appalachia had influenced their educational experience and what they expected from college and if their Appalachian experience had prepared or not prepared them for college.

The researcher audio recorded and transcribed all interviews. The process of bracketing was practiced throughout the research process. Bracketing allows the researcher to reflect on personal experiences and biases throughout data collection (Fischer, 2009). The researcher answered the interview questions and kept a reflective journal throughout the process of data collection and analysis. Further, the researcher kept detailed field notes. Writing field notes and memos that include the interview subjects' attitudes, gestures, and details about the environment help facilitate reflection during the transcription and analysis process (Marshall & Rossman, 2016; Maxwell, 2013). Field notes were considered throughout the debriefing interview process as well and aided the researcher in making decisions about revisions and analytical process. After coding the interview transcripts for emerging themes, the researcher sent a member checking email to all interview participants. Member checking allows participants to take an active role in analysis and ensure accurate representation in the findings (Marshall & Rossman, 2016). The member checking email presented participants with a list of themes that emerged during analysis and asked for confirmation of accuracy. The email also offered participants an opportunity for corrections and comments.

**Analytical Methods**

Quantitative data was analyzed using IBM SPSS statistics software. Mindset and grit scores were determined based on participant responses to Likert scale survey questions.

Descriptive statistics reveal general trends in the data and allow researchers to compare how scores relate across all variables (Creswell, 2018; Fields, 2013). Descriptive and frequency statistics were analyzed on grit scores and on demographic variables. Pearson correlation test was conducted to explore possible correlation between mindset and Gender, Time in Appalachia, and Parents' Education. The same demographic variables were tested for correlation with Grit score. Analysis of Variances (ANOVA) analysis was also conducted to compare grit and mindset means between demographic groups. ANOVA analysis reveals relationships between variables (Fields, 2013).

Qualitative data was collected through interviews. The interviews focused on the lived experiences of the students. Each interview was recorded and transcribed by the researcher. During the transcription process, the researcher made pre-coding notes on the transcripts and field notes. Pre-coding notes aid in the coding process by allowing the researcher to gather preliminary ideas for analysis (Saldana, 2016). Upon completion of transcription, the researcher developed a list of expected themes that were derived from the research questions and review of literature (Marshall & Rossman, 2016). Each transcript was read multiple times and categories and themes were marked, and analytical notes were made where new or unexpected themes appeared. Saldana (2016) suggests all data be re-coded and categorized multiple times in order to create meaningful connections. In order to keep data, codes, and themes organized, the researcher kept a codebook file which included all codes with a brief description and data sample (Saldana, 2016). The researcher noted patterns in themes and categories and analyzed data based on connections in the patterns and themes that emerged.

**Role of the Researcher**

The researcher recognizes and acknowledges the potential for researcher bias in this study. As a native of Appalachia and a first-generation college student, the author has strong feelings and opinions about negative stereotypes in Appalachia and their effects on academic success. As a student, the researcher experienced instances of negative stereotypes both in the classroom and in the media that caused discouragement personally and academically. The researcher also serves as full-time educator in Appalachia and has witnessed the hardships students in the area face, particularly with integration and acceptance to academia. In the classroom, the researcher strives to center assignments and curriculum around place and has worked with current university administrators to implement a new General Education core curriculum that focuses on place. The author believes an education that allows students to see themselves at the center of their learning best prepares them for a future both local and global. The goal for this study was to embrace the role as researcher with a nuanced and personal understanding of Appalachian culture and education to discover the academic benefits of using place in the curriculum.

**Limitations**

This research is not without limitations. One limitation is the potential for researcher bias. The researcher recognizes and acknowledges bias and took steps to prevent bias from hindering the study results. One way the researcher approached bias was to carefully select questions for the interviews. The researcher crafted nonjudgmental questions and did not indicate any right or wrong answer. Questions for the interviews were open-ended and allowed participants to reflect.

The researcher practiced bracketing throughout the research process. Bracketing is the process of acknowledging one's own background and assumptions and continually checking bias throughout the research process (Fischer, 2009). The researcher answered the interview questions in a pilot and kept a reflective journal throughout. Debriefing interviews were also conducted to ensure deep reflection throughout the process (Collins et al., 2013).  Further, the researcher participated in member checking by sending a statement of results to participants (see appendix H). During the member checking process, the researcher provided participants with a written list of themes that emerged during data analysis. Member checking allowed the researcher to ensure participants' views and experiences were accurately represented (Marshall & Rossman, 2011).

Another limitation lies within the demographics of the interview sample. The demographics survey did not ask students to disclose race. Appalachia is racially diverse, as are the partner campuses, but the volunteer pool was compiled of only Caucasian students. Generalizations should not be made about the entire population of Appalachian students, particularly under presented populations, based on the current data set.

**Chapter IV**

**The Stories**

**Introduction**

Early in my academic career, I happened upon the photo in Figure 3 in a university archive. The photo is from an early 1920s fundraising campaign and makes a plea for donors to contribute to the dramatic transformation of Appalachian people. The mailer shows John Doe, a rough looking mountain boy in cuffed overalls and no shoes. He's brandishing a shotgun and his shoulders are curved in a way that makes him look simultaneously dangerous and dejected. His eyes and mouth are scrunched in a scowl. The mailer tells John Doe's story. It paints a picture of a depraved life of poverty, violence, and ignorance. Some words are misspelled and enclosed with quotation marks to convey John Doe's broken, Appalachian English. The story decries John Doe's simple life was a struggle in a place where "larnin" was so "powerful scarce."



*Figure 3*. John Doe. Adapted from Will you give him a chance? 30371010317535-39-1, 1992-00, Frank M. Allara Library, University of Pikeville.

The next page tells how John Doe's life was changed when he met a friend who attended the local college. At first John could not understand the transformation his friend had undergone. The mailer says John, "couldn't quite grasp the significance of his language." After a long discussion, the friend encouraged John to "develop mentally and morally," so John decided to "make something of himself" and enroll in college. Figure 4 shows John Doe after he had been saved from his mountain life and transformed by education into what the author of the mailer called "a respectable citizen." The remainder of the story begs for financial donations that will help give other Appalachian students John Doe's experience and the chance for a clean, decent life.



*Figure 4*. John Doe's Transformation. Adapted from Will you give him a chance? 30371010317535-39-1, 1992-00, Frank M. Allara Library, University of Pikeville.

I was not entirely surprised by the story of John Doe. By that time, I was more than familiar with Appalachian stereotypes. I had studied the lasting images that came from the War on Poverty and read about the way early missionaries called for assistance for the Appalachian region by highlighting poverty and need (Billings, 2001). I had experienced the struggle and the stereotypes on a personal level. Some might say John Doe exhibited a high level of grit in order to change his life through education. He possibly possessed a growth mindset and a belief his intelligence could change. The archival find was discouraging, though, and filled me with questions about my academic journey. Though the piece was outdated, here was a clear depiction of the idea that one must shed their Appalachian identity to lead a successful, educated life. Could having the grit and growth mindset to change mean one must abandon all other aspects of their lives? Was there a way non-cognitive factors and identity converged and complimented each other? The contrast between the world of academia and my heritage created a perceived balancing act I felt I must perform throughout my education, and the John Doe story confirmed it.

I kept a copy of the John Doe mailer. It helped shape my teaching philosophy and the goal to honor student identity in the classroom. It also helped me gain a deeper understanding of the power of personal story and its place in educational research and practice. This chapter includes my story and a brief introduction to the participants from the qualitative portion of the study. The purpose of this chapter is twofold. The chapter situates researcher and participants' stories in the context of themes discussed in chapters five and six. It also ensures each Appalachian story is presented fully and not in the unrealistic dichotomy of the transformation of John Doe.

**Participant Stories**

Ten volunteers participated in the qualitative portion of this study. In the quantitative portion of the study, participants completed a demographics survey that asked how long they had lived in Appalachia. Interviews were focused on the lived Appalachian experience, so participants who responded *My parents moved here from outside Appalachia* or *My grandparents or other ancestor moved here from outside Appalachia* were chosen to be interviewed. Chapter five highlights participant demographics along with their quantitative grit and mindset scores. This section offers a brief personal profile of each participant to provide more depth to their responses ahead.

**Ivy.** Ivy is a residential student at her campus, which is located approximately forty minutes from her home. Throughout her life, Ivy's family has moved to various locations within the state and she's experienced living in both urban and rural areas. She claimed the moves gave her an advantage because they allowed her to see "both sides" of life in her home state and to adapt to new situations easily. Ivy said regardless of where she lived, one thing she noticed about the people in her state was the friendliness.

Ivy's parents both graduated from college. Her mother is an educator and her father pursued a career in the military. Ivy felt she had a good grasp on college expectations when she started school, but expressed she still felt overwhelmed once she got settled in on campus. She cited her strong family and community support system for her success in the first few weeks of the semester. One major surprise for Ivy was the difference in how education was treated from between her high school teachers and college professors. She felt her high school teachers simply wanted to push everyone through, but at college, education was "celebrated." Ivy is a pre-

education major. She was proud to say she comes from a long line of educators and hopes to carry on the legacy of her family.

**Lilly.** Lilly is a first-generation residential student. Her family home is located an hour and a half outside of the town, in a small rural community. Lilly's passion is music. She is attending college on a music scholarship and began our conversation by talking about the opportunities she's had since the beginning of the semester. She was excited about being able to perform in public spaces and learning more about Appalachia's musical heritage. She said she grew up in a musical family but didn't really know the history behind the music of the region.

Lilly spoke openly about the struggles she's witnessed in her extended family. Her uncle, in particular, suffered with opioid addiction and she saw the effects of poverty in many of her family members. Lilly was adamant that perhaps some of the people she knew seemed to fit the common Appalachian stereotypes, but there was "more to their characters" than others saw. She spoke of her family and neighbors with empathy and defensiveness. Lilly double majors in Religion and Psychology. She said she has two major goals she hopes to accomplish with her education. She hopes to disprove stereotypes and she wants to serve as a positive role model for her younger sister.

**Melanie.** Melanie is a first-generation residential student. Her home town is approximately three hours away from campus. Melanie describes herself as having been reared by a "family of strong independent women." She credits her mother and her grandmother for pushing her to attend college. She said she had watched her mother work multiple jobs to care for her Melanie and her siblings and no matter what hardship the family faced, her mother was always prepared. Melanie's interview was the most personal of all, as she was eager to talk at length about her family and her community. She made strong, often contradictory statements

about her hometown. She claimed she needed to escape the community in order to succeed but expressed a desire to return and raise a family there someday. She said she hoped to be an agent of positive change for her community.

Melanie said the opioid crisis was the most negative aspect of her hometown. After years in the coal mines, her father's physical ailments led him to addiction to pain medication, which Melanie cited as the beginning of trouble for her family. Her relationship with her father was strained, but she still expressed a unique loyalty to him and was defensive about what she assumed others might think of him. "He was a hard worker," she said, "and sometimes there were knots all over his back. He suffered a lot."

The stress of college was overwhelming for Melanie when she first began. She struggled with anxiety and depression and was tempted to quit before the middle of her first semester. She sought help from the college counselor and found a support system of friends and at the time of the interview said she can't believe she ever thought about quitting. "I don't give up," she said. "No matter what it is, I don't give up. I learned that from my mom." Melanie's major is undecided, and she is excited to explore what her college has to offer.

**Sean.** Sean is a first-generation residential student. Sean's pride of place was evident from the beginning of the interview. He began by talking about the close-knit community of his hometown and the benefits that came from living in a place where everyone knows everyone. He said easy networking opportunities were his favorite thing about small-town life. Sean is committed to community service and has been able to find references and professional recommendations from the people he serves in his community. He said having experience with people has made his entry to college much easier.

Sean did not speak much about his family, but said they instilled in him a strong work ethic and a desire to succeed. His family also raised him in church, and the values he learned through his faith were important to him. Sean said the most unique thing about Appalachia was the way people from all backgrounds come together. He said in his hometown, you see people from various economic stations in one area. Sean has not decided on a major, but he has hopes of traveling after graduation.

**Phillip.** Phillip drives the forty minutes between home and campus every week day. He is a first-generation student majoring in Art. Phillip began our discussion by telling me he had recently changed his major. He originally declared a Pre-Nursing major. He said his real passion is art, but he has always been told an art major would not allow him to make any money and he should major in something practical instead. After learning more about opportunities in the field of art, he decided to change and is much happier as a result.

Phillip juggles multiple responsibilities along with his studies. He lives with his great grandparents and is primarily responsible for their well-being. He also works part-time at a local grocery store to supplement the family income. He said most days he wears his work uniform to class and goes straight to the store when he leaves campus. Phillip said he didn't mind having so many responsibilities. He's been working since high school and has always believed "we do whatever needs to be done."

**Allison.** Allison is a first-generation residential student, staying on a campus approximately two hours away from home. She is a Biology major and hopes to pursue a career in medicine after college. Allison said her parents were hard workers but were never passionate about their jobs. She said her parents encouraged her to excel in school so she could enjoy work

and accomplish more than they felt they had. The one thing Allison knew she could always depend on was her family's support and encouragement.

Allison participates in the work study program on her campus. She spends her time between classes in the campus library. She said she has worked since high school and felt the extra responsibility helped her value things more than people who did not earn things on their own. She was proud to use part of her work study earnings to pay the remainder of her college tuition and the rest to pay for her cell phone bill and other expenses. Allison said she is glad she can be self-sufficient and take some of the burden from her parents.

**Mark.** Mark is a first-generation residential student. His hometown is located an hour and a half away from campus. He described the experience of his first semester as "culture shock." He said there was a lack of diversity in his hometown and he was excited to meet people from various backgrounds, but he wasn't prepared for what that meant. His first impression to college was meeting his roommate, who immediately remarked on Mark's accent. Mark says he "laughed the comment off" and they became quick friends, but the experience made him aware of how different campus was from home.

Mark is an Environmental Biology major. He credits his childhood in Appalachia for inspiring his future goals. He spoke at length about spending entire days exploring the woods near his home. He loves to learn about wildlife and the natural environment. He said he felt blessed to live in such a special place. Mark was quick to acknowledge aspects of his hometown that weren't so pleasant, too. He said though his family did not struggle financially, he saw many in his community who did.

**Nina.** Nina is a commuter student with a long drive to campus. She drives over an hour to class every week day. She is a self-proclaimed bookworm, a lover of young adult and dystopian

novels. Nina and her mother have clashed over her major and future plans. Nina dreams of being a social worker and enacting change in people's lives. Her mother, however, thinks she should pursue a degree in law or medicine, something with the potential to earn more money. Nina's mother is a college graduate and has always encouraged Nina to do well in school. She says she feels that education was encouraged in her household, but she did not understand true learning until she came to college.

Nina talked a great deal about how she believed Appalachian people were resilient and hard working. She said she also recognized a lot of frustrations because older generations wanted more for their children than they had but did not always know how to help their children accomplish those things. She said she believes education is key for success and is excited to complete her degree.

**Danielle.** Danielle is a commuter student who lives half an hour away from campus. My discussion with Danielle was complex and entertaining and she was full of spunk and angst. Her mother graduated college and works as a paramedic. Danielle said she always felt encouraged by her parents and step parents. One of her primary goals is to prove Appalachian stereotypes wrong, while also acknowledging that negative things do exist in the area and must be addressed. She has always earned excellent grades in school. Once, she dyed her hair purple and said she loved being the eccentric "purple haired girl from the mountains who was smarter than the city kids."

Danielle enjoys creative writing and literature. She participates in the work study program on her campus and serves as a student editor for a literary website. She claimed the problems that plague Appalachia stem from capitalism and the constant abuse of the poor. She

says through her work she hopes to change the image of the area. At the end of our interview, when I asked if she had any further comments, she smirked and said, "Eat the rich."

**Sarah.** Sarah is a first-generation residential student. I was immediately impressed with her poise, her politeness, and the seriousness with which she spoke about her education goals. Sarah freely discussed the struggles she faced both on campus and at home and how they inspired her choice of major. Sarah was born in a northern state and moved to Appalachia as a child. Shortly after her family's move to the region, Sarah entered the foster care system. She described her long-term, native Appalachian foster family as a "blessing." Sarah spoke at length about the Christian values her family represents and how they've offered unwavering support throughout her academic journey. Sarah has struggled with anxiety and cites her foster mother and the professionals she's worked with through her time in foster care for inspiring her to become a nurse. She wants to give back to her community and help others who need assistance.

When Sarah entered college, she was paired with an advisor who works specifically with students in the foster care system. She said her advisor helped her learn basic things like time and stress management, how to create and follow a budget, and how to study. Still, Sarah's anxiety went into overdrive during her first few weeks of college and she found herself studying long hours and depriving herself of rest and social interaction in order to succeed. She sought help from her advisor and the school counselor and was quickly able to turn her situation around and enjoy her time on campus. Sarah admitted that some of her anxiety comes from her desire to succeed beyond her biological family and prove herself capable of achievement. As of the time of the interview, Sarah was excelling in all her classes.

**The Researcher's Story**

I grew up in a home located two miles up an Eastern Kentucky holler. My family's house sat on a hillside, next door to my paternal grandmother's house. My widowed grandmother suffered from a cancer that took her voice box, but not her livelihood. Some of my earliest memories involve walking to her house with my father every morning to check on her and make sure she had a fire in the coal burning stove. Some days she was sick in bed, but on her best days, she was up, her hair curled and lipstick on, and she'd play a song on her guitar or banjo at my request. I was one of dozens of grandchildren, but she and I shared a significant bond. She taught me about my family's history, Appalachian music, and resilience. My grandmother was never formally educated, but she loved stories. She introduced me to my first taste of Appalachian literature with Harriet Arnow's *The Dollmaker* and Conrad Richter's *The Trees, The Fields, and The Town.* She would read these books and pass them along to my mother and aunts. Many nights, we'd all sit at the supper table and discuss the characters of these novels as if they were extended family members. These books were my first experience of media featuring well-rounded characters who spoke like me and lived like my family. Until then, the only Appalachian people I encountered in books or on television were stereotypical representations of hillbillies. They were flat characters, defined by their thick accents and simple ways. I was thrilled to read about the complex lives and emotions of characters I could relate to.

Neither of my parents continued education past GED certificates, but they, too, promoted the power of books and education to my brother and me. My father dropped out of high school to work alongside my grandfather in the coal mines. When dad was eighteen years old, a mining accident killed my grandfather and left dad the oldest man in the family, responsible then for my grandmother and eight siblings. He left the coal mines and joined the

United States Marine Corps, where he completed his GED requirements. Upon his return to Kentucky, he married and went back into the mines for the next twenty-five years.

My mother was sixteen when she married my father. She, too, came from a large family. She stayed at home with my brother and me until we were old enough for school and worked in retail management until she retired. My mom studied for and passed the GED test while tending to her family. I vividly remember the walk to the post office at the mouth of our holler when she received the manila envelope with her diploma inside. My parents continued to be well read and current on world affairs and though many in our extended family chose different paths, they always presented college as the most appropriate option for my brother and me. My parents taught me resourcefulness and pride and always reminded me I could accomplish anything I desired.

When I started school, I excelled in academics, but there were certain cultural and social issues I noticed and struggled with from an early age. The school was located in the nearest town and though the town was small and sparsely populated, there was an evident split between students who lived in town and students who lived in the county, like me. The difference manifested in friend groups and sometimes, even teacher preference. Since I was an academically good student, I didn't suffer much negativity from my teachers, but I do remember the humiliation some of my classmates suffered because of their academic struggles. Many of those students were neighbors of mine and I knew of family situations that affected their school performance. I do remember being put on the spot about my accent by my seventh grade English teacher. Since I was such a gifted writer, she told me, I should put in the effort to speak properly. These experiences were my first glimpse into the multiple cultures that reside in Appalachia.

Though my classmates, teachers, and I all lived in the same county, we had very different Appalachian experiences. I recognized, even then, why various images of Appalachia existed.

By the time I made it to college, I had a passion for learning and a desire to transform education in my area. I also had twin babies. As a single mom of two, I juggled a full load of classes, work in the campus writing center, and a part time job at a local grocery store. My grandmother had since passed away, and I moved onto her land with my children. It was a convenience to have my parents close by for help and a comfort to be raising my children on a property with familial and spiritual connections. I graduated with honors, but my undergraduate journey was not easy. By age, I was a traditional student, but my situation was anything but traditional. I had family responsibilities that only multiplied as my parents began to age. I had financial pressures that threatened to create barriers to my degree completion. I felt I couldn't express any of these issues to my professors or my peers. My life on campus was vastly different from life at home, and I struggled to find the balance.

Upon graduation, I got a job working the college switchboard in the Admissions office. I was able to quit the grocery store job and enroll in a graduate program due to a tuition waiver offered by my university. I finished a master's degree and moved into an Associate Registrar position on campus. I enrolled in a Master of Fine Arts in Creative writing program. I also married and had my third child. It wasn't long before I hit another stumbling block. Opioid addiction is a prevalent problem in Appalachia, and a common phrase is *no family is immune.* This includes my own. My husband struggled with addiction and I spent many years trying to support him through recovery. My marriage eventually dissolved and I found myself, once again, a single mother juggling the responsibilities of home with school and work. I became a full-time professor and started a doctoral degree.

The passion I felt for Appalachia never faded. Despite its negative aspects, I also recognized the complex beauty and strengths. For years, people commended me for being successful in spite of all the struggles my family endured. Often, in academia, I was commended for breaking the stereotype and proving that "even an eastern Kentucky girl from the holler can do good." At home, my family beamed with pride, but also commented they had to "watch their language around me" for fear of correction. Though I recognize the good intent behind such comments, they left me ashamed and angry. I didn't want to feel as though I had to code switch between home and work. I felt I had succeeded not in spite of my struggles or my background, but because of them. When I began teaching full time, I was also able to connect with my students because I had experienced the complicated aspects of Appalachia and both understood and cherished where they were coming from. Together, we blur the lines between the two separate worlds and work toward combining our heritage and our educations.

**Conclusion**

The participants in this study and I have vastly different stories, though they are connected by several common threads. This chapter provided my personal story for insight into how my interest in the research study began. The brief participant profiles offered details the participants shared that were not directly related to the research questions. These details help present the participants as complete and complex individuals. Though they have been given pseudonyms, their stories help protect them from becoming John Doe characters with no personality or context.

**Chapter V**

**Results**

**Introduction**

The most rural areas of central Appalachia trail the rest of the United States in higher education attainment, with a college completion rate between 5.2% and 14.8% (Appalachian Regional Commission, 2015). Previous educational research in Appalachia has primarily focused on external challenges that impact success in rural areas. Literature identifies economic and cultural factors such as poverty, familial and community pressures, and a lack of resources or support as potential barriers to academic success (Azano & Stewart, 2015; Brashears, 2014; Burriss & Gantt, 2013; Dunstan & Jaegar, 2015; Hendrickson, 2012). Other research acknowledges rural students sometimes experience a disconnect between their lived experience and curriculum. Students are unable to see themselves in the standardized curriculum, and teachers are often unable to help them forge connections with classroom material and understand the importance of education for their futures (Obermiller & Maloney, 2016: Hendrickson, 2012).

The Appalachian region has a long history of being negatively portrayed in the media, and the stereotypes that have grown from these images may also have an impact on academic growth (Cooke-Jackson & Hansen, 2008). Appalachia contains a multitude of cultures. A lack of understanding about the complexity of the region has led to stereotypes that decrease student confidence and skew teacher expectations as well as educational policy ((Brashears, 2014; Dustan & Jaegar, 2015; Gorski, 2012; Obermiller & Maloney, 2016). One example of the challenges stereotypes create for rural students is the negativity surrounding Appalachian accent

and dialect. Dunstan and Jaegar (2015) state rural students cite the stereotypes about their accents and dialect as reasons they feel discouraged to participate in classroom discussion.

Research in the broader field of education has shown non-cognitive factors such as growth mindset and grit play a large role in student success (Claro et al., 2016; Duckworth et al., 2007, Dweck, 2006). Self-theories of mindset determine a person's attitudes and beliefs about their ability, intelligence, and talent. Dweck (2006) proposed there are two mindsets, fixed and growth. When people possess a growth mindset, they believe their intelligence and talent is malleable and can be cultivated and changed. In the fixed mindset, people believe their intelligence to be static and are resigned to the idea that they cannot learn or grow. All people can have a combination of both mindsets about different situations, and growth mindset can be taught and modeled by messaging (Dweck, 2006).

Duckworth (2016) also studied success and motivation and found grit is a good predictor for success. People who have high levels of grit demonstrate the ability to persevere and persist for long and difficult tasks. Gritty people are determined and able to remain focused on goals (Duckworth, 2016). The theories of mindset and grit overlap in the areas of effort and challenge. People with a growth mindset and high levels of grit value effort and view challenges and failure as necessary parts of the learning process (Duckworth, 2016; Dweck, 2006).

The goal of this study was to explore academic self-concepts of first year students in Appalachia and how those self-concepts are impacted or influenced by place identity. The following research questions guided the study:

1. What are the patterns associated with mindset and grit in first year college students in Appalachia?

2. How do first year college students in Appalachia perceive their Appalachian identity?

3. To what extent does student perception of place influence mindset and grit?

According to Creswell (2018), a mixed methods approach allows researchers to gather statistical information that is pertinent to a topic while also using qualitative methods to gain a deeper understanding of a research problem. A mixed methods design allows a researcher to analyze the numbers of a phenomenon, but also the stories of experience. This study used an explanatory sequential design, which separates data collection into two phases, with quantitative data collected first, followed by qualitative data. Explanatory sequential design allows qualitative data to follow up and refine results gathered through quantitative methods (Creswell, 2018).

Research question one is concerned with patterns in mindset and grit in Appalachian first year college students. Quantitative data was collected for this phase of the study through a set of surveys. The survey set included the Mindset Survey developed by Dweck (2006) and the Grit Scale developed by Duckworth et al. (2007). To establish patterns, demographic information was also collected along with the surveys. Research question two addresses student self-perception regarding Appalachian place identity. Qualitative data was collected for this phase through semi-structured interviews with volunteer participants. Question three seeks to understand potential connections between student perception of identity and mindset and grit. Data from both quantitative and qualitative phases of the study merge to create results for this question. This chapter reports results from the survey data collected and the codes and themes that emerged from the qualitative data.

**Quantitative Research**

**Participants**

The researcher chose three research sites from three different states in central Appalachia. All three sites currently have an undergraduate population of fewer than 2000 students, with Fall 2019 first year classes of fewer than 330. Site A had the largest first year class, with 327 first-time full-time students. Site B had a first-year enrollment of 274, and site C had a first-year class of 285. Each site requires first year students to enroll in a first year seminar or equivalent course.

The researcher contacted the Chief Academic Officer of each participating site to gain research permission and the contact information of the individual that serves as the director of first year programming. The researcher provided surveys to each director, who distributed them to instructors teaching first year seminar courses. Instructors offered the surveys to students enrolled in their individual courses with the notice that participation in the study was voluntary and would not affect their grade in first year seminar courses. The researcher received 192 surveys from participating faculty. Twelve of the surveys were determined incomplete, which left a total of 180 completed surveys for analysis. Based on the number of potential surveys, 192 returned surveys yielded a response rate of 21.6%. A study of higher education surveys determined a response rate between 5-10% could be considered reliable for a sample of at least 500 (Fosnacht, Saraf, Howe, & Peck, 2017).  The number of potential surveys for the current study was based on enrollment numbers at the time of census date and did not take into consideration students who had withdrawn from the university or students who were absent on the date of survey administration.

To establish patterns, demographic information was collected along with survey data. The researcher determined gender, amount of time in Appalachia, and parents' educational attainment were important demographic information to establish patterns relevant to mindset and grit. Gender was self-reported. Time in Appalachia was measured with the question *How long has your family lived in Appalachia (choose one)* with the options of *I moved here from outside Appalachia, My parents moved here from outside Appalachia,* and *My grandparents or other ancestors moved here from outside Appalachia.* The demographics survey asked students to respond to the question *Did either of your parents graduate from college?* and included the options *Mother, Father, Both,* and *Neither parent graduated from college.*

Ninety-eight males and eighty-one females completed the survey. One participant identified as gender non-conforming. Most student respondents were at least second-generation Appalachian, and 98 students' grandparents or other ancestors originally moved to the region. Further, 89 students who responded to the survey were first generation college students. Table 1 highlights the demographics of all survey participants and includes number for each variable and percentage of responses.

**Table 1**

*Demographics of Survey Participants*

n=180

| Variable | Number | Percentage |
|----------|--------|------------|
| Male | 98 | 55.6 |
| Female | 81 | 43.9 |
| Other gender or non-conforming | 1 | .6 |
| I moved here from outside Appalachia | 60 | 32.8 |
| My parents moved here from outside Appalachia | 22 | 12.8 |
| My grandparents or other ancestors moved here from outside Appalachia | 98 | 54.4 |
| Mother graduated from college | 46 | 25.6 |
| Father graduated from college | 6 | 3.3 |
| Both parents graduated from college | 39 | 21.7 |
| Neither parent graduated from college | 89 | 49.4 |

**Research Question One**

Psychologist Carol Dweck (2006) developed the Mindset Survey to measure growth and fixed mindset tendencies. People who possess a growth mindset subscribe to the belief that learning is a process and intelligence and talent are subject to nurturing and growth. Growth mindset lends itself to the belief that challenges and setbacks are necessary in the learning

process (Dweck, 2006). On the other hand, fixed mindset is the belief that challenges are due to the static nature of human ability (Dweck, 2006). Dweck (2015) posits that everyone has a mixture of growth and fixed mindsets depending on situation, circumstance, and task. The Mindset Survey (Dweck, 2006) includes sixteen items and uses a six-point Likert scale that ranges from *Strongly Agree* to *Strongly Disagree.* The first eight items on the survey make statements about intelligence such as *You have a certain amount of intelligence, and you really can't do much to change it* and *No matter who you are, you can significantly change your intelligence level.* The last eight items are almost identical but replace the word *intelligence* with *talent.*

Data was analyzed using IBM SPSS Statistic software. Participant responses corresponded with words on the surveys, so for analysis, each item on the Likert Scale was given a numerical code (Field, 2013). Codes ranged from 1-6 with 1 corresponding with *Strongly Agree* and 6 corresponding with *Strongly Disagree.* Items that were negatively worded on the survey were reverse coded to ensure responses corresponded with the appropriate mindset (Field, 2013). Each participants' mindset was calculated by finding the average of scores on the sixteen-item survey. Scoring produced a range between 1-6, with the highest numbers indicating growth mindset and lowest numbers indicating fixed mindset. Participants who scored between 3-4 were considered to have a neutral mindset. Table 2 shows the detailed mindset scoring scale.

**Table 2**

*Mindset Survey Scoring Scale*

| Numerical Range | Mindset |
| --- | --- |
| 1-3 | Fixed Mindset |
| 3.1-3.9 | Neutral |
| 4-6 | Growth Mindset |

Frequency and descriptive statistics were found using SPSS. For this sample, a score of 4-6 was most frequent. Table 3 reports the frequency of each score range in the data. The mean Mindset survey score was 4.40 with a standard deviation of .740. Research Question one seeks to find patterns in the data. A means comparison analysis was run in SPSS with Mindset Score as the dependent variable and Gender, Time in Appalachia, and Parents' Education as the independent variables. Table 4 shows the results of the mean comparison by independent variable.

**Table 3**

*Frequency of Mindset Score Ranges*

| Numerical Range | Frequency |
| --- | --- |
| 1-3 | 3 |
| 3.1-4 | 48 |
| 4.1-6 | 129 |

**Table 4**

*Mindset Mean Comparison*

| Independent Variable | N | Mean Mindset Score | Standard Deviation |
|---|---|---|---|
| Male | 98 | 4.35 | .773 |
| Female | 81 | 4.46 | .701 |
| Other gender/non-conforming | 1 | 4.93 | |
| I moved here | 60 | 4.36 | .713 |
| My parents moved here | 22 | 4.18 | .668 |
| My grandparents or other ancestors moved here | 98 | 4.47 | .767 |
| Mother | 46 | 4.44 | .724 |
| Father | 6 | 4.21 | 1.0 |
| Both parents | 39 | 4.18 | .657 |
| Neither parent | 89 | 4.49 | .755 |

The final survey in the set was the Grit Scale developed by Duckworth et al. (2007). The term *grit* is used to encompass a person's ability to maintain passion and perseverance for long term and difficult tasks (Duckworth et al., 2007). The Grit Scale includes ten items and uses a five-point Likert scale for responses. Items on the Grit include statements related to participant interest and resilience in the face of setbacks, such as *Setbacks don't discourage me, I don't give up easily* and *I finish whatever I begin.* Some questions were negatively worded to

guard against user bias. Those questions include items such as *New ideas and projects sometimes distract me from previous ones* and *I have difficulty maintaining my focus on projects that take more than a few months to complete.* Participants were asked to choose from Likert scale responses that range from *Very much like me* to *Not like me at all.*

Each item on the Likert scale was assigned a numerical code for analysis in SPSS (Field, 2013). The code allowed for 1 to represent *Very much like me* and 5 to represent *Not like me at all.* Questions that were negatively worded were reversed coded in SPSS to make sure responses correctly corresponded to the appropriate response (Field, 2013). Individual grit scores were determined by the sum of participants' responses divided by ten. This coding method created a scoring range of 1-5 with 1 representing the lowest level of grit and 5 representing the highest. The level of grit is a continuum and not a two-category result like mindset, so student scores were judged by how close they came to 5 on the score scale. Frequency and descriptive statistics were analyzed using SPSS. The Grit Score 3.5 was the most frequent, appearing 19 times in the data. Table 5 shows the frequency of Grit scores in the data by whole number range. In this sample, the mean Grit score was 3.48 with a standard deviation of .576.

**Table 5**

*Grit Score Frequency*

| Number Range | Frequency |
| --- | --- |
| 1-2 | 2 |
| 2.1-3 | 32 |
| **3.1-4** | **108** |
| 4.1-5 | 38 |

Mean Comparison analysis was run in SPSS with Grit Score as the dependent variable and Gender, Time in Appalachia, and Parents' Education as independent variables. Table 6 shows the mean comparison by independent variable.

**Table 6**

*Grit Mean Comparison*

| Independent Variable | N | Grit Score Mean | Standard Deviation |
|---|---|---|---|
| Male | 98 | 3.5 | .542 |
| Female | 81 | 3.4 | .620 |
| Other gender/non-conforming | 1 | 3.5 | |
| I moved here | 60 | 3.6 | .491 |
| My parents moved here | 22 | 3.4 | .609 |
| My grandparents or other ancestors moved here | 98 | 3.4 | .604 |
| Mother | 46 | 3.5 | .474 |
| Father | 6 | 3.5 | .648 |
| Both parents | 39 | 3.6 | .577 |
| Neither parent | 89 | 3.4 | .610 |

Table 7 combines the information from both mean comparison tests to show the mean mindset score and mean grit score together for each independent variable.

**Table 7**

*Grit and Mindset Mean Comparison*

| Independent Variable | N | Mean Mindset Score | Mean Grit Score |
|---|---|---|---|
| Male | 98 | 4.35 | 3.5 |
| Female | 81 | 4.46 | 3.4 |
| Other Gender/Non-conforming | 1 | 4.93 | 3.5 |
| I moved here | 60 | 4.36 | 3.6 |
| My parents moved here | 22 | 4.18 | 3.4 |
| My grandparents or other ancestors moved here | 98 | 4.47 | 3.4 |
| Mother graduated | 46 | 4.44 | 3.5 |
| Father graduated | 6 | 4.21 | 3.5 |
| Both parents graduated | 39 | 4.18 | 3.6 |
| Neither parent graduated | 89 | 4.49 | 3.4 |

Pearson correlation analysis was conducted to determine if there was a relationship between mindset, grit, and the demographics variables (Fields, 2013). Mindset and grit scores were correlated with *Gender, Time in Appalachia,* and *Parents' College.* Fields (2013) suggests calculating correlation with a two-tailed test with significance at $p<.05$ and calculating $r^2$ to measure variability in the variables. $R^2$ was calculated for the correlations that were statistically significant. Grit and *Time in Appalachia* were the only variables with a correlation that was

statistically significant (r = -.177, p = .018, $r^2$ = .031). Pearson correlation was conducted to test the relationship between students' mindset and grit scores. A statistically significant relationship between the two factors was found, r= .194, p=.009, $r^2$ = .037.

In order to further explore the relationships among factors, an analysis of variance (ANOVA) test was conducted with each of the demographic variables and mindset and grit scores. The ANOVA test determines significant differences among groups of two or more (Fields, 2013). No statistically significant differences were found between demographic groups in relation to mindset. A statistically significant difference was found in the ANOVA results that tested grit scores among the groups in the *Time in Appalachia* variable, F=3.05, p=.050. The analysis showed a decrease in grit score between students who chose *I moved here from outside of Appalachia* to those who chose *My grandparents or other ancestors moved here from outside of Appalachia.* Tukey's post hoc analysis was conducted and determined the decrease in grit score between the two groups was significant (p=.050). Effect size was calculated as .033, which, according to Field (2013) is a small effect size. These results show a statistically significant decrease in grit score of students who moved to Appalachia for college and those whose families originated in the area. A small effect size indicates the means for the two group do not deviate at a large rate, making the difference between them trivial.

**Qualitative Research**

Explanatory sequence design includes qualitative research in the second phase of data collection to refine and follow-up quantitative results (Creswell, 2018). According to Marshall and Rossman (2016), interviews are effective means of collecting qualitative data because they allow the researcher to draw out personalized information and yield a large amount of data. At the end of the survey set used in the first phase of data collection, all participants had the

opportunity to volunteer to participate in a semi-structured interview. Ten interview participants were chosen from the pool of volunteers based on their responses to the question regarding time in Appalachia on the demographics survey. To gather as much information as possible about the lived Appalachian experience, the researcher chose participants who either marked *My parents moved here from outside of Appalachia* or *My grandparents or other ancestors moved here from outside of Appalachia.* Interviews were transcribed and coded for themes to determine students' perceptions of their Appalachian identity and for information on how place-identity influences mindset and grit. Pseudonyms were given to each participant to ensure confidentiality (Creswell, 2018).

Seven of the interview participants were first generation college students, while the other three had at least one parent who graduated college. Interview participant information was attached to the surveys, which allowed the researcher to find individual grit and mindset scores for each participant. Nine out of ten participants tested in the range of growth mindset. One participant scored in the neutral range. Eight participants scored in the 3-4 range on the Grit scale, indicating an average grit score. Two participants scored below 3, indicating a low level of grit. The mean mindset score of this sample is 4.73 and the mean grit score for the sample is 3.0. Table 8 shows the demographic information for each participant along with their grit and mindset scores.

**Table 8**

*Interview Participant Demographics and Survey Scores*

n=10

| Pseudonym | Gender | Time in Appalachia | Parents' Education | Mindset Score | Grit Score |
|---|---|---|---|---|---|
| Ivy | Female | Parents moved here | Both parents graduated | 4.50 | 2.6 |

| | | from outside Appalachia | | | |
|---|---|---|---|---|---|
| Lily | Female | Parents moved here | Neither parent graduated | 4.69 | 3.7 |
| Melanie | Female | Grandparents or other ancestors moved here | Neither parent graduated | 4.94 | 2.4 |
| Sean | Male | Grandparents or other ancestors moved here | Neither parent graduated | 4.06 | 3.7 |
| Philip | Male | Grandparents or other ancestors moved here | Neither parent graduated | 6.0 | 3.6 |
| Allison | Female | Grandparents or other ancestors moved here | Neither parent graduated | 4.69 | 3.9 |
| Mark | Male | Grandparents or other ancestors moved here | Neither parent graduated | 5.06 | 3.0 |
| Nina | Female | Grandparents or other ancestors moved here | Mother graduated | 3.50 | 4.0 |
| Danielle | Female | Grandparents or other ancestors moved here | Mother graduated | 5.56 | 3.8 |
| Sarah | Female | Parents moved here | Neither parent graduated | 4.38 | 3.30 |

**Research Question Two**

Appalachia is a complex and diverse place, and it is nearly impossible to identify one universal Appalachian experience or identity (Billings, Norman, & Ledford, 1999; Cooper, Knots, & Elder, 2011; Kingsolver, 2015). The study was interested in students' perception of Appalachia and addresses the complexity with research question two. The research question that guided this portion of the study was: *How do first year college students in Appalachia perceive their Appalachian identity?* An affective method of coding was used to evaluate interview transcripts. According to Saldana (2015), affective coding methods give name to human emotions and experiences. Values Coding is an affective coding method that evaluates data for instances of participants' values, attitudes, and beliefs that represent their worldview. The researcher used Values Coding to determine student perception of Appalachian identity with two categories: Appalachian People and Appalachian Culture. For coding purposes, Appalachian People was defined as when a participant described or mentioned traits of Appalachian people specifically. Appalachian Culture was defined as when a participant mentioned Appalachia or the region as a whole. Some of the codes are included in both categories because the participant used them to describe how they feel about the area as defined by its people. Table 9 shows the most frequent codes for both categories.

**Table 9**

*Appalachian Identity Most Frequent Codes*

| Category | Most Frequent Codes | Frequency |
|---|---|---|
| Appalachian People | Caring Community | 21 |
| | Misunderstood | 18 |
| | Perseverance | 17 |
| | Hard Working | 13 |
| | | |
| Appalachian Culture | Drugs and Poverty | 23 |
| | Caring Community | 21 |
| | Misunderstood | 18 |
| | Lack of Resources | 13 |

Three themes with subthemes emerged from coding the data. First, the theme of Complex Appalachia rose from the descriptions of Appalachian people and culture. The first question in the interview protocol asked participants to describe what it means to be Appalachian. Each participant spoke of positive aspects of Appalachian people and claimed their Appalachian experience instilled positive traits and values in them, using adjectives such as *caring, hardworking,* and *genuine.* Each participant also spoke of negative aspects of Appalachian culture, often in the same response. Their responses acknowledged a duality or complexity to living in Appalachia. Nina used the term "multilayered" to describe the pros and cons of being Appalachian:

Living in Appalachia is a multilayered thing. The idea of Appalachia, the ideal version,

is a very beautiful thing. Generally, the people here are some of the kindest, warmest,

truest folks that you could ever find. Being Appalachian is working hard, living for the

simple things, taking care of people. The harsh reality beneath this is poverty, addiction,

lack of motivation. For the youth, we live in struggling families who long for us to be

better, but they don't really know how to get us there.

Danielle also acknowledged both sides of living in Appalachia. She said, "Being Appalachian for

me is, it's just very close. And it comes with its pros and cons. I like to think of the history we've

had and how beautiful this place is, but it's changed so much over the years because of things

like opioid addiction. It's like living in a ghost." All participants mentioned poverty and drug

addiction as the negative aspects of living in rural Appalachia.

Students felt Appalachia was so complex, it was universally misunderstood. Participants

claimed Appalachian people and culture are often misunderstood by people who do not

experience it. Appalachia was described as: *different from anywhere else in the world, just not*

*the same,* and *unique.* Melanie even claimed that people who do not live in Appalachia, "could

never understand us. They don't know what our lives are like, what we go through."

All participants acknowledged the damaging stereotypes that have plagued Appalachia and

Appalachian people. A detailed discussion of stereotypes appears in the Research Question

Three section but is also important to the third theme that emerged along with identity themes.

The researcher labeled this theme Caught in the Middle. During discussions of stereotypes and

Appalachian identity, participants positioned themselves as against the people who stereotype

Appalachians, often employing the same negative language against them:

- "Appalachian people are just nicer than people in other places."

- "We have more common sense than other people."

- "Appalachian people are brilliant. I know more smart people from here than anywhere else."

- "People in other places don't value things the way we do."

- "People who are from away from here, they just give up. They don't care."

Participants positioned themselves as separate from the negative aspects they applied to Appalachia. Every student interviewed was attending college in their home state, but not their home town. The distance from hometown to campus ranged from forty minutes to three hours away, with the average being around an hour and a half. During the interviews, every student referenced "back home" when discussing Appalachian identity, creating a separation in how they classified their hometowns to campus life, despite both areas being physically located in central Appalachia. Five of the participants cited experiencing "culture shock," when moving from home to campus. Many comments were made to separate themselves from those "back home."

- "I'm just trying to escape the stereotype. Back home it's all you see."

- "Back home people don't really care about school."

- "Where I live there are no options. My mom told me to get my education and get out."

- "I see so many people in my community struggling."

- "Where I'm from people think you're trying to be better than them if you go to school."
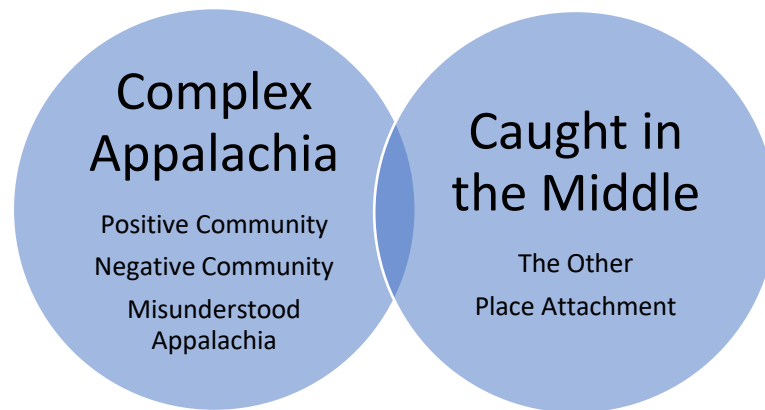
*Figure 5.* Student Perception of Appalachian Identity Themes and subthemes

**Research Question Three**

Research Question three seeks to explore a connection between student perception of place and mindset and grit. According to Dweck (2006), a person with growth mindset believes that their talent and intelligence are malleable traits and can be grown and changed. Duckworth (2007, 2016) describes grit as the passion and perseverance to succeed at long term goals. Mindset and grit patterns were evaluated separately. For this phase of the study, the researcher coded the data for instances that mention the concepts of academic self-belief. Mindset and grit also merge in how people react to failure and challenges. Those with growth mindset and a high level of grit are motivated by challenge and see it as a necessary part of the learning process (Duckworth, 2016; Dweck, 2006). Because of this connection, the researcher also coded the data for beliefs and attitudes about challenges and motivation. Values coding as well as In Vivo Coding were used for this section of analysis. In Vivo coding incorporates participants' voice by

using direct quotes as codes and categories (Saldana, 2015). Table 10 shows the most frequent

codes for the categories of Academic Self Belief, Challenges, and Motivations.

**Table 10**

*Mindset and Grit Most Frequent Codes*

| Category | Most Frequent Codes | Frequency |
| --- | --- | --- |
| Academic Self Belief | Perseverance | 17 |
| | Academic Confidence | 13 |
| | Self doubt | 7 |
| | "Good enough for the mountains" | 3 |
| Challenges | Stereotypes | 47 |
| | Lack of Resources | 13 |
| | Education discouraged | 9 |
| Motivation | Desire to prove stereotypes wrong | 23 |
| | Motivated by family | 18 |
| | Motivated by negative in community | 8 |
| | "You have to work harder" | 6 |

The concept of perseverance was mentioned seventeen times in relation to Appalachian

people in general as well as participants' self beliefs. Several students stated that giving up on

school or any long-term goal is not an option. Lilly stated, "I literally don't give up. I've run into

a lot of people, people who will want to give up or give up on you, and I don't want that for me

or the people around me." In reflecting on their first semester of college, several participants

offered stories that illustrated their commitment to learning and improving. Six students said they

did not expect the difficulty of college level work and had to adjust their study habits and work harder in the first few weeks. Mark stated that he failed his first Biology quiz because he assumed he could study the same way he had in high school. After that, he changed the way he studied and performed better on subsequent quizzes. Sarah said she overestimated the time she would need to prepare for classes and spent the first several weeks of the semester sleep deprived and anxious. She sought help with time management and study plans and adjusted to a healthier schedule.

Participants all agreed that the biggest challenge that Appalachian students face are negative stereotypes that are attached to the people and area. Several stereotypes were mentioned, but stereotypes about accent and intelligence ranked number one among frequent codes for stereotypes. Table 11 shows the top five most frequent stereotypes students acknowledge as challenges.

**Table 11**

*Negative Appalachian Stereotype Codes*

| Stereotype | Frequency |
| --- | --- |
| Accent equals unintelligent | 17 |
| Ignorant | 5 |
| Drugs | 4 |
| Barefoot hillbillies | 3 |
| No teeth | 3 |

All students acknowledged they had been the victim of stereotyping, even if they did not realize it at first. One student claimed she had never been stereotyped, and then later said,

"People at school are always making fun of my accent." Reactions to stereotypes varied. Three participants claimed they did not have a reaction to stereotypes but acknowledged that stereotypes can leave lasting damage. Two participants said when others make fun of their accent, they were "mocking" or "having fun." The most frequent code in relation to motivation was the desire to prove stereotypes wrong. One student claimed:

> It empowers me. I'm the type of person who really loves to prove people wrong when they tell me I can't do something, and I do it. I just want to prove the stereotype, and people, I want to prove all that wrong. I want to really change the outlook, really change people's outlook because we're not weak, dumb people. We are very strong and smart people, and it really empowers me.

Participants were motivated by their families in several ways. Many cited positive family support as their reason for pursuing higher education. Phillip, a first-generation student who lives with his great grandparents said:

> If my family wasn't as accepting as they are, I feel like I would judge myself more. Because no matter what I want to do or what crazy idea I want to pursue, my mamaw and papaw have always said 'I'm proud of you and you can do it if you want to.' I've never been looked down on by them for what I want to do. I feel like that's helped me a lot because if I was told constantly that I wouldn't get far, I would just give up and lose hope.

Several of the first-generation students also claimed their families motivated them because they wanted them to accomplish more than they had in the past. Allison says her parents, who did not go to college, pushed her to get an education. She said, "that way I wouldn't have to work a hard job all my life to support myself and my family like they had to."

Many of the negative traits that were used to describe Appalachian culture were brought up again in relation to motivation. Participants claimed seeing some of the negative aspects of "back home" pushed them to further their education and create a better future for themselves. Mark said:

I have seen many people struggling and drugs are real rampant, especially meth, where I'm from. And I've seen many people die and I've seen many people overdose and it's the saddest thing I've ever seen. I've seen many people struggling to survive. I mean no job, just struggling, and some of them resort to drugs and it makes it so they're just laying there waiting to die. I just have a passion to succeed from watching others struggle and wasting precious moments of their life that they'll never get back. I don't want to do that.

The theme of Conflicting Motivational Forces emerged through data analysis in this section. Participant responses show that students are negatively affected by the challenges they face but use the negativity to motivate themselves to persevere. Figure 6 is a visual representation of the theme, showing the negative and positive effects of challenges on student mindset and grit.
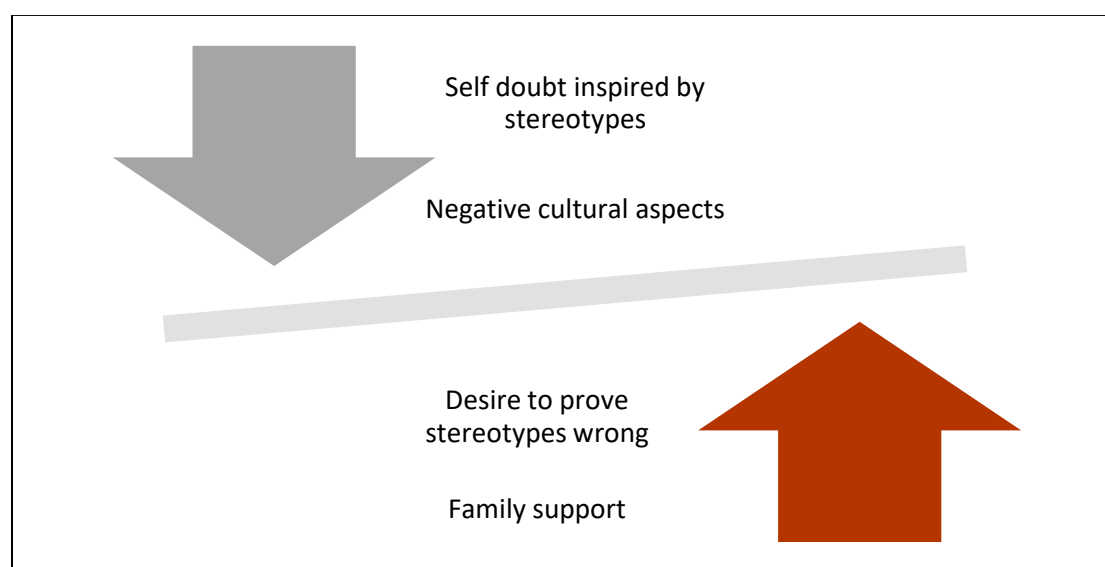


*Figure 6.* Conflicting Motivational Forces.

**Conclusion**

Chapter IV included a summary of findings from quantitative and qualitative data collected regarding Appalachian first year college students' perception of Appalachian identity, mindset, and grit. The mean mindset score for participants ranked in the lower end of the growth mindset continuum. Participants ranked in the average range of grit scores as assessed by the Grit scale (Duckworth et al., 2007). Pearson correlation showed a statistically significant relationship between grit score and time spent in Appalachia. Results from an ANOVA analysis showed that grit score decreases from participants who moved to Appalachia from outside of the region to participants whose families originated in the area, though the effect size was small. Qualitative methods were used to explore student perception of place identity and the effects of identity on mindset and grit. Themes that emerged from semi-structured interviews showed that students have complex feelings about Appalachian identity and recognize both the positive and negative aspects of the culture. Students perceive themselves as academically capable with a high level of perseverance. They are negatively affected by cultural challenges and stereotypes, but they are also motivated to prove stereotypes wrong and rise above the barriers. Chapter V will expand on the data presented in this chapter and offer a thorough discussion of the effects of Appalachian identity on academic self beliefs in Appalachian first year college students.

**Chapter VI**

**Conclusion**

**Introduction**

The Appalachian region has made positive global contributions but has a long history of being considered "other" in the United States (Biggers, 2006; Eller, 2008). Exaggerated stereotypes about the region have had lasting damaging effects on many of the people who live in Appalachia, particularly students. Stereotypes about students' culture and accent pose challenges to their educational success (Brashears, 2014; Dunstan & Jaeger, 2015). Though stereotypes are grossly exaggerated and false, the Appalachian region does have weaknesses in educational attainment. There has been an increase in high school graduates over the past several decades, but Appalachia is still lacking in post-secondary degrees. The Appalachian Regional Commission College Completion Map (2015) shows that nearly 78% of adults in Appalachia have yet to earn a bachelor's degree.

Studies show non-cognitive factors of student self-belief such as mindset and grit are important to academic achievement. Growth mindset, which includes the belief that intelligence is a trait that can be grown and nurtured, can have a greater impact on students than factors that can potentially hinder success, such as socio-economic status (Claro et al., 2016; Dweck, 2017a). Further, students with high scores on the Grit Scale (Duckworth et al., 2007), demonstrate the necessary perseverance to persist and complete difficult tasks.

There have been studies that explore the unique challenges rural students face (Azano & Stewart, 2015; Brashears, 2014; Burriss & Gantt, 2013; Dunstan & Jaegar, 2015; Hendrickson, 2012). There has also been a wealth of research on mindset and grit in relation to academic success (Claro, Paunesky, & Dweck, 2016; Cook, Wildschut, & Thomas, 2017;

Duckworth et al., 2007; Dweck, 2006) The current study sought to examine the impact of place identity on non-cognitive success predictors by exploring students' perception of Appalachian identity in relation to how it interacts with their academic self-concepts. The research questions that guided the study were:

1. What are the patterns associated with mindset and grit in first year college students in Appalachia?

2. How do first year college students in Appalachia perceive their Appalachian identity?

3. To what extent does perception of place influence mindset and grit?

Chapter VI analyzes and interprets the results of the study and examines them in context of Duckworth's concept of Grit as well as Dweck's theory of mindset. The chapter also includes recommendation for further research and implications for practice.

**Summary of Results**

This study explored patterns in mindset and grit in Appalachian first year college students and the potential connection between these non-cognitive factors and place identity. An explanatory sequential mixed methods design was utilized. A mixed methods design collects quantitative data and qualitative data to gain a greater understanding of the phenomena (Creswell, 2018). In this study, quantitative data was collected for insights into the patterns of mindset and grit scores in participants, and qualitative data was collected to further explore connections between scores and participants' lived experience.

Participating sites for the study included three four-year private higher education institutions located in three different states in central Appalachia. Student participants were all enrolled in their first year at their respective universities. Quantitative data was collected through a series of surveys. The survey packet included a brief demographic section that asked

participants to disclose gender, the amount of time they have lived in Appalachia, and their parents' education completion. The Mindset survey developed by Dweck (2006) and the Grit Scale (Duckworth et al., 2007) were also included in the set of surveys. The Mindset survey and Grit scale are Likert scale surveys which ask participants to choose responses that most closely relate to their experience. Mindset and Grit scores were calculated from survey results and analyzed against demographic variables. Descriptive and frequency statistics were performed to establish initial information and patterns in the data. Pearson's correlation analysis was conducted to discover connections between mindset, grit, and each demographic variable. An Analysis of Variance (ANOVA) was also conducted to gain a better understanding of how mindset and grit differed among the demographic groups.

A call for interview volunteers was located at the end of the survey packet. Students had the option to include their contact information to be considered for a semi-structured interview. The interview protocol (Appendix G) focused on students' lived experience in Appalachia and their perception of their Appalachian identity. Ten participants were selected to engage in this study and in semi-structured interviews. The interviews were conducted either on the students' home campus or by telephone and were subsequently transcribed. Transcripts were read multiple times to ensure accuracy and to allow the researcher to become familiar with the material and then were coded for themes. Each transcript was coded twice. Transcripts were coded once for themes related to Appalachian identity. Saldana (2015) suggests using affective methods of coding for human emotions and experiences. Values coding was used to code for themes related to how students perceive their Appalachian identity in relation to Appalachian people and culture. Transcripts were coded a second time for themes related to mindset and grit. Values coding and in vivo coding was used for instances of student academic self concepts, challenges,

and motivations. In vivo coding uses participants' own words to allow their authentic voice to be part of the data analysis (Saldana, 2015).

**Research Question One**

Research question one focuses on the patterns related to mindset and grit in Appalachian first year college students. The first phase of this study collected quantitative data by means of surveys. Surveys included a brief demographics section, the Mindset survey (Dweck, 2006) and the Grit Scale (Duckworth et al., 2007). Student participants (n=180) included 98 males, 81 females, and 1 student who identified as gender non-conforming. Since Appalachian identity is pertinent to the study and the participating universities recruit students from across the United States as well as internationally, the length of time students lived in the region was relevant to the results. Time spent in Appalachia was identified by whether the student had moved to the area themselves, their parents had moved to the region from outside Appalachia, or their grandparents or other ancestors had moved to the area. Over half of the sample (54.4%) were from families who originated in Appalachia. Nearly half of the sample (49.4%) were first generation college students. Table 1 shows complete demographics information.

Mindset and grit were determined by responses to Likert scale surveys. For Dweck's Mindset Survey (2006), a score of 4-6 indicates a growth mindset. The mean mindset score for the sample was 4.40 with a standard deviation of .740. This indicates students do score within the growth mindset range, though they rank at the lower end. Scores on the Grit Scale (Duckworth et al., 2007) fall in a continuum between 1-5, with 5 indicating the highest level of grit. The mean grit score for the sample fell near the middle of the continuum at 3.48 with a standard deviation of .576. Mindset and grit means for all demographic groups were compared

(Table 7) and revealed small differences between the demographic groups did exist. Females ranked slightly higher in mindset than males but had a lower mean grit score. Students whose families originated in Appalachia ranked higher in mindset but lower in grit to students who moved to the region on their own. There was not much difference between mindset scores in first generation students and those who had at least one parent graduate, but the grit mean was slightly lower.

To further explore patterns and relationships in grit, mindset, and demographic variables, Pearson correlations were run using SPSS Statistics Software. Fields (2013) explains correlation coefficients fall within the range of -1 to 1. A correlation of 1 indicates a positive correlation, which means as one variable increases, there is an increase in the other variable. A correlation of -1 indicates a perfect negative relationship in which an increase in one variable causes an equal movement in the opposite direction in the other variable. According to Field (2013), a strong or large correlation is indicated by a coefficient of .5 and above. The correlation coefficients for mindset, grit, and demographic variables all fall in what is considered to be weak or no relationship (Field, 2013). The strongest of these correlations are within Grit and Time in Appalachia (r=.177) and Grit and Parents' College (r=.101). The only statistically significant correlation was found between grit and time spent in Appalachia (r = -.177, p = .018). The negative correlation indicates as time in Appalachia increases, grit scores decrease. This would suggest participants whose families are native to the Appalachian region are less gritty than those participants who moved to the area themselves. No previous research has investigated time spent in Appalachia in relation to non-cognitive factors, but qualitative data from the current study shows students who have spent more time in Appalachia perceive themselves as grittier than their quantitative scores indicate.

An analysis of variance (ANOVA) test was conducted in SPSS and revealed there is a statistically significant difference in grit scores between two of the categories. Grit score significantly decreases from students who moved to Appalachia to students whose grandparents or other ancestors moved to the area. This decrease indicates students who are native Appalachian have significantly lower grit scores than students who hailed from other regions. Tukey's post hoc test was conducted to determine the effect size. Effect size is helpful in determining the extent of the effect, in this case, the relationship between grit and time spent in Appalachia. The higher the effect size, the stronger the relationship between the variables (Fields, 2013). Though the difference is statistically significant, the effect size was .033, which does not meet the .5 threshold for a large effect (Fields, 2013). Correlation results showed a negative relationship between grit and time in Appalachia, indicating students who were originally from the area had a significantly lower grit score. The ANOVA results confirmed a negative relationship between grit and time in Appalachia, but the small effect size indicates while there is a relationship, it is weak.

Research focused on the academic experience of first-generation students shows first-generation students have a lower graduation rate than non-first-generation peers (Alvarado, Spiratiu, & Woodbury, 2017; Blackwell & Pinder, 2014). If mindset and grit are the most reliable predictors of student success (Duckworth, 2016; Dweck, 2009), one would assume students who had at least one parent graduate college and serve as a guide through academia would have significantly higher levels of growth mindset and grit. Nearly half of the current sample (49.4%) were first generation students. In this study, there was only a weak, statistically insignificant correlation between mindset and parents' education (r=.033, p=.661) and grit and parents' education (r=.101, p=.179). Qualitative data suggests first generation students' mindset

and grit are positively affected by their families. Seven out of ten students interviewed for the qualitative portion of the study were first generation students. All seven reported being motivated by their family members to accomplish their academic goals. Results of this study indicate the non-cognitive success predictors of mindset and grit are not contributing factors to this existing achievement gap between first generation students and their non-first-generation peers. Dweck (2006) and Duckworth (2016) suggest mindset and grit are leading predictors of academic success. The results from the current indicate mindset and grit are not the strongest predictors for academic success in first generation college students.

The two concepts of mindset and grit have commonalities in relation to how people respond to challenges and how people are motivated. People with growth mindset and high levels of grit view challenges and failure as necessary steps in the learning process (Duckworth et al., 2007; Dweck, 2006). Quantitative data determined first year college students in Appalachia score in the lower end of the growth mindset scale (m=4.40) and near the middle of the grit continuum (m=3.48). Qualitative data collected from interviews revealed students in Appalachia perceive their mindset and grit at higher levels than their quantitative survey scores show.

Several interview participants used anecdotes from their first semester to describe how they faced academic challenges. Mark relayed how he failed his first Biology exam because he did not know how to study college material. Mark always received high grades in high school, and the failure discouraged him. He spoke with his professor and made a study plan for the subsequent assignments and his grades quickly improved. Sarah spoke about over estimating the time and effort she put into course work and studying. The first few weeks left her exhausted and anxious. She sought help from the school counselors and her advisor and created a more

manageable schedule. She reported she was able to enjoy her time on campus after that. Melanie also spoke of being discouraged during the beginning of the semester due to the overwhelming work, depression, and anxiety. She even thought about dropping out and going home before midterm. Melanie reached out to friends and the school counselor. She found help in the academic assistance center and reported she now cannot believe she thought about quitting. While these scenarios are common for first year students during the transition to college, they are important to highlight here as examples of growth mindset. In the growth mindset, students see learning as a process and seek assistance. Growth mindset students are open to changing their habits and learning methods to succeed (Dweck, 2006). Rather than feel defeated and defined by academic challenge, Mark, Sarah, and Melanie recognized challenge and failure are natural and seized the learning opportunity in front of them.

Participants in this study also perceived themselves as possessing a high level of grit, though the quantitative data showed an average score. Participants viewed hard work and grit as a badge of Appalachian culture. Many of them referenced their families and the hard work and persistence they had witnessed. Nina said her family passed down the phrase, "idle hands are the devil's workshop." Sean said his family's motto was "If you want to eat, you have to work." Lilly proudly proclaimed, "No matter what, I don't give up." The concept of persistence was a top code in the qualitative data. Students considered themselves gritty, even if grit was a byproduct of necessity. Melanie said, "We have to work harder to get what we get."

Previous studies focusing on rural students' education insinuate rural students possess fixed mindset and a low level of grit. Hlinka (2017) asserts if rural students do not feel prepared to make the cognitive jump between memorization required in high school to critical thinking on the college level, they will give up on their pursuit of higher education. Participants in the current

study proved the opposite. Though several of them mentioned being faced with academic challenges in the beginning, only one mentioned the idea of giving up, but reported she changed her mind after seeking out the appropriate assistance. Current participants' actions align with the theoretical framework of growth mindset (Dweck, 2006).

Research question one focused on finding the patterns of mindset and grit in first year Appalachian college students. The patterns of mindset and grit in first year college students in Appalachia is complex. Quantitative data collected from self-reporting surveys show students rank in the lower end of growth mindset, though they demonstrate growth mindset in the classroom. Average grit scale scores indicate a lackluster performance of persistence, though students perceive themselves as gritty and determined. These patterns indicate the potential and capacity for greater growth mindset and grit in first year college students in Appalachia.

## Research Question Two

Research question two asks "how do first year college students in Appalachia perceive their Appalachian identity?" Appalachian studies scholars have declared because of the diversity in land and people, it is nearly impossible to describe one universal Appalachian identity or experience (Billings, Norman, & Ledford, 1999; Cooper, Knots, & Elder, 2011; Eller, 2008; Kingsolver, 2015). With this in mind, the researcher used qualitative data collected from semi-structured interviews to explore the student perception of identity. Interviews were transcribed and coded using Values and In Vivo coding methods, which allow analysis that focus on personal experience and feelings. In vivo coding uses participant quotes to allow their unique voices and direct dialogue to be part of analysis (Saldana, 2015). Coding revealed two major themes, Complex Appalachia and Caught in the Middle, with subthemes for each.

**Theme One: Complex Appalachia**

 **Positive Community Aspects.** Participants were asked what they believe it means to be Appalachian and to describe traits and values of Appalachian people and culture. All responses began positively and focused on the traits of a close-knit and caring community. One student said in Appalachia, "everyone knows everyone, and everyone comes together to focus on whatever goal they're working toward." He expanded with an example of how the community rallies around families who experience hardship or tragedy:

  I see how people in small towns come together all the time. If somebody passes away, the whole community comes out to support the family. It don't matter if it's somebody you don't even know, the whole community will be there to support each other because people here just care about each other.

Several responses also mentioned the physical beauty of the land and the deep connectedness of the people to history and tradition. Nina said, "There is a deep connection to the land in the people here. Perseverance, hard work, friendliness, hospitality. These things are the backbone of our communities." Mark echoed this sentiment in discussing how he appreciated the opportunity to grow up close to nature. He said he grew up playing in the hills and the creeks and learned about nature through exploration, which led to his current academic aspirations to complete a Biology degree.

 Studies show that rural students place great value and emphasis on relationships, especially within the family (Blackwell & Pinder, 2014; Gibbons & Woodside, 2014; Hlinka, 2017; Nelson, 2016). The interviewer did not ask specific questions about family composition, but all participants discussed their families in various ways. Several of the participants mentioned unique family situations that influenced their view of Appalachian people and

culture. Melanie was raised by a community of strong single women. She views the experiences of her grandmother and mother as representative of the hard-working nature of Appalachian people. She said:

> I feel like people from Appalachia, what I see, are very committed to stuff. Like, my mom, she is such a strong woman. She has been through so much and I've just watched her push herself and push us to do great things and I think people from Appalachia just have that commitment that I really don't know if I see anywhere else.

Phillip was raised by his great grandparents. He cited their kindness and supportiveness as indicative of Appalachian values several times. He also used his great grandmother as an example of how Appalachian people honor tradition. He said:

> My mamaw still does stuff that she talks about that her great great grandparents did over a hundred years ago. And I don't know, I feel like most people, they just don't care that much about their history anymore compared to how we do.

Sarah's biological family moved to Appalachia from a northern state when she was a child. At the time of the move, Sarah entered the foster care system and has since lived with a family who originated in Appalachia. She stated her foster family exhibits the hospitality and Christian beliefs she considers to be important Appalachian values.

Some research points to complicated intersections of family and education for rural students, particularly first-generation students (Bryan & Simmons, 2009; Hendrickson, 2012; Hlinka, 2017; Nelson, 2016). In one study, rural students reported a negative impact on their family relationships caused by changes they experienced at college (Bryan & Simmons, 2009). The participants in the current study reported strong family connections, though not all their definitions of family were traditional. Participants felt motivated and encouraged by their

families and did not report a change in the relationship due to college. This discrepancy could be due to the fact that the current study was conducted early in the participants' first year of college and many intellectual and emotional changes had not yet had time to develop.

**Negative Community Aspects.** Though the interview participants led their discussion of Appalachia with positivity, negative aspects were also acknowledged. Issues of drugs and poverty were the most frequent codes in relation to Appalachian culture. Substance abuse, particularly the use of opioids and prescription medication, has become an ever-increasing problem in central Appalachia (Moony, Satterwhite, & Bickel, 2017). Students acknowledged the damaging effects the opioid epidemic had on their hometowns with a focus on how it affects their generation. One participant claimed that while Appalachia possesses great beauty and history, living in the area was like, "living in a ghost" because of how drastically addiction has changed the people. Melanie said:

I see a lot of drugs coming in and kids my age or younger are growing up with parents that's on meth and drugs so then the kids, they want to push themselves to be better than what they see growing up.

The issue of economic resources was mentioned several times. Melanie spoke about the lack of resources in her hometown. She said there were few options for work other than small restaurants and a detention center. Mark talked about how he saw members of his community struggle for money and how addiction issues sometimes exacerbated the poverty he witnessed. He described their situations as an "endless, vicious cycle" as their addictions affected their employability, ability, and desire to work.

Participants often grappled with articulating the complexity of Appalachia. Nina said Appalachia was "multilayered." Danielle acknowledged that living in the area came with "pros

and cons." Sean expanded on the idea of complexity by saying, "Living in this area you see both sides of the spectrum. There are massive lake houses and mansions, but also homeless bridges and camps all within thirty miles of each other."

**Misunderstood Appalachia.** The ways in which Appalachia differs from the rest of the United States makes it difficult for educators to understand the unique circumstances of the Appalachian student (Donovan, 2016; Winters, 2013). Participants in this study did not single out educators but felt strongly that the experiences they had in Appalachia could not be matched anywhere else, and that others who lived outside the region could never grasp the complexity of their identities.

Like their description of Appalachian culture, the participants' discussion of Appalachia's uniqueness included both positive and negative. One student said that living in Appalachia has prepared him for education and for the future because, "I've been able to be a part of something here I could never get anywhere else." Sean said Appalachia was "unlike anywhere else in the world." Ivy was inspired by the history of her campus and the community and global leaders who were alumni. She stated, "Being here is a unique experience. I feel privileged to live here."

Melanie's take on Appalachia's uniqueness was that people who lived outside the area could never understand "what we've been through." She said the good and the bad about Appalachia made it impossible to understand unless experienced.  By positioning themselves as the only ones who could truly understand the complexity of Appalachia, they claimed ownership of the region and their identities.

**Theme Two: Caught in the Middle**

   **The Other.** Students believe their Appalachian identities are complex and incomprehensible to those outside the region. Eller (2009) states Appalachia has been considered the "other" by the rest of the United States due to stereotypes and misconceptions of the area. Participants in this study positioned themselves as "other" in relation to the rest of the world, but also in relation to the negative aspects they recognized in Appalachian culture.

   Participants distanced themselves from stereotypes and those who create the stereotypes. In doing so, they elevated the misunderstood elements of Appalachia, but often used comparative and even negative language. Phillip said, "I think we're a nicer bunch of people than most people. I feel like once you branch out from this area and travel far off, people are more harsh." Others made assumptions about people outside Appalachia as well. Allison said, "I think a lot of people from here have more common sense than people that live in cities. They don't have to go out and work hard to make a living." She claimed the hard-working background of Appalachian people make them value things more than others could.

   Literature shows negative stereotypes about one's area or culture can lead to a distancing from one's home and heritage (Cooke-Jackson & Hansen, 2008). The participants in this study positioned themselves as separate from the negative aspects of their culture but did not completely separate. Instead, they positioned themselves in the middle of several conflicting factors.

   Each participant was enrolled in college in their home state, though none in their hometowns. All the participants created a distance between their home communities and their campuses, though each are located in central Appalachia. Several participants claimed they experienced culture shock when they arrived at college. One student said, "even an hour and a

half away, it seems like a different world." This distancing allowed students to speak of the negative aspects and their feelings of being othered with more candor.

Students also felt caught in the middle of their hometown cultures and their pursuit of education. Five students noted their choice to attend college created a strain with relationships back home. Mark said:

> People from my high school thought that if you went to college that you know, you'd think you were better than everybody because the majority of people in my community never went to college.

Phillip also said he'd been labeled as thinking he was "going with the bigshots" since he became a college student and claimed that many people possessed an anti-intellectual attitude and thought of college as bad. "It's not. It's a great thing to grow and that people will sort of make fun of you for bettering yourself is sad," he said.

According to the Appalachian Regional Commission (2015), the average age in Appalachia is forty. Scholars in Appalachia have long talked about the "brain drain" that causes young people to feel they need to leave the area in order to pursue a successful future (Eller, 2009). Despite the negativity participants discussed, many of them expressed a strong sense of loyalty to the area. Phillip expressed his feelings of attachment by saying:

> You always hear talk about if someone's going to make it big then they need to move off and to me, I don't think so. It's not like I always want to stay confined to one place or something like that, it's just, I don't want to lose where I'm from. I want to make it obvious that I'm from here and not hide the fact that I am.

Even those like Melanie, who spoke the most of complex emotions and experiences "back home," expressed a complicated desire to honor where she's from. She said:

> We have a lot of bad memories back home, and I want to get my family out of there. But that doesn't mean I don't want to go back there, doesn't mean that I wouldn't raise my family there. I was born and raised there.

Melanie and six other participants said their desire was to someday improve the conditions in their hometowns.

      **Place attachment.** Place attachment can be defined as the entire set of experiences a person has with a place and the emotions and meaning-making that are associated with these experiences (Altman & Low, 1992; Lewicka, 2011). Scannell and Gifford (2014) warn that a person's place attachment can lead to a skewed place perception. A person who has a strong sense of place attachment may not be able to recognize the negative aspects of their place as clearly as someone who does not possess the same attachment. The participants in this study showed a strong sense of place attachment as evidenced by the initial positive description of their identities and their loyalty to place. However, their attachment did not skew their place perception. Students did not gloss over the negative aspects of Appalachian culture and communities. They acknowledged and articulated the negative as thoroughly as they did the positive. In a study of Appalachian identity, Winter (2013) found that when presented with a list of common negative stereotypes, a group of pre-service teachers denied association with them but applied them to others they know. Further, when asked about their concerns as future teachers, they often cited the negative stereotypes they claimed untrue such as poor parental involvement, poverty, and laziness (Winter, 2013). Students in the current study denied association with the stereotypes and did not label others with them. Instead, they evaluated their environments objectively and spoke about the negative aspects of their home towns with honesty and candor.

Research question two sought to discover how students perceive their Appalachian identities. First year college students in Appalachia perceive their identities as complex and personal. They express ownership of Appalachia and believe that others are incapable of understanding the multiple layers of their region. They demonstrate strong place attachment and are able to view the area objectively, acknowledging both the positive and negative aspects. They often feel caught in the middle of the positive and negative of their communities and find it necessary to position themselves as distant, objective participants. This position allows them to evaluate the complexity and ways they feel they can make positive changes.

**Research Question Three**

Findings related to the first research question determined students in Appalachia possess an average level of grit (m=3.48) and a mindset score on the lower end of the growth scale (m=4.40) but perceive themselves to be grittier and having more of a growth mindset than their survey scores suggest. Qualitative data related to research question two showed students possess a strong level of place attachment and view their Appalachian identities as complex and personal. Research question three sought potential connections between students' place identities, mindset, and grit. The researcher used Values and In Vivo coding to find themes related to challenges and motivation and the influence of place on non-cognitive factors.

**Challenges**

**Lack of Resources.** As previously discussed, students in the study described the academic challenges they faced during their first semester at college. Cultural challenges were mentioned far more than academic challenges. Poverty is prevalent in Appalachia. In a poverty report from the Appalachian Regional Commission (2014), the average income in Appalachia was 23% lower than the rest of the United States. Paired with a high unemployment rate and

other socioeconomic factors, Appalachia's poverty rate ranked higher in comparison. None of

the students in the study mentioned poverty as a factor that affected them personally in their

homes, but all discussed economic hardship in relation to their educations.

Six students said they knew their previous schools lacked the resources needed to offer a

solid education. One student said in her school resources were limited, and they were allocated in

ways that left academic programs behind. Another student said he remembered the fundraising

efforts led by his teachers and the parent/teacher organization to pay for textbooks and supplies.

Another said, "My education isn't where it's supposed to be. I know that."

**Stereotypes.** All participants cited negative Appalachian stereotypes as the most

significant challenge the area faced. Table 12 shows a list of most frequent codes in relation to

stereotypes. The stereotype mentioned by every student was the common stereotype suggesting

an Appalachian accent is indicative of ignorance. All but two of the participants said they had

been stereotyped about their accent at college, and one student said she was singled out by a

professor for the way she pronounced a word in-class discussion. Allison said:

> It's the first thing people notice and it's really a downfall because no more than you open
>
> your mouth and they hear your accent, they're thinking 'oh wow, nothing intelligent is
>
> going to come out of their mouth.' Sometimes people just ignore the conversation, ignore
>
> what you're saying, or they just think you're stupid. They think you're just a hillbilly
>
> from the mountains.

Sarah's spoke of her unique family situation and how her biological family in a northern state

has reacted to the change in her accent since she moved to Appalachia as a child. She said:

> When I moved here as a kid, I developed an accent if you couldn't tell. It's not as
>
> prominent as others maybe but it's there and when I talk to my family up north, they can

hear it, like they spot it immediately because it's just so different. It's kind of like we slur

our words a little bit. Our consonants are different, well, and our vowels. We use

diphthongs a bit more. So when I started talking to my family there again they started

saying things like 'oh, they've turned you stupid.' I was like, being down south has not

turned me stupid. It's just changed my language.

Several of the participants stated people often made light of or "mocked" their accents as a joke.

They admitted it was sometimes difficult to determine whether the jokes were meant to be funny

or meant with malice, but they often tried to laugh them off.

There has been much research on the effects of negative language stereotypes on

Appalachian students' education. Stereotypes about accent and dialect can cause students not to

withdraw from class discussion (Dunstan & Jaeger, 2015) or to even feel a greater disconnect

with their homes and communities (Hayes, 2011). Participants in this study confirmed that

negative accent stereotypes affected their education, but none claimed a feeling of disconnection

from their homes for it. None of the students in the study expressed a desire to change or hide

their accents due to stereotypes.

### Conflicting Motivational Forces

Students in this study were motivated to achieve by several aspects of their Appalachian

identities. Students overwhelmingly listed family as a huge motivational factor in their lives,

though the ways in which family motivated each student were different. Several students were

encouraged by their families. Phillip mentioned his great grandparents as being ever supportive

and accepting of his goals. Other families, particularly the families of the first-generation

students, motivated their students to succeed in order to accomplish a goal they did not have the

opportunity to achieve. Allison says her parents encouraged her to graduate college so she could

make a better living for herself than they had been able to do. Students expressed confidence in their academic abilities and were secure in the fact they were supported by a caring community. Nina said, "I always know I have a community behind me that is rooting for me and will catch me with arms outstretched and push me back up if I ever fall." The push from their support systems motivated them to face the academic challenges they faced.

The positive aspects of the community pushed students forward, but the negative effects of stereotyping pushed back. Dweck (2007) describes stereotypes as a type of labeling that causes people to be stuck in a fixed mindset. A fixed mindset leads people to believe their abilities are unchangeable, and there is no use in putting in an effort. The participants in this study acknowledged and exhibited the fixed mindset traits that come with stereotypes to varying degrees. Phillip said:

> When people bring up stereotypes like that or point them out about you, you kind of think well, what if they do see me like that? What if to them I'm just some stupid redneck? And then you start to think, if they see me like that, what if I am like that? I mean, even if it's not true you might subconsciously start to believe that what people say about you or how they see you is the truth, even if it's not. And that can really do damage to self-esteem.

Danielle expressed she felt confident in her academic abilities, but felt they were judged by a different standard and would not hold up against the world that stereotyped her. She said, "I feel like I'm intelligent for here, for this area, but I feel like I would be eaten alive in the big wide world. I see myself as good enough for the mountains."

Studies have been conducted to examine the effect of stereotype threat on mindset in relation to gender, race, and academic ability. One study investigated the impact of the

stereotype that claims women are not as good in math as men. When reminded of the stereotype before a task, participants performed lower, thus proving the stereotype affected how participants perceived their abilities (Good et al., 2003). The participants in the current study seemed to fall into the same category at first, but a conflicting effect of the stereotypes emerged. While students were discouraged and felt the harmful blows of stereotypes, they turned the discouragement into motivation. They use the negative view of Appalachians as an element that increases their desire to succeed. One first-generation student said:

> That [stereotypes] just make me want to push myself more and prove that it's not what we are here. It's not that I need approval from them or anyone else, but just for me. I want to show myself that I'm capable of more than I think. Because like I was saying, those things people stereotype us with can get in our heads and change what we think about ourselves, so pushing myself is fighting back at that and I feel like it's made me a stronger person.

Another student said the negative images and stereotypes of Appalachia "empower" him to prove those images wrong. All ten participants acknowledged the damage of stereotypes, then said the negativity inspires them to do better. This motivation came with a heavy sense of responsibility, too. Mark said:

> I want to prove the stereotype, people, I want to prove all that wrong. I want to change the outlook, really change people's outlook because we're not weak, dumb people. We are strong and smart people, and it really empowers me. The heritage we have empowers me and makes me want to do something.

Students even turned the negative aspects of their communities into motivation. Seven students said witnessing poverty and the effects of the opioid epidemic pushed them to want better for

themselves and their neighbors. Mark said in comparison to the struggling he sees in his community, his accomplishments feel more valuable. He said:

> It feels more rewarding. It's harder work, but it feels like it's worth more at the end. When you're at a disadvantage, when you succeed it shows everybody that you can do it. If you have the willpower, you will succeed.

Research question three investigates the influence of place on mindset and grit. First year students in Appalachia perceive themselves as grittier and having more of a growth mindset than their quantitative scores show. They view grit as part of their Appalachian identities and are motivated by both the positive and the negative in their communities. Previous studies on first-generation students in rural areas claim despite challenges students face, they are often more resilient than their peers (Alvarado et al., 2017). Many first-generation rural students cite negative cultural factors such as difficult upbringing or poverty as motivators to succeed (Blackwell & Pinder, 2014). The current study confirms these findings as participants cite negative aspects of the community as motivation. However, the current study also proves the negative aspects of stereotypes and community are straining factors on grit and growth mindset and hinder them from matching student perception.

**Conclusions**

The research questions guiding this study were:

1. What are the patterns associated with mindset and grit in first year college students in Appalachia?

2. How do first year college students in Appalachia perceive their Appalachian identity?

3. To what extent does perception of place influence mindset and grit?

Quantitative data was collected through a set of surveys. The survey set included a brief demographics survey, the Dweck (2006) Mindset Scale, and the Grit Scale (Duckworth et al., 2007). Growth mindset and grit scores were calculated from responses to Likert scale questions. First-year students in Appalachia score in the lower end of the growth mindset scale (m=4.40) and near the middle of the grit continuum (m=3.48). Mindset and grit scores were analyzed for correlation among the demographic variables of gender, time in Appalachia, and parents' education level. The only statistically significant correlation was found between grit and time in Appalachia (r=.177). Participants who moved to Appalachia on their own had a statistically higher grit score than those whose families originated in the area. The effect size was small, indicating the difference, while statistically significant, is unimportant (Field, 2013). Qualitative data indicated the opposite of this finding. Interview participants were from a pool of volunteers whose parents or grandparents had moved to the Appalachian region. Participants were chosen based on this criterion to ensure a length of Appalachian lived experience. Students in Appalachia perceive themselves as gritty. They believe grit and hard work is a badge of the Appalachian culture, and they credit their communities for instilling the value. They also exhibit a growth mindset in relation to academic abilities. They are able to accept academic challenges and navigate ways to grow and learn. However, their quantitative mindset and grit scores are not as high as one would expect when compared to qualitative data.

Semi-structured interviews were conducted with ten volunteer participants. Each participant was enrolled in their first year of college at a participating university. The students in the study expressed loyalty, pride, and ownership in Appalachia, which indicates they have a strong place attachment. Students also believed their Appalachian identities are complex. They were quick to point out the positive aspects of Appalachia and its people, with a particular focus

on the caring and supportive community.  They also acknowledged the negative aspects of their area, including poverty and the opioid epidemic. Participants were defensive of the region and believed it was so complicated no one outside Appalachia could genuinely understand it. In many ways, the students in the study felt caught in the middle of conflicting ideas about Appalachia. They felt strong attachment, but they also positioned themselves as separate from Appalachia to be able to analyze it objectively.

Research shows mindset and grit may even have more of an effect on student achievement than common negative factors such as poverty (Claro et al., 2016; Haigen & Hao, 2017). Students from low-income backgrounds who possess a growth mindset outperform their fixed mindset peers from the same socioeconomic background. These students also achieve at higher levels than their fixed mindset peers from a higher socioeconomic background (Claro et al., 2016). Research has focused on the effect mindset can have on those negative factors. Still, the current study shows educators' focus should be on the opposite relationship and how negative cultural factors affect mindset and grit.

Academic tenacity is a combination of non-cognitive factors to promote long-term achievement (Dweck et al., 2014). The participants in this study exhibited academically tenacious traits. They struggled but sought help and persevered when they met with adversity. Qualitative data indicates their quantitative scores should be much higher. Appalachian students have the desire and capacity to use mindset and grit to their advantage, and even turn negative factors into motivators, but the effects of the negative linger. With the push and pull of conflicting elements, it is difficult for students to cultivate the levels of mindset and grit that can help them succeed. Mindset interventions have proven to increase mindset score for students (Broda et al., 2018; Chao et al., 2017; Dweck, 2006, 2017), but if negative cultural factors are

hindering the development of mindset and grit, Appalachian students are at a disadvantage when it comes to cultivating their non-cognitive skills. This creates an equity issue further exacerbating the problems of social class in academia. Students from areas where poverty, drug addiction, and unfair and inaccurate stereotypes are not prevalent stand to benefit more from interventions that can improve their chances of academic success.

The current study shows traditional messaging and interventions to cultivate growth mindset and grit (Duckworth, 2016; Dweck, 2006) are inadequate for the unique and complex students in Appalachia. Research indicates rural students already often feel a disconnect between their lives and a standard curriculum (Bryan & Simmons, 2009; Hendrickson, 2012; Hlinka, 2017). Failing to recognize culture in an attempt to grow non-cognitive factors would create a further gap and cause educators to adopt a deficit model when evaluating students. The results of this study relate more to the findings of Golden (2017), which asserts a focus on grit ignores the sociocultural issues that affect success. If mindset and grit can be cultivated and are the strongest predictors of success, and students are expected to accept or develop those traits without addressing cultural factors, a student who fails could simply be considered not entirely in the growth mindset or not gritty enough.

The cultivation of mindset and grit could lead to greater academic persistence and higher graduation rates in Appalachia, but non-cognitive factors should not be the sole focus of interventions. Higher education administrators and educators must work to mitigate the external factors that serve as barriers for grit and growth mindset. First year college students in Appalachia demonstrate the capacity for growth mindset and grit. Qualitative data indicates these students are grittier and more capable of growth mindset practices than their quantitative data shows. They articulate persistence and tenacity in their own experiences and the stories of

their families and communities, and while they translate those qualities to their academic performances, they do not demonstrate them on technical surveys. This study also emphasized the way students in Appalachia feel caught in the middle of their culture, their hometowns, and their academic institutions. Negative stereotypes inflicted by media, classmates, and in some cases, even instructors, cause students to feel conflicted about their identities. Stereotypes create lingering self-doubt and cause students to feel the need to work harder to prove the stereotypes wrong. Initiatives focused on increasing mindset and grit without considering personal and cultural factors could exacerbate the feeling of disconnect and discourage academic endeavors.

Educators must go beyond resources and support services to increase grit and growth mindset in first year college students in Appalachia. Previous research has proven curriculum focused on place can lead to better academic performance (Ajaya, 2014; Azano, 2011; Donovan, 2014; Goodlad & Leonard, 2018). Administrators and educators should make a greater effort to include understanding and appreciation of Appalachian culture in policy, curriculum, and non-cognitive interventions.

**Recommendations for Further Research**

The researcher could find no prior studies that investigate mindset and grit and place identity in Appalachian college students. Further research on how these non-cognitive factors function in the unique region could undoubtedly be beneficial. It would be of interest to repeat the current study with upper-level college students in Appalachia. Such a study could measure the potential ways mindset and grit are cultivated with higher education in the area. All of the participants in the current study were first-time full-time freshmen at residential four-year institutions. Studies of mindset and grit in non-traditional and community college settings could also provide information on a different demographic of students.

This study did not include an evaluation of student academic performance. Further research exploring the connection between mindset, grit, and GPA in first year college students in Appalachia could expand on results found in the current study and solidify the importance of cultivating mindset and grit in this particular region.

Much of the research on mindset and grit has been done to evaluate the effectiveness of mindset or grit messaging (Brummelman et al., 2014; Dweck, 2006; Syner et al., 2014). Further studies on how mindset or grit messaging could improve scores for first year Appalachian college students could help develop ways in which the harmful effects of stereotypes and community pressures could be mitigated. Studies that explore ways to integrate grit and mindset intervention with a study of place would be beneficial. Related to messaging, a final recommendation for further research would be to investigate the potential connection between place-based curriculum and mindset and grit increase. A comparative study between grit and mindset scores at the beginning of a place-centric course and again at the end could evaluate the effect of place-education on non-cognitive success predictors.

**Implications for Professional Practice**

The results of this study show the experience of Appalachian college students is unique. It is not adequate to address Appalachian students in the broad field of rural education. The results of this study will be helpful for educators and administrators of all educational institutions in Appalachia. There has been no previous research investigating the connection between place identity and non-cognitive success predictors. This study shows social and cultural challenges are more influential than academic challenges when it comes to mindset and grit. While grit and growth mindset can be stronger than socioeconomic factors in terms of predicting success (Claro et al., 2016), those factors hinder the development of both.

Students in Appalachia perceive themselves as gritty. They are motivated by challenges and desire to succeed and persist in the face of hardship, often to prove stereotypes wrong and show the world they are capable. Positive motivators such as familial connections push them forward, but negative factors such as poverty and stereotypes push back. They internalize the labels placed on them by stereotypes, which leads to a fixed mindset (Dweck, 2006). However, students then turn the negative factors into motivation, which allows them to score in the lower part of the growth mindset scale and in the average of the grit continuum.

Appalachian students are academically tenacious, but if universities are unable or unwilling to acknowledge and assist in removing outside barriers, students expend their energy navigating those forces and have little left for the long journey of college completion. Learning does not occur in a vacuum and neither does the growth of non-cognitive factors. To increase non-cognitive factors and student persistence, administrators and educators must be willing to rethink academic policy and initiatives in consideration of the whole student, including their cultural background and experiences. Educators in Appalachia must first focus on addressing the negative factors hindering the development of growth mindset and grit. Participants in this study identified poverty and drug addiction as the most prominent negative aspect of their communities. As proven by the results of this study, students do not entirely leave their communities behind when they enter college. They often feel as though they need to separate themselves from both the negative aspects of their hometowns as well as their educational institutions. Administrators can ease the burden of students who feel caught in the middle by offering and normalizing financial and social programming to clear the path for the growth of non-cognitive skills. The participants in this study discussed taking advantage of academic opportunities, but few mentioned opportunities for social support on campus. Resources and

support groups for students affected by the opioid epidemic are essential. Students must have an outlet for coping with the realities of their communities without feeling ostracized or ashamed.

Institutions must also be committed to mitigating the effects of Appalachian stereotypes. The results of this study show students in Appalachia exhibit a strong sense of place attachment, which comes with the weight and responsibility of disproving the region's image. One method of combatting stereotypes is to incorporate place into the curriculum. Students who have a solid understanding of their culture's history and context may feel safe to explore their complex identities in a way that leads to less defensiveness. When students are unable to see a personal connection to their lives in the curriculum, they are less motivated to learn (Hendrickson, 2012). The results of this study echo this in showing how students separated themselves and their "back home" communities from their academic ones and believed no one outside their area could understand their culture and identity. Previous research shows students perform better and with more profound levels of meaning and reflection when their curriculum focuses on place (Ajaya, 2014; Azano, 2011; Donovan, 2014; Goodlad & Leonard, 2018). The results of this study support the inclusion of an Appalachian Studies course in general education core requirements for all colleges in Appalachia. A course focused on the celebration of Appalachian culture is not only beneficial to native Appalachian students. If students from outside the area have a greater understanding of Appalachia, they will be less likely to perpetuate negative Appalachian stereotypes.

It is also important for colleges to draw from the positive influences of Appalachian culture. Participants in this study all cited support from their families and strong communities as positive forces in their academic journeys. Universities should develop active family programs and offer support for families who wish to participant in campus life and events.

If administrators focus on clearing the external barriers and make support and resources available upon students' arrival on campus, mindset and grit interventions can begin in the first semester of college. Since many colleges and universities require students to enroll in a First Year Seminar or equivalent course, this course could be the appropriate place in the curriculum to include mindset and grit interventions. The purpose of the First Year Seminar is to assist students with the transition to college. This study supports a shift in First Year Seminar curriculum to focus on non-cognitive factors and student identities. Though quantitative data showed the participants in this study did not excel in mindset and grit, each interview participant shared stories exhibiting the traits. In this study, students' identity stories were grit and growth mindset stories. It is possible they were unable to translate their personal experience to the academic scenarios in the surveys. The First Year Seminar curriculum should combine scientific information about the elasticity of the brain and the theories of mindset and grit with students' personal stories. The participants in this study all shared stories about the people in their families and communities who exhibit strong mindset and grit, but they often failed to see it in themselves. Students may be more likely to recognize their grit, growth mindset, and tenacity if they can view it through the lens of personal identity and experience.

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# Appendix A

# NIH Certificate

## Certificate of Completion

The National Institutes of Health (NIH) Office of Extramural Research certifies that **Amanda Runyon** successfully completed the NIH Web-based training course "Protecting Human Research Participants".

Date of completion: 01/20/2018.

Certification Number: 2607704.

**Appendix B**

**Initial Contact Email**

My name is Amanda Slone. I currently serve as an associate professor of English and director of First Year Experience at the University of Pikeville in Pike County, Kentucky. I am also a doctoral student at Northwest Nazarene University. I am writing today with a request to conduct research on your campus during the fall 2019 semester.

My dissertation focuses on place identity and non-cognitive success factors in first year students in Appalachia. I hope to explore the potential relationship between Appalachian identity and mindset and grit in our first year students. I plan to conduct my research at three universities in Appalachia, particularly in central Appalachia. During the data collection phase, I would work with First Year Seminar (or equivalent course) faculty to administer the Mindset Survey and Grit Scale to enrolled students. After that, I would ask for student volunteers from each campus to participate in semi-structured interviews. The research will not be disruptive, and I will share results with faculty and administration.
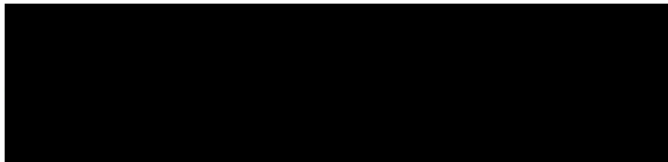
I have included a brief outline of my dissertation project. If you approve of my request, I ask that you share with me the contact information of your director of First Year Experience or the appropriate faculty/staff. If you have any questions, please feel free to contact me [aslone@nnu.edu](mailto:aslone@nnu.edu). I have also included a copy of a site permission letter necessary for my dissertation.

I appreciate your time and hope to visit your campus very soon.

Respectfully,

Amanda Jo Slone

## Appendix C
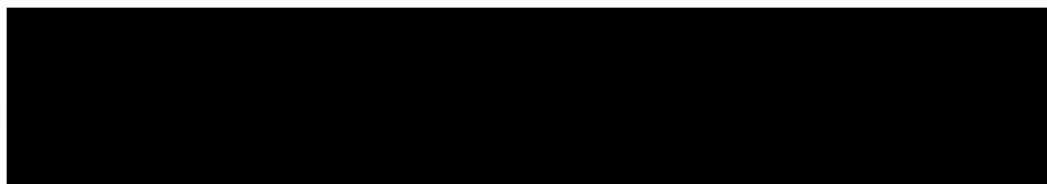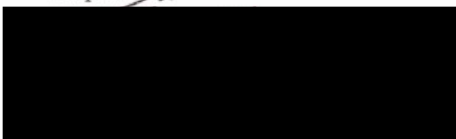
## Site Permissions

████████████████████████████████████████

RE: Research Proposal Site Access for Ms. Amanda Jo Slone

Dear IRB Members:

This letter is to inform the IRB Committee that Administration at ███████████████████s reviewed the proposed dissertation research plan including subjects, assessment procedures, proposed data and collection procedures, data analysis, and purpose of the study. Ms. Slone has permission to conduct her research on campus and with students and staff of ██████████ ████████ The authorization dates for this research are August 2019 to July 2020.

Respectfully,

████████████████████████

████████████████████████████████████████

RE: Research Proposal Site Access for Ms. Amanda Jo Slone

Dear IRB Members:
This letter is to inform the IRB Committee that Administration at ███████████████████
has reviewed the proposed dissertation research plan including subjects, assessment procedures, proposed data and collection procedures, data analysis, and purpose of the study. Ms. Slone has permission to conduct her research on campus and with students and staff of ██████████████
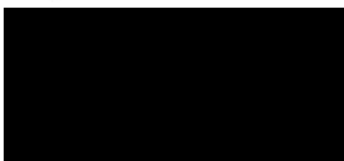████████ authorization dates for this research are August 2019 to July 2020.

Respectfully,

RE: Research Proposal Site Access for Ms. Amanda Jo Slone

Dear IRB Members:

This letter is to inform the IRB Committee that Administration at ███████████████ has reviewed the proposed dissertation research plan including subjects, assessment procedures, proposed data and collection procedures, data analysis, and purpose of the study. Ms. Slone has permission to conduct her research on campus and with students and staff of ██████████████ █████████ authorization dates for this research are August 2019 to July 2020.

Respectfully,

## Appendix D

## Informed Consent

**A.  PURPOSE AND BACKGROUND**

Amanda Jo Slone, in the Department of Graduate Education at Northwest Nazarene University is conducting a research study related to mindset, grit, and place identity in first year college students in Appalachia. We appreciate your involvement in helping us investigate how to better serve and meet the needs of Northwest Nazarene University students.

You are being asked to participate in this study because you are a healthy volunteer, over the age of 18.

**B.  PROCEDURES**

If you agree to be in the study, the following will occur:

1. You will be asked to sign an Informed Consent Form, volunteering to participate in the study.

2. You will complete the Mindset Survey and Grit Scale during class. Each survey should take approximately ten minutes to complete.

3. You will have the option to volunteer for participation in an interview outside of class.

4. If you volunteer and are selected for the interview, you will participate in at least one interview outside of class where you will answer a set of interview questions and engage in discussion about Appalachian identity.  These interviews will be audio taped and will last approximately thirty minutes each.

These procedures will be competed at a location mutually decided upon by the participant and principal investigator and will take a total time of about two hours outside of class time.

**C.  RISKS/DISCOMFORTS**

1. Some of the discussion questions may make you uncomfortable or upset, but you are free to decline to answer any questions you do not wish to answer or to stop participation at any time.

2. For this research project, the researchers are requesting demographic information. Surveys will be kept confidential. The researchers will make every effort to protect your confidentiality.  However, if you are uncomfortable answering any of these questions, you may leave them blank.

3. Confidentiality: Participation in research may involve a loss of privacy; however, your records will be handled as confidentially as possible. No individual identities will be used in any reports or publications that may result from this study.  All data from notes, audio tapes, and disks will be kept in a locked file cabinet in the Department and the key to the cabinet will be kept in a separate location.  In compliance with the Federal wide Assurance Code, data from this study will be kept for three years, after which all data from the study will be destroyed (45 CFR 46.117).

4. Only the primary researcher and the research supervisor will be privy to data from this study.  As researchers, both parties are bound to keep data as secure and confidential as possible.

## D.  BENEFITS
There will be no direct benefit to you from participating in this study.  However, the information you provide may help educators to better understand the connection between place-identity and non-cognitive success factors.

## E.  PAYMENTS
There are no payments for participating in this study.

## F.  QUESTIONS
If you have questions or concerns about participation in this study, you should first talk with the investigator.  Amanda Slone can be contacted via email at ASlone@nnu.edu, via telephone at 606-218-5345 (W) / 606-794-7050 (C) or by writing: 147 Sycamore Street Pikeville KY 41501.

Should you feel distressed due to participation in this, you should contact your own health care provider.

## G.  CONSENT
You will be given a copy of this consent form to keep.

**PARTICIPATION IN RESEARCH IS VOLUNTARY.**  You are free to decline to be in this study, or to withdraw from it at any point.  Your decision as to whether or not to participate in this study will have no influence on your present or future status as a student at Northwest Nazarene University.

*I give my consent to participate in this study:*

_____

**Signature of Study Participant**                                                                  **Date**

*If interviewed, I give my consent for the interview and discussion to be audio taped in this study:*

_____

**Signature of Study Participant**                                           **Date**


*I give my consent for direct quotes to be used in this study:*


_____

**Signature of Study Participant**                                           **Date**




_____

**Signature of Person Obtaining Consent**                          **Date**


**THE NORTHWEST NAZARENE UNIVERSITY INSTITUTIONAL REVIEW BOARD HAS REVIEWED THIS PROJECT FOR THE PROTECTION OF HUMAN PARTICIPANTS IN RESEARCH.**

**Appendix E**

**Printed and Electronic Notice**

Printed and electronic notice

Hello,

My name is Amanda and I am a Doctoral Student at Northwest Nazarene University. I am currently studying the relationship between place identity, mindset, and grit in first year Appalachian college students. You are receiving this letter because you are enrolled in a participating faculty's First Year Seminar course. All participating universities are situated in the Appalachian region.

I am looking for student volunteers who live in the Appalachia region and are willing to participate in my study. Participants will complete a series of surveys at the beginning of the semester. Participants also have the opportunity to volunteer to be interviewed for the second portion of the study. Participation in the interview is not required. Participation is completely voluntary and will not affect your performance or grade for this course.

It is my hope that your willingness to participate and your responses will provide meaningful information to instructors and administrators who are dedicated to student success in Appalachia.

If you are interested in participating in the study, please complete the information below and return this form to your instructor. If you have further questions about the study, feel free to contact me at AmandaJSlone@upike.edu or (606) 218-5345.

Thank you,
Amanda Slone

_____

Name:
Email address:
Phone number:
Institution/Instructor:

**Appendix F**

**Surveys**

Please complete the Mindset Survey, Grit Scale, and brief Demographics Survey. Attached to this survey is an invitation to participate in at least one semi-structured interview that will further the research in this study. Please only complete that section if you would like to volunteer to be selected as an interview subject.

**Mindset Survey**

Directions: Read each sentence below and then mark the corresponding box that shows how much you agree with each sentence. There are no right or wrong answers.

1. You have a certain amount of intelligence, and you really can't do much to change it.
   a. Strongly Agree
   b. Agree
   c. Mostly Agree
   d. Mostly Disagree
   e. Disagree
   f. Strongly Disagree
2. Your intelligence is something about you that you can't change very much.
   a. Strongly Agree
   b. Agree
   c. Mostly Agree
   d. Mostly Disagree
   e. Disagree
   f. Strongly Disagree
3. No matter who you are, you can significantly change your intelligence level.
   a. Strongly Agree
   b. Agree
   c. Mostly Agree
   d. Mostly Disagree
   e. Disagree
   f. Strongly Disagree
4. To be honest, you can't really change how intelligent you are.
   a. Strongly Agree
   b. Agree
   c. Mostly Agree
   d. Mostly Disagree
   e. Disagree
   f. Strongly Disagree
5. You can always substantially change how intelligent you are.
   a. Strongly Agree
   b. Agree

      c. Mostly Agree
      d. Mostly Disagree
      e. Disagree
      f. Strongly Disagree

6. You can learn new things, but you can't really change your basic intelligence.
      a. Strongly Agree
      b. Agree
      c. Mostly Agree
      d. Mostly Disagree
      e. Disagree
      f. Strongly Disagree

7. No matter how much intelligence you have, you can always change it quite a bit.
      a. Strongly Agree
      b. Agree
      c. Mostly Agree
      d. Mostly Disagree
      e. Disagree
      f. Strongly Disagree

8. You can change even your basic intelligence level considerably.
      a. Strongly Agree
      b. Agree
      c. Mostly Agree
      d. Mostly Disagree
      e. Disagree
      f. Strongly Disagree

9. You have a certain amount of talent, and you can't really do much to change it.
      a. Strongly Agree
      b. Agree
      c. Mostly Agree
      d. Mostly Disagree
      e. Disagree
      f. Strongly Disagree

10. Your talent in an area is something about you that you can't change very much.
      a. Strongly Agree
      b. Agree
      c. Mostly Agree
      d. Mostly Disagree
      e. Disagree
      f. Strongly Disagree

11. No matter who you are, you can significantly change how much talent you have.
      a. Strongly Agree
      b. Agree
      c. Mostly Agree
      d. Mostly Disagree
      e. Disagree
      f. Strongly Disagree

12. To be honest, you can't really change how much talent you have.
   a. Strongly Agree
   b. Agree
   c. Mostly Agree
   d. Mostly Disagree
   e. Disagree
   f. Strongly Disagree

13. You can always substantially change how much talent you have.
   a. Strongly Agree
   b. Agree
   c. Mostly Agree
   d. Mostly Disagree
   e. Disagree
   f. Strongly disagree

14. You can learn new things, but you can't really change your basic level of talent.
   a. Strongly Agree
   b. Agree
   c. Mostly Agree
   d. Mostly Disagree
   e. Disagree
   f. Strongly Disagree

15. No matter how much talent you have, you can always change it quite a bit.
   a. Strongly Agree
   b. Agree
   c. Mostly Agree
   d. Mostly Disagree
   e. Disagree
   f. Strongly Disagree

16. You can change even your basic level of talent considerably.
   a. Strongly Agree
   b. Agree
   c. Mostly Agree
   d. Mostly Disagree
   e. Disagree
   f. Strongly Disagree

## Grit Scale

Here are a number of statements that may or may not apply to you. There are no right or wrong answers, so just answer honestly, considering how you compare to most people.

1. New ideas and projects sometimes distract me from previous ones.
   a. Very much like me
   b. Mostly like me
   c. Somewhat like me
   d. Not much like me
   e. Not like me at all
2. Setbacks don't discourage me. I don't give up easily.
   a. Very much like me
   b. Mostly like me
   c. Somewhat like me
   d. Not much like me
   e. Not like me at all
3. I often set a goal but later choose to pursue a different one
   a. Very much like me
   b. Mostly like me
   c. Somewhat like me
   d. Not much like me
   e. Not like me at all
4. I am a hard worker.
   a. Very much like me
   b. Mostly like me
   c. Somewhat like me
   d. Not much like me
   e. Not like me at all
5. I have difficulty maintaining my focus on projects that take more than a few months to complete.
   a. Very much like me
   b. Mostly like me
   c. Somewhat like me
   d. Not much like me
   e. Not like me at all
6. I finish whatever I begin.
   a. Very much like me
   b. Mostly like me
   c. Somewhat like me
   d. Not much like me
   e. Not like me at all

7. My interests change from year to year.
    a. Very much like me
    b. Mostly like me
    c. Somewhat like me
    d. Not much like me
    e. Not like me at all
8. I am diligent. I never give up.
    a. Very much like me
    b. Mostly like me
    c. Somewhat like me
    d. Not much like me
    e. Not like me at all
9. I have been obsessed with a certain idea or project for a short time but later lost interest.
    a. Very much like me
    b. Mostly like me
    c. Somewhat like me
    d. Not much like me
    e. Not like me at all
10. I have overcome setbacks to conquer an important challenge.
    a. Very much like me
    b. Mostly like me
    c. Somewhat like me
    d. Not much like me
    e. Not like me at all

.

**Demographics**

Gender_____

Age _____

Home state, county, and town_____

How long has your family lived in Appalachia (choose one):

_____I moved here from outside of Appalachia

_____My parents moved here from outside of Appalachia

_____My grandparents or other ancestors moved here from outside of Appalachia

Did either of your parents graduate from college?

_____Mother

_____Father

_____Both

_____Neither parent graduated from college

Complete this section **_ONLY_** if you wish to volunteer to participate in interviews. Twelve volunteers will be chosen to participate in at least one semi-structured interview where you will discuss Appalachian identity.

I wish to volunteer to participate in the interview portion of this study. I understand that volunteering does not guarantee I will be selected to be interviewed. I consent to the interviews to be audio recorded. I understand my name and any identity markers will be kept confidential in any report and publication that comes from the interviews.

Name: _____

Signature: _____

Email address: _____

Phone number: _____

**Appendix G**

**Interview Protocol**

1. Can you talk about what you think it means to be Appalachian?

2. Can you discuss some of the traits and values of Appalachian people and culture?

3. Can you talk about whether you consider yourself to be Appalachian? Why or why not?

4. What traits and values do you think living in Appalachia has instilled in you?

5. How has living in Appalachia influenced your view of education?

6. How do you think living in Appalachia has influenced your desire to succeed?

7. How do you think living in Appalachia has influenced your ability to succeed?

8. Let's talk about stereotypes. Can you talk about some of the negative Appalachia stereotypes you have heard or had experience with?

9. How do you react when confronted with negative Appalachian stereotypes?

10. Can you talk a little about where you think those stereotypes come from or why you think a negative image of Appalachia exists?

11. How do negative stereotypes affect the way you see yourself and your abilities?

12. Can you talk about your experience during your first semester at college?

13. Were your expectations of the college experience accurate or were you surprised by anything?

14. Have you been faced with any negative Appalachian stereotypes this semester? How did you react and respond?

15. Tell me how you think your Appalachian identity either prepared or did not prepare you for the college experience.

## Appendix H

## Member Checking Email

Dear _____.

 Thank you for participating in my study during the Fall 2019 semester. I have included the themes that were present in the data collected from all interviews. Please let me know if these themes accurately depict our conversations together and if you have any additions or modifications.

(List of themes)

 Thank you again for your participation. Feel free to contact me if you have any questions.

Sincerely,
Amanda Jo Slone