

THE CORRELATION BETWEEN TRAIT EMOTIONAL INTELLIGENCE AND  
FEELINGS OF SOCIAL ISOLATION IN ALASKAN HOMESCHOOL STUDENTS

by

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Liberty University

A Dissertation Presented in Partial Fulfillment

Of the Requirements for the Degree

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## ABSTRACT

This study examined the relationship between trait emotional intelligence (TEI) and feelings of social isolation in children that homeschool in rural and remote areas of Alaska. The topic of social isolation has continued to be prominent in the homeschool research. Tenuous claims resulting from studies that lack methodological rigor and representative sample sizes have perpetuated the debate by producing disparate conclusions with inherent limitations. This study acknowledged, that given a particular set of circumstances, the likelihood that an individual will experience feelings of social isolation increases. The compounding of conditions such as geographic isolation, time spent without access to a peer group, and extremes in seasonal conditions, contribute to a reasonable concern about the susceptibility to feelings of social isolation for homeschoolers in rural and remote areas of the state. The purpose of this study was to add to the homeschooling research by investigating the relationship between TEI, as measured by the Trait Emotional Intelligence Questionnaire-Children's Short Form (TEIQue-CSF), and feelings of social isolation, as measured by the Children's Loneliness and Social Dissatisfaction Scale, in a distinct population with practical application. This study found a statistically significant relationship between the variables, which should compel a change of focus from the unproductive social isolation debate, toward a more useful exploration of potential measures to prevent, mitigate, or alleviate feelings of social isolation and the associated harmful effects.

*Keywords:* trait emotional intelligence, social isolation, homeschool, gender, Alaska

### **Dedication**

This manuscript is dedicated to my favorite lunch lady. She has ever been an amazing example of hard work and excellence. ¡Sí se puede! It is also dedicated to my dear husband for reasons temporal limits would prove impossible to list. I love you both.

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### **List of Abbreviations**

Alaska Department of Education and Early Development (AKDEED)

Alaska Department of Labor and Workforce Development (ADOLWD)

Alaska Department of Transportation and Public Facilities (ADOTPF)

Alaska Marine Highway System (AMHS)

Alaska Private and Home Educators Association (APHEA)

American Foundation for Suicide Prevention (AFSP)

American Psychological Association (APA)

California Commission on Teacher Credentialing (CTC)

California Department of Education (CDE)

Center for Behavioral Health Statistics and Quality (CBHSQ)

Centers for Disease Control and Prevention (CDC)

Children’s Loneliness and Social Dissatisfaction Scale (CLSDS)

Children’s loneliness scale (CLS; another name for the CLSDS)

Coalition for Responsible Home Education (CRHE)

Conventions, Sports and Leisure International (CSLI)

Core Based Statistical Areas (CBSAs)

Education Commission of the States (ECS)

Economic Research Service (ERS)

Emotional intelligence (EI)

Federal Office of Rural Health Policy (FORHP)

Rugged Mountain School District (RMSD)

Health Services and Resource Administration (HSRA)

Homeschool Legal Defense Association (HSLDA)

Illinois Loneliness and Social Satisfaction Scale (ILSS; another name for the CLSDS)

Institutional Review Board (IRB)

Learn at Home Alaska (LAHA)

International Center for Home Education Research (ICHER)

Loneliness questionnaire (LQ; another name for the CLSDS)

Loneliness rating scale (LRS; another name for the CLSDS)

Loneliness and social dissatisfaction questionnaire (LSDQ; another name for the CLSDS)

Loneliness and social dissatisfaction scale (LSDS; another name for the CLSDS)

Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT)

National Center for Education Statistics (NCES)

National Center for Health Statistics (NCHS)

National Household Education Surveys Program (NHES)

National Institute of Mental Health (NIMH)

National Oceanic and Atmospheric Administration (NOAA)

National Violent Death Reporting System (NVDRS)

Office of Management and Budget (OMB)

Quick Response (QR)

Rural Urban Commuting Area (RUCA)

Seasonal Affective Disorder (SAD)

Trait emotional intelligence (TEI)

Trait Emotional intelligence Questionnaire (TEIQue)

Trait Emotional Intelligence Questionnaire-Child Short Form (TEIQue-CSF)

U.S. Census Bureau (USCB)

U.S. Department of Agriculture (USDA)

U.S. Department of Economic and Social Affairs (DESA)

U.S. Department of Education (ED)

Urban Area (UA)

Urban Cluster (UC)

## **CHAPTER ONE: INTRODUCTION**

### **Overview**

Chapter One will provide a background of home education in Alaska. The discussion will include national events as well as those consequent to the expanse and geography of Alaska that have contributed to the inclusion of home education as a vital component of its educational repertoire. Next, research challenges, the problem statement, and the purpose and significance of the research will also be presented. Finally, a glossary will be provided to clarify the use of certain vocabulary as it relates to this study.

### **Background**

The National Center for Education Statistics (NCES; McQuiggan & Megra, 2017) estimated that in 2012, 1,773,000 children between the ages 5-17 were homeschooled. This is supported by Smith's (2013a) report to the U.S. Department of Education (ED) which not only affirmed the NCES findings but cited an increase of approximately 300,000 homeschool students since 2007. More recently, Ray (2016b) noted that though the number has grown by over 500,000 to approximately 2.3 million homeschoolers in the United States in 2016, the upward trend has begun to level. The sustained increase in homeschooling's popularity warrants further investigation, a call for which is conspicuous throughout the literature (Gaither, 2017; Gloeckner & Jones, 2013; Green-Hennessey, 2014; Hodge, Salas-Wright, & Vaughn, 2017; Jolly, Matthews, & Nester, 2013; Kunzman, 2017a; Kunzman & Gaither, 2013; Murphy, 2014a; Ray, 2013b; Vieux, 2014). Despite being considered anti-establishment or mildly deviant at different times by critics (Apple, 2013, 2015; Brewer & Lubienski, 2017; Gaither, 2016; Lubienski & Brewer, 2015), the practice of homeschooling has been legitimized by legislation that has secured the right for parents to homeschool in all 50 states, though with varying degrees of

oversight and accountability (Bhatt, 2014; David, 2016; Huseman, 2015; International Center for Home Education Research [ICHER], 2017; Komer & Grady, 2017; Parker, 2016; Railey, 2017; Raley, 2017; Wixom, 2015). As Kaya (2015) affirmed, “Homeschooling has lost its marginality; and that in parallel to its legitimization, it has been transformed into a segment of institutional education today” (p. 99).

The State of Alaska has long been at the forefront of the school choice movement, as much out of geographical necessity as for its history as a state with a high priority on individual rights and minimal state government (Alaska Department of Education and Early Development [AKDEED], 2011; Alaska State Legislature, 2017a; Coalition for Responsible Home Education [CRHE], 2017; Davis, 2016; Dunleavy, 2013; Hanson, 2000; Huseman, 2015; Komer & Grady, 2017; Leman, 1997; Parker, 2016; Wixom, 2015). Since statehood in 1959 (History.com, 2009), Alaska’s constitution has required the provision of public education (Hanson, 2000; AKDEED, 2011; Parker, 2016; Raley, 2017). From the onset, sparse populations of children in remote locations spanning an area of 665,384 square miles (CRHE, 2017; Lynch & Miller, 2017; World Population Review, 2017) prescribed an alternative approach to meeting this mandate (AKDEED, 2011, 2014; Hanson, 2000). As a result, homeschooling has been an important component of the educational environment in Alaska for decades (AKDEED, 2011; CRHE, 2017; Dunleavy, 2013; Hanson, 2000).

Statewide access to public education in Alaska evolved in response to an ongoing and steady stream of lawsuits and legislation that began in 1933 (AKDEED, 2011; Hanson, 2000). After decades of attempts to hold the territory accountable for educating all children, communities began a series of campaigns to secure direct support from the territorial government

(Hanson, 2000). These demands were met with the eventual funding of a limited number of correspondence curricula from which a more extensive program soon emerged.

In 1986, the Alaska Private and Home Educators Association (APHEA, n.d.) formed as a homeschool advocacy group to lobby for the deregulation of homeschooling in the state. In partnership with the Homeschool Legal Defense Association (HSLDA), founded just three years prior, the group succeeded in passing legislation that exempted homeschoolers from state education regulations, including participation in standardized testing and compulsory attendance. Hailed as the “Best in Nation” (HSLDA, 1997; Hanson, 2000; Leman, 1997), these new laws and their unanimous support by the Alaska Legislature reflected the continued attention and effort required to ensure access to quality education across a massive state (AKDEED, 2011; Hanson, 2000; Leman, 1997).

That same year, Rugged Mountain School District (RMSD) opened an innovative correspondence program that transformed the nature of home education in Alaska in two fundamental ways. First, it allowed students from across the state to enroll in a public school outside of the school district in which they resided; and second, it provided financial support for curricular materials and services that were determined by parents. Each student enrolled in the program would receive a stipend from the school based on the amount of per student funding it received from the state. The benefits of such an allotment included easing the financial burden of homeschooling, investing homeschoolers in the public education system, and encouraging home education as a viable alternative for families searching for a means to individualize a child’s education to meet special needs or as an option to traditional public schools (Learn at Home Alaska Homeschool, 2018).



The program, Learn at Home Alaska (LAHA), was created for homeschoolers under the state's already existing correspondence framework. As a correspondence school, LAHA was able to enroll students from across Alaska, regardless of the school district in which they physically resided. This circumstance contributed to an unanticipated response that quickly overwhelmed its host, RMSD, which had not anticipated a demand on a broad scale. The program was based on the experience of a parent from rural Alaska who had previously worked with a neighboring school district to obtain a stipend for curriculum when it became necessary to homeschool her children. Her subsequent efforts to expand the program in that district were unsuccessful and so she had approached the RMSD with the idea. Ensuing informational meetings about the program were not indicative of a program in high demand beyond the small group of parents that had lobbied the district for support, thus, RMSD was unprepared for the enrollment of over 1,000 students from across Alaska in its first year, nearly 10 times than what had been estimated (AKDEED, 2014; Hanson, 2000). The success of LAHA resulted in the rapid establishment of similar programs in other Alaska school districts that were eager to increase enrollment while simultaneously decreasing costs for student education (Hanson, 2000; AKDEED, 2014).

In 2017, there were 65 charter school programs in Alaska (AKDEED, 2014, 2016a, 2018), 30 of which were district sponsored correspondence schools that provided stipends for homeschoolers for approved educational materials and services (Alaska State Legislature, 2017a; AKDEED, 2018; see Appendix A). This circumstance, in addition to an increased number of families opting to homeschool independent of government support, contributed to a steady increase of homeschooling in Alaska (Redford, Battle, & Bielick, 2017; Ray, 2013b; Smith, 2013b). The growth of the homeschool movement over the last two decades has underscored the

relevance of research to identify methods that maximize benefits and reduce or eliminate the potential for problems. This study examined the current body of research that has continued to allege that homeschool students are more likely to experience feelings of social isolation (Anthony, 2015; Beck, 2015, 2017; Fineman & Shepherd, 2016; Gloeckner & Jones, 2013; Green-Hennessey, 2014; Gutfeld & Rabin, 2017; Hodge et al., 2017; Jolly et al., 2013; Kunzman, 2017a; Kunzman & Gaither, 2013; Murphy, 2014a; Ray, 2016a; Thomson & Jang, 2016; Vieux, 2014), as well as those studies that have explored trait emotional intelligence (TEI) as a mitigating factor for feelings of social isolation (Davis & Humphrey, 2012a, 2012b; Mavroveli, Petrides, Shove, & Whitehead, 2008; Morón, 2014; Raimule & Bhawalker, 2015; Roswell, 2015; Wols, Scholte, & Qualter, 2015).

Intermediate students between the ages of 8 and 12 who are homeschooled in rural and remote areas of Alaska were recruited to participate in this study. They were asked to complete two online questionnaires, specifically designed for children in this age group. The first, the Trait Emotional Intelligence Questionnaire-Children's Short Form (TEIQue-CSF; Mavroveli & Petrides, 2009; Mavroveli et al., 2008; see Appendix B), is intended to measure TEI, or self-efficacy; and the second, the Children's Loneliness and Social Dissatisfaction Scale (CLSDS; Asher & Wheeler, 1984; Asher, Hymel, & Renshaw, 1984; see Appendix C), to assess feelings of social isolation. The relationship between these variables was explored for the purpose of identifying possible interventions with the potential to prevent, reduce, or eliminate feelings of social isolation in the target population.

### **Modern Homeschool Movement**

In a commentary on the history of homeschooling in America, Gaither (2008) explored the evolution of homeschooling as an institution and cautioned against the tendency to compare

the historical practice of homeschooling with its more recent manifestation. The romanticizing of colonial America's version of home education fails to recognize the fundamental differences of intention, motive, and practice when compared to its more contemporary application. For example, the modern homeschooling movement first emerged in the 1960s in reaction to institutionalized education (Kaya, 2015; Knowles, Marlow, & Muchmore, 1992), depicting an origin story fundamentally distinct from that of the colonial period.

The catalyst for this reaction was the perception that both the public school curriculum and its environment promoted an agenda that conflicted with the values and educational priorities of some families. Of interest to this development is that while one group of parents felt strongly about what they perceived as the permeation of the public school environment with Christianity, the other was becoming increasingly alarmed by the rate at which they perceived Christianity being removed from it (Green & Hoover-Dempsey, 2007; Ice & Hoover-Dempsey, 2011; Kunzman, 2017b; Kunzman & Gaither, 2013; Mathis, 2016; Ray, 2015). As allies, these two disparate groups successfully lobbied for regulations that recognized a parent's right to homeschool in all 50 states (Isenberg, 2007; Jamaludin, Alias, & DeWitt, 2015; Kaya, 2015; Knowles et al., 1992; Kunzman & Gaither, 2013; Morrison, 2014; Raley, 2017; Ray, 2017).

The modern homeschool movement largely focused on increasing parental input and curricular control over the material to which children were being exposed. More recently, the earlier priority of curricular control, though it has continued to be relevant, has been overshadowed by concerns about the public school environment (see Table 1 for reasons given by parents for homeschooling in 2012 and 2016, respectively). A recent study by the National Household Education Surveys Program (NHES; McQuiggan & Megra, 2017) contended that 9 out of 10 parents cited the school environment as a primary influence in their decision to

homeschool. Further, the percentage of parents that identified the school environment as the most important reason for homeschooling jumped from 25% in 2012 to 34% in 2016 (Grady, 2017; Mathis, 2016; McPhee et al., 2018; McQuiggan & Megra, 2017; Noel, Stark, & Redford, 2016; Redford et al., 2017). Other common motives for homeschooling included poor academic instruction, conflicts with religious values, a desire to strengthen family relationships, distance to school/travel time, mental or physical health concerns, and the opportunity to be more involved in meeting the special education needs of a child (Cheng, Tuchman, & Wolf, 2016; Guterman & Neuman, 2015, 2017; Jeynes, 2016; Kunzman, 2016, 2017b; Lippincott, 2014; Mathis, 2016; Medlin, 2013; Morrison, 2014; Neuman & Avriam, 2015; Noel et al., 2016; Ray, 2017; Riley, 2016; Snyder, 2013; Stitzlein, 2015; Thomas, 2016; Vaughn et al., 2015; Vigilant, Trefethren, & Anderson, 2013).

Table 1

*Most Important Reason Parents Homeschool*

Common Reasons for Homeschooling	2012 (NHES) <sup>a</sup>	2016 (NHES) <sup>a</sup>
Desire to provide religious instruction	17%	16%
Desire to provide moral instruction	5%	5%
<b>Concern about school environment</b>	<b>25%</b>	<b>34%</b>
Dissatisfaction with academic instruction	19%	17%
Desire to provide a nontraditional approach to education	5%	6%
Child has special needs	-	6%
Child has physical or mental health problem	5%	6%
Other	21%	11%

*Note.* Adapted from Noel et al. (2016) and McQuiggan and Megra (2017). <sup>a</sup>Parents could only identify one reason as the most important in their decision to homeschool.

## **History of Homeschooling in Alaska**

Homeschooling has been an important component of Alaska's educational repertoire from its beginning as a U.S. territory. Indeed, the practice is inseparable from state history given the 665,384 mi<sup>2</sup> it encompasses (Lynch & Miller, 2017, World Population Review, 2017). Highly rural and remote regions that challenged access to public education created an immediate demand for options that were compatible with life in rural Alaska (Hanson, 2000, Schafer & Khan, 2017; Schafft, 2016). This task proved impossible for a small territorial government and became no less daunting with subsequent statehood (Hanson, 2000). To the contrary, statehood bestowed clear responsibilities for the provision of education to a relatively sparse and extremely diverse child population across an area one-fifth the size of the contiguous 48 states (State of Alaska, 2017).

The combined influence of financial, logistical, and geographical constraints led to the educational neglect of children in many remote outposts and nearly all villages. Opportunities for formal education in these areas were frequently limited, sporadic, or non-existent prior to a series of class-action lawsuits that took aim at reversing the neglect of communities, in particular, those with large Native Alaskan populations (AKDEED, 2011). The mandate for statewide standards for education in an area as expansive and culturally diverse as Alaska quickly became, compelled the state to adopt an educational approach that depended on correspondence programs to meet its legal obligations (AKDEED, 2011; Hanson, 2000). Thus, homeschooling became and continues to be an indispensable component of an extensive repertoire of educational programming essential to accommodating the needs of all Alaskan children. The evolution of state-sponsored home education in Alaska has created a climate that is widely acknowledged as one of the most accommodating and homeschool friendly in the

nation (Davis, 2016; Hanson, 2000; HSLDA, 2017; Huseman, 2015; Komer & Grady, 2017; Leman, 1997; Wixom, 2015). Numerous support and advocacy organizations, sustained deregulation by the state legislature, and thirty correspondence programs that provide financial stipends for curriculum, access to educational resources, and guidance services have all contributed to the steady growth and development of home education in Alaska (AKDEED, 2011, 2018; Alaska State Legislature, 2017a; CRHE, 2017; Hanson, 2000; Huseman, 2015; ICHER, 2017; LAHA Homeschool, 2018; Jones, 2017; Leman, 1997; Noodle, 2017; see Appendix A).

### **The Social Isolation Debate**

There is no shortage in the literature regarding both the advantages (Cheng, 2014; Gloeckner & Jones, 2013; Guterman & Neuman, 2015; Jamaludin et al., 2015; Jeynes, 2016; Jones, 2017; Korkmaz & Duman, 2014; Kraftl, 2013; Lippincott, 2014; Medlin, 2013; Morrison, 2014; Murphy, 2014a; Noel et al., 2016; Ray, 2013a, 2016a, 2016b, 2017; Riley, 2015; Snyder, 2013; Stitzlein, 2015; Vaughn et al., 2015) and the disadvantages (Barnett, 2013; Brewer & Lubienski, 2017; Jones & Barrett, 2015; Lubienski, Puckett, & Brewer, 2013) of homeschooling, and this study did not attempt to argue the point. Rather, the ongoing debate and specifically, the allegations that have been made about the detrimental impact of homeschooling have only justified the need for further investigation; not to end the practice as some authors have maintained (Barnett, 2013; Brewer & Lubienski, 2017; Jones & Barrett, 2015; Lubienski et al., 2013), but to consider the claims and if credible, identify research-based strategies with the potential to prevent or mitigate chronic feelings of social isolation.

Critics have contended that as a practice, homeschooling is detrimental to not only the children involved, but to society as a whole. Prominent concerns noted in the literature include

poor or limited socialization experiences, deficient instruction from unqualified parents, a failure to adequately prepare children for the real world, insufficient oversight and accountability for learning, and the potential for unreported child abuse (Barnett, 2013; Brewer & Lubienski, 2017; Fineman & Shepherd, 2016; Hodge et al., 2017; Jones & Barrett, 2015; National Education Association [NEA], 2014; Shepherd, 2016). Lubienski et al. (2013) have further objected to the practice on the grounds that even in the event that there was some benefit to the individual, homeschooling is inherently bad for society because it undermines the principles of democracy. Similarly, Brewer and Lubienski (2017) alleged that the public education market is materially damaged by student withdrawal; therefore, participation in home education is anti-social behavior that selfishly prioritizes the needs of an individual above those of the common good. Additional research by Apple (2013), Fineman & Shepherd (2016), Lubienski & Brewer (2015), Lubienski et al. (2013), and Shepherd (2016) has also contributed to this perspective on homeschooling.

This study neither accepted, nor supported, the premise that feelings of social isolation are consequent to homeschooling, nor did it attempt to engage in that debate. Rather, it recognized that concerns regarding social isolation continue to be a part of the homeschool conversation, from both critics and supporters (Anthony, 2015; Apple, 2013, 2015; Beck, 2015, 2017; Brewer & Lubienski, 2017; Fineman & Shepherd, 2016; Green-Hennessy, 2014; Guterman & Neuman, 2016; Gutfeld & Rabin, 2017; Jolly et al., 2013; Korkmaz & Duman, 2014; Kunzman, 2017a; Lubienski & Brewer, 2015; Lubienski et al., 2013; Medlin, 2013; Murphy, 2014a; Ray, 2013a, 2016b, 2017; Shepherd, 2016; Thomson & Jang, 2016). This study further accepted that the nature of home education is such that it is likely to result in opportunities for social interactions that are less numerous and diverse than those available in a

typical public school setting. The difference in population and exposure to a more socially demanding environment provide a breadth of experience and level of complexity that is not readily available to students that homeschool. While this environment does not guarantee that a child's social experiences are positive or satisfying, and certainly students in public school can and do experience feelings of social isolation, the number of opportunities for social interaction in home education are typically, significantly less. To this end, this study accepted the premise that being homeschooled is a circumstance that increases the likelihood that an individual will experience feelings of social isolation. In tandem with other risk factors presented in this study, it is critical that parents who homeschool are attentive to more than just academics.

Individuals that live in rural and remote areas of Alaska are subject to a unique set of circumstances that, apart from a student's educational status, are widely associated with the development of feelings of social isolation (Melrose, 2015; Silveira et al., 2016; Tam & Gough, 2013). When multiple factors that elevate the risk for feeling socially isolated exist, it is important to establish practices that help promote and protect mental and emotional well-being. For this reason, homeschoolers in rural and remote areas of Alaska were chosen as the target population to explore the relationship between TEI and feelings of social isolation.

### **Challenges in Research**

Notwithstanding an abundance of research on homeschooling, small and unrepresentative sample sizes and poor methodological rigor have led to conflicted results and substantial limitations with regard to the generalizability of findings (Gloekner & Jones, 2013; Green-Hennessey, 2014; Hodge et al., 2017; Jolly et al., 2013; Kunzman, 2015, 2017; Kunzman & Gaither, 2013; Lubienski et al., 2013; Murphy, 2012, 2014a; Ray, 2014, 2016c; Vieux, 2014). Thus, efforts to validate the veracity of claims made by either side of the homeschool debate



have been problematic. As previously discussed, concerns regarding feelings of social isolation and students that homeschool have not been limited to its critics. Indeed, apprehension regarding feelings of social isolation has been regularly expressed by homeschool proponents as well (Dumas, Gates, & Schwarzer, 2010; Green-Hennessey, 2014; Guterman & Neuman, 2016; Jolly et al., 2013; Kunzman, 2009; Medlin, 2013; Murphy, 2014a; Ray, 2013a; Reavis & Zakriski, 2005).

Methodological challenges in research with homeschoolers has not promoted the reliability of its findings. A primary threat to reliability can be attributed to the extreme disparity in homeschool legislation between states. This circumstance has significantly limited access to large segments of the national homeschool population for research, especially across state lines and in states, such as Alaska, with very liberal homeschool legislation that does not require notification or registration (Davis, 2016; Green-Hennessey, 2014; Huseman, 2015; Isenberg, 2007; Komer & Grady, 2017; Liberto, 2016; Parker, 2016; Vieux, 2014; Wixom, 2015).

As of 2017, 30 states required homeschoolers to notify their local school districts annually of their intention to homeschool; however, Virginia state law has included a religious exemption to its notification requirement that by definition, does not include a mechanism to account for its use (Davis, 2016; Wixom, 2015). Of the remaining states, 9 required a one-time notification and the remaining 11 had no requirements for notification or registration of homeschool students (Davis, 2016; Huseman, 2015; Komer & Grady, 2017; Parker, 2016; Wixom, 2015). Supplementary legislation in some of the states has further impeded credible research efforts by imposing strict limits on the type of data available for public use (Davis, 2016; HSLDA, 2017; Huseman, 2015; Komer & Grady, 2017; Liberto, 2016; Wixom, 2015). Additional variations in state regulations for parent education, mandated content, accountability

for learning, and participation in state assessments have made it increasingly complex to obtain larger and more representative sample sizes (Davis, 2016; HSLDA, 2017; Huseman, 2015; Komer & Grade, 2017; Liberto, 2016; Parker, 2016; Vieux, 2014; Wixom, 2015). Inevitably, these conditions have produced a data set that is left wanting.

Another challenge is that homeschoolers have exhibited a chronically low response rate to requests to participate in research (Gloeckner & Jones, 2013; Green-Hennessey, 2014; Kunzman, 2015; Kunzman & Gaither, 2013; Murphy, 2014a; Ray, 2014). As a result, homeschoolers have been identified in the research as a hard-to-reach population (Denscombe, 2014; Gosling & Mason, 2015; Piqueras et al., 2017; Ramsey, Thompson, McKenzie, & Rosenbaum, 2016; Ray, 2016b; Sutter & Klein, 2007; Vieux, 2014). In addition to the treatment of homeschooling as anti-social and somewhat deviant by its critics (Apple, 2015; Brewer & Lubienski, 2017; Lubienski & Brewer, 2015) and the stigma associated with the homeschool stereotype (Karinen, 2016; Morris, 2014; Sackett & Fletcher, 2017), concerns regarding how data might be used to disparage the practice or support efforts to increase regulation have further contributed to a general aversion to participation in research (Green-Hennessey, 2014; Kunzman, 2015; Kunzman & Gaither, 2013; Murphy, 2014a; Ray, 2014). More recently, research efforts have been further complicated by a dramatic and ongoing demographic shift in the homeschool population from one that was largely homogenous to one that is increasingly diverse and driven by an almost infinite combination of motives (McQuiggan & Megra, 2017; Ray, 2010; Redford et al., 2017; Zeise, 2017).

In Alaska, students enrolled in LAHA and other state correspondence programs are readily identified by both the state and their corresponding school districts; however, their dispersion across the state, to include a number of highly remote villages (Dunleavy, 2013),

would require a degree of logistical, financial, and temporal support that would undermine research efforts requiring proximity to participants or the physical administration of assessments. When considered in combination with low response rates, typical of homeschoolers (Gloeckner & Jones, 2013; Green-Hennessey, 2014; Kunzman, 2015; Kunzman & Gaither, 2013; Murphy, 2014a; Ray, 2014), and challenges with connectivity consequent to geography and/or weather conditions, the categorization of the target population as hard-to-reach is justified. This distinction is relevant in that the use of social media and other electronic forms of communication to recruit and disseminate information, as well as online tools to administer assessments, has been shown to increase research participation and improve reliability and validity in studies with hard-to-reach populations (Barratt, Ferris, & Lenton, 2015; Jones, 2017; Noel et al., 2016; Snyder, 2013; Vieux, 2014).

Thus, this study endeavored to increase access to the target population by employing a set of procedures identified in the literature as instrumental for recruiting participants from hard-to-reach populations (Barratt et al., 2015; Jones, 2017; Noel et al., 2016; Snyder, 2013; Vieux, 2014). The recruiting strategy focused on leveraging the reach of the internet by using social media and e-mail distribution to access the target population (Jones, 2017; Kayrouz, Dear, Karin, & Titov, 2016; Lane, Armin, & Gordon, 2015; Noel et al., 2016; Snyder, 2013). In addition, the adoption of an online platform for survey administration allowed respondents to participate at their convenience using various devices with smart technology and internet capability (Hodder & Wolfenden, 2017). Finally, the flyer for this study (see Appendix D) was distributed via social media and email to individual homeschoolers, homeschool groups, Facebook groups comprised of Alaskan homeschoolers, and regional offices for correspondence schools that serve the target population; and, hardcopies were distributed at an annual state homeschool conference.

## Problem Statement

Murphy (2014a) cited several concerns related to the current body of research on homeschooling. In particular, Murphy (2014a) addressed the absence of research on homeschooling outcomes, the general lack of “methodological rigor” (p. 266), and the use of limited sample sizes. Indeed, these concerns have been commonly expressed in studies that include homeschool populations, a weakness that has significantly impaired the generalizability of findings (Gloeckner & Jones, 2013; Green-Hennessey, 2014; Hodge et al., 2017; Jolly et al., 2013; Kunzman, 2015, 2017; Kunzman & Gaither, 2013; Lubienski et al., 2013; Murphy, 2014a; Ray, 2014, 2016b; Vieux, 2014). Thus, additional research was essential to promote the interests and well-being of students that are homeschooled. In addition, though literature has frequently attempted to address the issue of socialization as it pertains to children that are homeschooled (Green-Hennessey, 2014; Guterman & Neuman, 2016; Jolly et al., 2013; Medlin, 2013; Murphy, 2014a; Ray, 2013), it has yet to adequately investigate interventions with the potential to prevent or alleviate this risk using targeted interventions to strengthen resilience and mitigate feelings of social isolation (Anasuri, 2016; Armstrong, Galligan, & Critchley, 2011; Di Fabio & Saklofske, 2014; Frydenberg, 2017; Hongshan & Junmin, 2014; Lü, Wang, Liu, & Zhang, 2014; Magnano, Craparo, & Paolillo, 2016; Prince-Embury & Saklofske, 2014; Romera, Gómez-Ortiz, & Ortega Ruiz, 2016; Zych, Farrington, Llorent, & Ttofi, 2017). Lastly, Adkins (2004) identified the need for further research to investigate the relationship between emotional intelligence (EI) and feelings of social isolation in children that are homeschooled “from a broader geographic area” (p. 38) and further suggested the inclusion of gender as a potential variable of influence.

Consequently, the problem is that there is a gap in the literature with respect to the relationship between TEI and feelings of social isolation in children that homeschool from

geographically diverse settings and in relation to gender. To address this problem, a literature review was conducted to include the subjects of homeschooling and feelings of social isolation (Anthony, 2015; Apple, 2013, 2015; Beck, 2015, 2017; Brewer & Lubienski, 2017; Fineman & Shepherd, 2016; Green-Hennessy, 2014; Guterman & Neuman, 2016; Gutfeld & Rabin, 2017; Jolly et al., 2013; Korkmaz & Duman, 2014; Kunzman, 2017a; Lubienski & Brewer, 2015; Lubienski et al., 2013; Medlin, 2013; Murphy, 2014a; Ray, 2013a, 2016b, 2017; Shepherd, 2016; Thomson & Jang, 2016), the relationship between TEI and feelings of social isolation (Davis & Humphrey, 2012a, 2012b; Morón, 2014; Rowsell, 2015), and the influence of geographic isolation and seasonal extremes on mental and emotional well-being (Arthur Rank Centre, 2016; Mills, 2017). This study sought to narrow the divide by investigating the relationship between TEI and feelings of social isolation in students between the ages of 8 and 12 that homeschool in rural and remote areas of Alaska.

### **Purpose Statement**

The purpose of this quantitative, correlational study was to investigate the relationship between TEI and feelings of social isolation in students between ages of 8 and 12 who are homeschooled in rural or remote areas of Alaska. The target population for this study included Alaskan homeschool students between the ages of 8 and 12 who reside outside the municipality of Anchorage. Pursuant to Alaska Statute (AS 14.30.010 (b)(12); Alaska State Legislature, 2017b), the AKDEED (2016b) defines home school as, "...an educational program provided in the child's home by a parent or legal guardian" (p. 13). In addition, a minimum of 66 male and 66 female participants was required to establish the desired medium effect size with a statistical power of .7 at the .05 alpha level (Warner, 2013, p. 300).

The independent variable for this study was TEI, which was assessed using the TEIQue-CSF (Mavroveli & Petrides, 2009; Mavroveli et al., 2008; see Appendix B). TEI is defined as “a constellation of emotional self-perceptions located at the lower levels of personality hierarchies” (Siegling, Furnham, & Petrides, 2015, p. 57). In other words, TEI is the individual’s perception of his or her emotional competence, and therefore, is only appropriately measured via self-report (Andrei, Siegling, Aloe, Baldaro, & Petrides, 2016; Joseph, Jin, Newman, & O’Boyle, 2015; Petrides, 2011; Petrides, Pita, & Kokkinaki, 2007; Siegling, Nielsen, & Petrides, 2014; Siegling, Saklofske, & Petrides, 2015). The TEIQue, as a self-report measure, has advanced the opportunities for the statistical analysis of TEI in both predictive and explanatory research (Frederickson, Petrides, & Simmonds, 2012; Petrides, Siegling, & Saklofske, 2016) and has performed as a consistently reliable indicator of well-being (Anglim & Grant, 2016; Bhullar, Schutte, & Malouff, 2013; Koydemir, Şimşek, Schütz, & Tipandjan, 2013; Neto, 2015; Siegling, Furnham et al., 2015) and resilience (Liu, Wang, & Lu, 2013b; Magnano et al., 2016; Salguero, Palomera, & Fernández-Berrocal, 2012b).

The dependent variable for this study was feelings of social isolation, as measured by the CLSDS (Asher & Wheeler, 1984; Asher et al., 1984; see Appendix C). Feelings of social isolation proceed from a lack of meaningful interactions with others (Age UK, 2012, 2016; Marryat, Thompson, Minnis, & Wilson, 2014; Weiss, 1973; Zavaleta, Samuel, & Mills, 2017), which is consistent with the definition proposed by Marryat et al. (2014) in which the construct was operationalized in children as rejection by peers, unwanted solitary play, or both. Cacioppo et al. (2015), Cacioppo, Grippo, London, Goossens, and Cacioppo (2015), Cacioppo, Capitanio, and Cacioppo (2016), and Teo, Lerrigo, and Rogers (2013) have collectively identified feelings of social isolation as loneliness, a definition that informed this study. Attention was also paid to

the condition of living in rural and remote areas of Alaska due to research that has identified geographical isolation as a risk factor for feelings of social isolation (Arthur Rank Centre, 2016; Mills, 2017).

### **Significance of the Study**

For a number of reasons, some supported by empirical evidence and some based on speculation, children that are homeschooled have been commonly perceived as prone to feelings of social isolation (Anthony, 2015; Apple, 2015; Beck, 2015, 2017; Brewer & Lubienski, 2017; Fineman & Shepherd, 2016; Green-Hennessy, 2014; Guterman & Neuman, 2016; Gutfeld & Rabin, 2017; Korkmaz & Duman, 2014; Kunzman, 2017a; Lubienski & Brewer, 2015; Murphy, 2014a; Ray, 2016a, 2017; Shepherd, 2016; Thomson & Jang, 2016). While certainly not consequent to homeschooling, as formerly discussed, it is important in the context of the target population and the multiple variables of influence to which it is subject, to consider the increased risk for feelings of social isolation. When prolonged, feelings of social isolation can have a negative impact on the mental well-being and psychosocial development of children (Andreou, Didaskalou, & Vlachou, 2015; Demircan & Demir, 2014; Harris, Qualter, & Robinson, 2013; Houghton, Roost, Carroll, & Brandtman, 2015; Lu, Yu, Hong, Feng, & Tian, 2014; Lubben, Girona, Sabbath, Kong, & Johnson, 2015; Zach, Yazdi-Ugav, & Zeev, 2016) and compromise their capacity to form meaningful, long-term relationships (Age UK, 2016; Arthur Rank Centre, 2016; Cacioppo et al., 2015; Grygiel, Humenny, Rębisz, Bajcar, & Świtaj, 2014; Jopling, 2015; Jopling & Barnett, 2014; Lubben et al., 2015; Mills, 2017). Thus, it can be crucial to a child's health and happiness to identify and apply evidence-based strategies that have been shown to mitigate the potential experience of prolonged feelings of social isolation (Age UK, 2016; Arthur

Rank Centre, 2016; Cacioppo et al., 2015; Cassidy, McLaughlin, & Giles, 2014, 2015; Green-Hennessy, 2014; Lubben et al., 2015; Medlin, 2013).

A review of the literature was conducted to confirm the significance of this study and to verify that the gap Adkins (2004) had identified in the literature had not been filled. In highlighting the need for additional research, Adkins (2004) recommended a broader analysis of the relationship between students that homeschool and feelings of social isolation to include geographical diversity and gender. The literature was reviewed within the context of these variables to explore the relationship between students that homeschool and feelings of social isolation given a more complex set of geographical criteria and gender. In addition, specific personality traits and interventions used to mitigate feelings of social isolation were identified and informed the choice of the independent variable in this study as TEI.

The literature review also identified instances in which researchers employed alternate terms to refer to the same construct. For example, the use of resilience in some studies, mirrored definitions used by others for TEI regarding the positive self-management of emotions (Anasuri, 2016; Armstrong et al., 2011; Edward & Warelow, 2005; Hongshan & Junmin, 2014; Lü et al., 2014). Indistinguishable from definitions of resilience, TEI is characterized by self-control over one's emotions, mental and emotional endurance, and the ability to adapt to the consequences of unexpected or significant life events (Anasuri, 2016; Armstrong et al., 2011; Edward & Warelow, 2005; Hongshan & Junmin, 2014; Liu, Shen, Xu, & Gao, 2013a; Liu et al., 2013b; Lü et al., 2014; Magnano et al., 2016; Salguero et al., 2012b). Irrespective of semantics, the definition of TEI is inherently incompatible with sustained feelings of social isolation (Adger, 2000). If the results of this study support the hypothesis that TEI and feelings of social isolation are inversely related in the target population, it can guide future research efforts to identify



specific strategies that foster TEI and expand the capacity for students between the ages of 8 and 12 that homeschool in rural and remote areas of Alaska to successfully regulate feelings of social isolation (Cacioppo & Cacioppo, 2014; Harris et al., 2013).

### **Research Questions**

**RQ1:** Is there a relationship between trait emotional intelligence and feelings of social isolation in students between the ages of eight and 12 that are homeschooled in rural and remote areas of Alaska?

**RQ2:** Is there a relationship between trait emotional intelligence and feelings of social isolation in female students between the ages of eight and 12 that are homeschooled in rural and remote areas of Alaska?

**RQ3:** Is there a relationship between trait emotional intelligence and feelings of social isolation in male students between the ages of eight and 12 that are homeschooled in rural and remote areas of Alaska?

### **Definitions**

1. *Children's Loneliness and Social Dissatisfaction Scale (CLSDS)* – An inventory designed to assess the degree of loneliness, or social isolation that is felt by the respondent (Asher & Wheeler, 1984; Asher et al., 1984). The CLSDS is free and available publicly (see Appendix C).
2. *Core Based Statistical Area (CBSA)* – Classification of an area based on the proximal impact of an urban area on surrounding communities (Office of Management and Budget [OMB], 2010, 2016).
3. *Feelings of Social Isolation* – This study defined feelings of social isolation as, “a subjective negative feeling associated with a perceived insufficiency of social network”

(Lan et al., 2016, p. 2); and loneliness (Cacioppo et al., 2015; Cacioppo, Grippo et al., 2015; Cacioppo et al., 2016; Teo et al., 2013). Geographic isolation has been known to contribute to feelings of social isolation (Arthur Centre, 2016), though these feelings also occur independent of context and in situations that are highly social. Feelings of social isolation proceed from a lack of meaningful interactions with others (Age UK, 2012, 2016; Marryat et al., 2014; Weiss, 1973; Zavaleta et al., 2017).

4. *Geographic Isolation* – Defined by Mills (2017) as, “living away from friends and family and/or isolation of place” (p. 114). This study focused on the latter part of this definition and further include the definitions for remote and rural cited above.
5. *Global Trait Emotional Intelligence* – A score used on short form (SF) versions of the TEIQue series of assessments. Global TEI provides an overall measure of TEI comprised of the following four factors: emotionality, sociability, self-control, and well-being. Its location on “the lower levels of personality hierarchies” represents the highest tier of the TEI construct (Petrides et al., 2007, p. 273).
6. *Hard-to-reach* – The difficulty with which a specific population can be accessed for research. Homeschoolers have been identified in the research as a hard-to-reach population (Denscombe, 2014; Gosling & Mason, 2015; Piqueras et al., 2017; Ramsey et al., 2016; Ray, 2016b; Sutter & Klein, 2007; Vieux, 2014). Chronically low response rates (Gloeckner & Jones, 2013; Green-Hennessey, 2014; Kunzman, 2015; Kunzman & Gaither, 2013; Murphy, 2014a; Ray, 2014) and legislation that does not require notification or registration (Davis, 2016; Green-Hennessey, 2014; Huseman, 2015; Isenberg, 2007; Komer & Grady, 2017; Liberto, 2016; Parker, 2016; Vieux, 2014; Wixom, 2015) supported the status of the target population as hard-to-reach.

7. *Homeschool* – Pursuant to Alaska Statute (AS 14.30.010 (b)(12); Alaska State Legislature, 2017b), the AKDEED (2016b) defines homeschool as, “an educational program provided in the child's home by a parent or legal guardian” (p. 13).
8. *Metropolitan* – Urban areas with populations of at least 50,000 (U.S. Census Bureau [USCB], 2017a).
9. *Micropolitan* – Urban areas with populations between 10,000 and 49,999 (USCB, 2017a).
10. *Psychometrics* – Psychometrics refers to both “the theory and technique of measuring mental processes” of an assessment (Pasquali, 2009, p. 993). The objective of psychometrics is “to explain the meaning of responses” (Pasquali, 2009, p. 993). More specifically, it looks to evaluate an assessment on factor structure, internal consistency, test-retest reliability, and concurrent and construct validity (Mikolajczak, Luminet, Leroy, & Roy, 2007; O'Connor, Nguyen, & Anglim, 2017; Tekinarslan & Kucuker, 2015).
11. *Purposive Sampling* – Barratt et al. (2015) defined purposive sampling as a non-probabilistic sampling method commonly used with hard-to-reach and hidden populations. It is chronically challenged by small sample size, which precludes the ability to make inferences to a larger population. In addition, purposive sampling is highly susceptible to the researcher’s ability to establish credibility and rapport with the sample population. In recent years, purposive sampling has improved due to the success of online recruiting and administration of assessments.
12. *Remote* – In the context of this study, remote areas were identified based on three criteria. First, the availability and range of services offered in relation to other U.S. cities of

similar size; second, the capacity of an area's infrastructure to support the population in the event of a natural disaster (Kerr, 2005); and third, at least half of the area's population lives more than 45 minutes from a city with a population of 50,000 or more (Dijkstra & Poelman, 2008).

13. *Resilience* – The ability to successfully manage one's emotions in response to a stressful event in a manner that prompts growth (Edward & Warelow, 2005; Hongshan & Junmin, 2014; Kong, Zhao, & You, 2012a, 2012b). Resilience is also defined as the capacity to adapt to the impact of significant negative life events (Anasuri, 2016; Armstrong et al., 2011; Leppin et al., 2014; Liu et al., 2013b; Magnano et al., 2016; Salguero et al., 2012b).
14. *Rural* – This study used the Federal Office of Rural Health Policy (FORHP, 2016) definition of rural based on the OMB's (2010) more recent criteria. This definition considers the OMB's (2010) Metropolitan and Micropolitan designations with additional consideration given to Rural Urban Commuting Area (RUCA) Codes (Economic Research Service [ERS], 2013). The use of RUCA codes enables the delineation of rural census tracts in counties or boroughs that would otherwise be classified as urban. The FORHP (2016) accepts as rural, census tracts with RUCA codes 4 through 10, as well as, codes 2 and 3 if they are at least 400 square miles from a metropolitan area and have a population density of no more than 35 people.
15. *Rural Urban Commuting Area (RUCA) Code* – A detailed classification of census tracts in the United States. RUCA codes consider “population density, urbanization, and daily commuting” (ERS, 2013, p. #).

16. *Seasonal Affective Disorder (SAD)* – “A type of recurring major depression with a seasonal pattern” (Melrose, 2015, p. 1). Depression is chronic and is isolated to a specific season annually. SAD is commonly associated with the winter season, but it can occur in the summer as well. Other risk factors for SAD include gender, age, amount of exposure to daylight, and family history of mental illness (American Psychiatric Association, 2013; Flaskerud, 2012; Melrose, 2015).
17. *Snowball Sampling* – A non-probabilistic sampling method in which participants recruit other participants. This approach is often used to help access populations that are hard-to-reach, such as those that are geographically isolated or who have rare health disorders (Amon, Campbell, Hawke, & Steinbeck, 2014; Baltar & Brunet, 2012; Dusek, Yurova, & Ruppel, 2015).
18. *Trait Emotional Intelligence (TEI)* – TEI is defined as “a constellation of emotional self-perceptions located at the lower levels of personality hierarchies” (Siegling, Furnham et al., 2015, p. 57). In other words, it is an individual’s self-perception of his or her emotional competence, and thus, is only appropriately measured via self-report (Andrei et al., 2016; Joseph et al., 2015; Petrides, 2011, 2016; Petrides et al., 2007; Petrides et al., 2016; Siegling et al., 2014, 2015). TEI advances opportunities for statistical analysis in both predictive and explanatory research (Frederickson et al., 2012; Petrides, Siegling et al., 2016), is an effective predictor of well-being (Anglim & Grant, 2016; Koydemir et al., 2013; Neto, 2015; Siegling, Furnham et al., 2015), and has been identified as a precursor to resilience (Liu et al., 2013b; Magnano et al., 2016; Salguero et al., 2012).
19. *Trait Emotional Intelligence Questionnaire-Child Short Form (TEIQue-CSF)* – The TEIQue-CSF is a 36-item inventory employing a five-point Likert scale (1 = strongly

disagree to 5 = strongly agree) response set. It is designed to assess global TEI in children between the ages of 8 and 12 across the following nine facets: adaptability, affective disposition, emotion expression, emotion perception, emotion regulation, low impulsivity, peer relations, self-esteem, and self-motivation (Mavroveli & Petrides, 2009; Mavroveli et al., 2008). This assessment is available free of charge by the authors at <http://www.psychometriclab.com/Home/Default/14> and does not require permission for academic use (London Psychometric Laboratory, n.d.; see Appendix B).

20. *Trait Emotional Intelligence Theory* – TEI theory asserts that emotion is an inherently subjective experience that can only be appropriately assessed by self-report (Andrei et al., 2016; Joseph et al., 2015; Petrides, 2011, 2016; Petrides et al., 2007; Petrides et al., 2016; Siegling et al., 2014; Siegling et al., 2015). It is based on self-perception of emotional competence and is also known as trait emotional self-efficacy (Petrides et al., 2007). Further, it is unrelated to ability EI theories that emphasize cognitive ability and prescribe ideal EI profiles (Davis & Humphrey, 2012a, 2012b, 2017; Legree, Mullins, & Psocka, 2016; Petrides, 2017). In contrast, TEI theory proposes that TEI exists within hierarchical models of personality and accepts the premise that given different circumstances, different emotional competencies will be of greater value than others (Petrides, 2010). TEI theory provides a vehicle for the analysis of TEI given any measure of EI, though the use of the TEIQue as, “the most extensively validated EI measure in the scientific literature” (Petrides, 2016, p. 7) is highly recommended.

## **CHAPTER TWO: LITERATURE REVIEW**

### **Overview**

Chapter Two examined the current body of literature and seminal works that have made significant contributions to the evolution of the study of trait emotional intelligence (TEI), feelings of social isolation, and the practice of homeschooling. Specifically, the research reviewed included the relationships between feelings of social isolation and each of the following: children that homeschool, geography, TEI, and gender. This chapter will conclude with a presentation of empirical support for the benefits of TEI and a summary of the research.

### **Theoretical Framework**

#### **Trait Emotional Intelligence Theory**

The concept of emotional intelligence (EI) emerged from Gardner's (1983) expansion of Thorndike's (1920) work on social intelligence into a theory of multiple intelligences. Gardner (1983, 2006, 2011) proposed that the assessment of language and mathematics alone was insufficient to provide a general factor of intelligence and contended that intelligence is not isolated to academics. To advance his theory, Gardner (1993) emphasized the need for a composite measure of intelligence that could account for more than the narrowly defined general factor. Shearer (1998) addressed this demand with research of his own in which he analyzed traits of highly successful individuals with below average to average IQs (e.g., Thomas Edison) in an effort to design an assessment based on a redefined construct of intelligence (as cited in McKeon, 2005, p. 1). This new model broadened the perception of intelligence as a unique and complex compilation of abilities, independent yet interconnected, that determined an individual's awareness of and response to the environment and others (Almeida et al., 2010; Moran, Korhaber, & Gardner, 2006; Sternberg, 1997, 2015).

Relevant to this study is that Gardner's theory of intelligence is not isolated to what is measured on conventional assessments (Almeida et al., 2010; Gardner, 2006, 2011; Moran et al., 2006; Sternberg, 1999, 2015). Gardner's theory acknowledged that intelligence can manifest in several ways and, therefore, is more accurately defined within the context of culture (Hatch & Gardner, 1993; Moran, et al., 2006; Sternberg, 1999). This is precisely why many parents have opted to homeschool (Grady, 2017; McPhee et al., 2018; McKeon, 2005; Noel et al., 2016; Pratt, 2013; Shaw, 2017). They are confident in their child's capacity to learn but believe that his or her unique set of intelligences is best leveraged by an equally unique approach to instruction (Brooks, 2017; Moran et al., 2006; Sternberg, 1999, 2015; Volpe, 2013). Given the opportunity to create a personalized learning environment that can capitalize on their child's strengths and target difficulties, these parents opt to homeschool (Brooks, 2017; Pratt, 2013; Shaw, 2017).

Unfortunately, it is unlikely that public education will advance toward the use of more comprehensive measures of intelligence unless standardized methods of assessment and the institutions that use them to allocate resources and opportunities (e.g., gifted programs, post-secondary education, the armed forces, and various levels of government) find another way to make thousands of decisions equally as fast and without additional expense (Sternberg, 1999, 2015). This dichotomy is further evidenced by teaching standards that require educators to plan instruction based on multiple intelligences (CDE, 2015; CTC, 2009; Fla. Admin. Code, 2011; Tex. Admin. Code, 2014; White, Makkonen, & Stewart, 2009) and an industry that continues to demand standardized assessment scores to determine school, teacher, and student performance (Ballou & Springer, 2015; Grissom, Kalogrides, & Loeb, 2015). This narrow definition of intelligence, increasing class sizes, and the practical inability to meet the educational needs of



individual children is a driving force in the homeschool movement (McQuiggan & Megra, 2017; Redford et al., 2017).

Parallel to the growth and increasing popularity of Gardner's (1983) theory of multiple intelligences, Goldberg's (1981, 1990, 1993) work in the field of personality theory was likewise gaining traction (Digman & Inouye, 1986; McCrae & Costa, 1985, 1987; McCrae & John, 1992). Evolving from earlier research on personality, Goldberg (1990) proposed a mixed model approach that defined personality as a combination of five traits: surgency (extraversion), agreeableness, conscientiousness, emotional stability (neuroticism), and intellect (openness or culture). These categories, referred to as the Big Five, have served as the basis for several subsequent theories of personality that have successfully maintained the relevancy of Goldberg's (1990) model (Ashton & Kibeom, 2001; Costa & McCrae, 1984; Gurven, von Rueden, Massenkoff, Kaplan, & Vie, 2013; Hogan, 1996; Russo et al., 2012).

The Big Five model became central to the research of Costa and McCrae (1984) whose previous work included a three-factor personality theory and the Neuroticism, Extraversion, and Openness Personality Inventory (NEO PI; Costa & McCrae, 1976, 1978). The NEO PI initially assessed the dimensions of neuroticism, extroversion, and openness and was later expanded to include agreeableness and conscientiousness (Costa & McCrae, 1984). Collectively, these five traits form the framework for Costa and McCrae's (1992) Five-Factor Model (FFM) of personality, which is widely regarded as interchangeable with the Big Five (Allen et al., 2017; Chmielewski & Morgan, 2013; Goleman, 1995; Gurven et al., 2013; Iruloh & Ukaegbu, 2015; Piedmont, 2014).

In addition to trait theories, Salovey and Mayer (1990) played a prominent role in the study of EI. Their approach to EI, which was grounded in ability theory, was based on a

framework that included four underlying competencies: emotional awareness, emotional self-control, emotional control of others, and emotional adaptability (Mayer, Caruso, & Salovey, 2000; Mayer, Salovey, & Caruso, 2000; Mayer, Salovey, Caruso, & Sitarenios, 2003). Their inventory, the Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT) is an assessment of ability EI which, like the NEO PI, has continued to be a staple of the EI literature (Karim & Shah, 2014; Lanciano & Curci, 2015; Mayer, Caruso, Salovey, 2000; Wischerth, Mulvaney, Brackett, & Perkins, 2016).

As Mayer and Salovey (1995, 1997) continued to refine their theoretical framework, a study published by Salovey, Stroud, Woolery, and Epel (2002) suggested a potential theoretical shift by making assumptions that included tenets of trait theory. Unfortunately, subsequent research that focused on measures of ability, rather than self-perception, compromised the reliability and construct validity of the MSCEIT (Maul, 2012; Mayer, Salovey, & Caruso, 2000, 2002, 2008, 2012; Petrides, 2010, 2011) and called into question its value as a measure of EI. In response, Petrides (2011) questioned the usefulness of the MSCEIT, contending that as a measure of ability, it was inherently subject to error; thus, even if validity improved, its usefulness as a meaningful measure of EI would be unreliable.

The foundation of TEI theory is that EI is a subjective construct that exists in the lower levels of the personality hierarchy (Petrides & Furnham, 2001). As a result, any model that interprets EI from the standpoint of ability theory, forfeits its credibility by failing to concede that EI is an emotional experience; and that as such, it can only be properly assessed via self-report and through the lens of personality (Andrei et al., 2016; Joseph et al., 2015; Petrides, 2011, 2016; Petrides et al., 2007; Petrides et al., 2016; Siegling et al., 2014; Siegling et al., 2015). The rejection of EI as a function of personality has called into question the usefulness of

data generated from ability measures and resulted in conclusions that are inherently weak (Matthews, Zeidner, & Roberts, 2017; Mavroveli, Petrides, Sangareau, & Furnham, 2009; Mavroveli et al., 2008; Petrides, 2010, 2011; Petrides, Furnham, & Frederickson, 2004; Siegling, Saklofske, & Petrides, 2015; Vernon, Petrides, Bratko, & Schermer, 2008).

The longevity of this debate is not surprising given the difficulty of operationalizing the construct of EI (Davis & Humphrey, 2014; Petrides, 2017; Petrides & Furnham, 2001; Roberts, Zeidner, & Matthews, 2001; Salovey & Grewal, 2005). In 1997, the work of Bar-On proposed an alternative framework of EI, that like Goleman's (1995), employed a mixed model approach in which he broadly defined TEI as "all non-cognitive abilities, competencies, and skills that affect a person's ability to cope with the requirements of the world" (as cited in Mayer, Caruso, & Salovey, 2000, p. 102). Bar-On's (2000, 2006) theory emphasized the distinction between TEI, as a function of personality, and social skills, as behaviors that can be feigned and subject to insincerity. Bar-On alleged that individuals with high TEI do not require a particular set of emotional competencies, but rather, the perception of them. In addition, Bar-On (2000, 2006) contended that it is the perception of competency that facilitates flexibility and instinctive control over emotions across a variety of settings (Cadman & Brewer, 2001; Goleman, 2001; Romanelli, Cain, & Smith, 2006). Bar-On's (2000) theory echoed Goleman's (1999) in that it characterized individuals with high TEI as confident and in control of their emotions, even in high stress situations.

During this same time, Petrides and Furnham (2000) published two studies that advanced the framework for TEI (2000a; 2000b). Like Bar-On (2000), Petrides and Furnham (2000) accepted Goleman's (1995, 1998) view of EI as a product of self-perception and further contended that the construct of EI is operationalized by the self-perception of emotional

competence (Petrides & Furnham, 2001). Petrides and Furnham (2000a; 2000b) proposed that EI was not a construct of ability, but of personality, an approach that simultaneously rejected both ability and mixed model theories of EI (Petrides et al., 2007).

Petrides et al. (2007) defined TEI, or emotional self-efficacy, as the subjective understanding of one's personal capacity for emotional awareness, perception, and communication about feelings. As a subjective experience, Petrides et al. (2007) held that self-report measures provided the only credible means by which emotional competence could be reliably assessed (Andrei et al., 2016; Joseph et al., 2015; Petrides, 2011, 2016; Petrides et al., 2007; Petrides et al., 2016; Siegling et al., 2014; Siegling et al., 2015). In contrast, ability models have proposed the use of competency-based measures of EI to evaluate an individual's capacity to regulate his or her own emotions, as well as those of others (Davis & Humphrey, 2014; Karim & Shah, 2014; Legree et al., 2016). Thus, the central debate involves TEI as a facet of personality (Petrides, 2011, 2017; Petrides et al., 2004), ability EI as a facet of competency (Davis & Humphrey, 2014; Karim & Shah, 2014; Legree et al., 2016), and the means by which each is assessed.

This study explored TEI as a potential mitigating factor for feelings of social isolation via a review of the literature and the administration of the TEIQue-CSF to participants. The TEIQue-CSF is a measure intended to assess TEI in children between the ages of 8 and 12 (Mavroveli & Petrides, 2009). TEI is the self-perception of emotional competence where emotional competence is a facet of personality (Petrides, 2011, 2017; Petrides et al., 2004). Ability EI, on the other hand, relies on performance based measures of cognitive proficiency (Davis & Humphrey, 2014; Karim & Shah, 2014; Legree et al., 2016). Therefore, it is not surprising that the research investigating this relationship has found no statistically significant

correlation between TEI and ability EI and thus, supports the position that they are in fact, distinct constructs (Brannick, Wahi, Arce, & Johnson, 2009; Cejudo, 2016; Davis & Humphrey, 2014; Hodzic, Scharfen, Ripoll, Zenasni, & Holling, 2018; Jauk, Freudenthaler, & Neubauer, 2016; Legree et al., 2016; Mitrofan & Cioricaru, 2014; Petrides, 2011, 2017).

This study employed TEI, as defined in Pérez, Petrides, and Furnham (2005), as the independent variable. Fundamental to the discussion of EI is the choice of assessment (MacCann, Matthews, Zeidner, & Roberts, 2003; McEnrue & Groves, 2006). TEI theory contends that emotion is an inherently subjective experience that can only be properly assessed via self-report (Andrei et al., 2016; Joseph et al., 2015; Petrides, 2011, 2016; Petrides et al., 2007; Petrides et al., 2016; Siegling et al., 2014; Siegling et al., 2015). Central to this approach is the individual's self-perception of emotional competence (Petrides et al., 2007), which its proponents have alleged is a construct of personality unrelated to other theories of EI that emphasize cognitive ability and prescribe ideal EI profiles (Legree et al., 2016; Petrides, 2010). In addition, the theoretical framework of TEI has provided the means by which various degrees of analysis can be conducted, regardless of the means by which it is assessed; however, the use of the TEIQue as, "the most extensively validated EI measure in the scientific literature" (Petrides, 2016, p. 7) is highly recommended.

Siegling, Petrides, and Martskvishvili (2015) conducted a psychometric examination of instruments designed to measure TEI. The use of valid and reliable assessments of TEI is necessary to correctly evaluate an individual's strengths, as well as to identify threats to well-being. The potential use of scoring protocols to inform highly personalized interventions, underscores the value of well-designed assessments with psychometric properties that allow for meaningful analysis. Psychometrics refers to both, "the theory and technique of measuring

mental processes” of an assessment (Pasquali, 2009, p. 993). The objective of psychometrics is “to explain the meaning of responses” (Pasquali, 2009, p. 993). More specifically, it looks to evaluate an assessment on factor structure, internal consistency, test-retest reliability, and concurrent and construct validity (Mikolajczak et al., 2007; O'Connor et al., 2017; Tekinarslan & Kucuker, 2015).

However, current methods in psychometrics are not without critics. Siegling et al. (2015) contended, “Contemporary psychometric approaches lack utility in identifying problem facets and thereby contribute to the inflation in the number of facets often seen in the literature” (pp. 42-43). Thus, researchers should be cautious when drawing conclusions based on an arrangement of facets for which empirical support is lacking (Kornilova et al., 2008). For example, correlations between TEI and mainstream intelligence theories have extended research conclusions to make claims for which there is yet inadequate support, as is the case in a number of studies that indicate TEI as a predictor of academic success (Adams, 2010; Babalis, Tsoli, Artikis, Mylonakou-Keke, & Xanthakou, 2013; Ferrando et al., 2011; Görgens-Ekermans, Delpont, & Du Preez, 2015; Hansenne & Legrand, 2012; Perera & DiGiacomo, 2013; Qualter, Gardner, Pope, Hutchinson, & Whiteley, 2012). Additionally, Kornilova (2010) and Petrides (2011) both criticized the tendency of researchers to make assumptions of correlation given theoretically distinct models of intelligence, such as compounding resources from TEI, ability EI, and mixed models that employ different theoretical frameworks and use measures that assess operationally distinct constructs.

The TEIQue-CSF was designed to both formally assess TEI and promote the operationalization of the construct in children between the ages of 8 and 12 (Andrei et al., 2016; Andrei, Smith, Surcinelli, Baldaro, & Saklofske, 2016; Mavroveli & Petrides, 2009; Mavroveli

et al., 2008; O'Connor et al., 2017; Petrides, Siegling et al., 2016; Rivers et al., 2012; Schutte, Malouff, & Thorsteinsson, 2013). Given the intended population, the TEIQue-CSF generates a measure of global TEI across nine facets of personality: adaptability, affective disposition, emotion expression, emotion perception, emotion regulation, low impulsivity, peer relations, self-esteem, and self-motivation (Mavroveli & Petrides, 2009; Mavroveli et al., 2008; see Appendix B). Each of these facets aligns in the personality hierarchy under one of four larger umbrella factors: emotional ability, maturity, competence, and culture. Collectively, these four factors account for an overlap in the nine facets and generate a global TEI score (Petrides, 2011; Petrides & Furnham, 2003; Schutte et al., 2013). As a measure of trait self-efficacy, or the self-perception of emotional competence, Global TEI comprises the area of the personality that enables meaningful interaction in the world and determines the quality and resilience of relationships (Gökçen, Furnham, Mavroveli, & Petrides, 2014; Gugliandolo, Costa, Cuzzocrea, & Larcan, 2015a; Gugliandolo, Costa, Cuzzocrea, Larcan, & Petrides, 2015; Ruvalcaba-Romero, Fernández- Berrocal, Salazar-Estrada, & Gallegos-Guajardo, 2017; Schermer, Petrides, & Vernon, 2015).

## **Related Literature**

### **Feelings of Social Isolation**

**Feelings of social isolation and students that homeschool.** Social isolation has continued to be identified as a central concern of home education (Anthony, 2015; Beck, 2010; Green-Hennessy, 2014; Guterman & Neuman, 2016; Medlin, 2013; Murphy, 2014a). Though several studies have attempted to address the subject, the small, unrepresentative sample sizes and poor methodological rigor discussed in the previous chapter (Gloeckner & Jones, 2013; Green-Hennessey, 2014; Hodge et al., 2017; Jolly et al., 2013; Kunzman, 2015, 2017; Kunzman

& Gaither, 2013; Lubienski et al., 2013; Murphy, 2012, 2014a; Ray, 2014, 2016c; Vieux, 2014), have produced a large data set with no reliable pattern of consensus. In fact, the range of conclusions drawn from these studies has proclaimed the superior social competencies of children that are homeschooled on one hand and criticized developmental delays attributed to social isolation on the other (Green, 2015; Medlin, 2013; Ray, 2013a; Sotés-Elizalde & Urpí, 2015). The popularity of cooperatives and support groups that were established to benefit the homeschool experience is indicative of the priority that a number of homeschoolers place on opportunities for socialization (Anthony, 2015; Kunzman, 2017a; Ray, 2018; Ripperger-Suhler, 2016). Unfortunately, not all homeschoolers recognize the prospective value of these opportunities to mediate the potential for feelings of social isolation. Further, it is unlikely that every family that homeschools will have the benefit of regular access to a support system that includes quality social opportunities, a condition with the potential to contribute to an increased risk for feelings of social isolation.

The frequency with which socialization continues to be the subject of research underscores the relevance of sustained efforts to understand its role in the well-being and future success of children that are homeschooled (Beck, 2015; Guterman & Neuman, 2016; Kranzow, 2013; Kunzman, 2017a; Medlin, 2013; Murphy, 2014a; Sotés-Elizalde & Urpí, 2015; Vigilant et al., 2013). Critics of home education have taken issue with what they have alleged is the sanctioned social isolation of children and with the larger social consequences that they have maintained, are the result (Apple, 2015; Brewer & Lubienski, 2017; Lubienski & Brewer, 2015; Morrison, 2014; Shepherd, 2016). Multiple studies have described the role of socialization as central to the development of a skill set that facilitates competence and maturity in social situations, while simultaneously promoting public education as the most effective and



appropriate means by which it is accomplished (Green-Hennessey, 2014; Levin, Jacobs, & Arora, 2016). Homeschool's critics have promoted the institution of public education as an equalizer that has not only provided equal access to education and extra-curricular opportunities, but that has also established a venue through which societal norms and culture have been inherently and consistently transmitted (Brewer & Lubienski, 2017; Fineman & Shepherd, 2016; Levin et al., 2016).

There is little room to argue the efficacy of public schools as a prime setting in which social skills are learned. The volume and diversity of social interactions across a typical school day predictably exerts an enormous influence on social and emotional development (Engle, McElwain, & Lasky, 2011; Gomes, 2017; Hartley & Lee, 2015; Jones, Greenberg, & Crowley, 2015; Learning Box Preschool, 2018; Littlefield, Cavanagh, Knapp, & O'Grady, 2017; National Association for the Education of Young Children [NAEYC], 2018). For children that attend traditional school, peer interactions serve an important function as a primary source of social experiences that foster competency in TEI (Clarke, Morreale, Field, Hussein, & Barry, 2015; Silverthorn et al., 2017; van Lier & Deater-Deckard, 2016; Wentzel, 2015).

*Feelings* of social isolation is a construct distinct from that of social isolation in much the same way that TEI differs from ability EI. Social isolation was defined by de Jong Gierveld, Tilburg, and Dykstra (2016) as, "the absence of relationships with other people" and as "a very small number of meaningful ties" (p. 486). This description is supported by Teo et al. (2013) who classified social isolation by the frequency and scope of one's interactions with others. Based on TEI theory, however, emotion is a subjective experience best assessed by measures of self-report (Andrei et al., 2016; Joseph et al., 2015; Petrides, 2011, 2016; Petrides et al., 2007; Petrides et al., 2016; Siegling et al., 2014; Siegling et al., 2015). Thus, the phrase, feelings of

social isolation, intentionally denotes the individual's self-perception of social isolation, an approach that adopts the perspective of TEI theory (Witvliet, Brendgen, van Lier, Koot, & Vitaro, 2010; Zeedyk, Cohen, Eisenhower, & Blacher, 2016).

The variable, feelings of social isolation, is characterized as “feelings of isolation, disconnectedness, and not belonging” (Holt-Lunstad, Smith, Baker, Harris, & Stephenson, 2015, p. 229) and “an unpleasant experience occurring when a person's social relationships are significantly deficient either in quality or quantity” (Demircan & Demir, 2014, p. 169). This aligns with Laursen and Hartl's (2013) assessment that feeling socially isolated “assumes emotional pain” (p. 1262). Additional research has also supported the premise that feelings of social isolation are a product of self-perception (Cacioppo & Cacioppo, 2014; Daneel, Maes, Vanhalst, Bijttebier, & Goossens, 2018; Laursen & Hartl, 2013; Russell 2014). Like TEI, the words “feelings” and “experience” emphasize the role of self-perception as central to the operationalization of this construct (Arthur Rank Centre, 2016; Hawkey & Capitano, 2015; Holt-Lunstad & Smith, 2016; Jopling & Barnett, 2014). This study defined feelings of social isolation as “a subjective negative feeling associated with a perceived insufficiency of social network” (Lan et al., 2016, p. 2), a definition that is consistent with the references cited and compatible with the theoretical framework used by this study.

Feelings of social isolation have been shown to inhibit the development of important life skills including adaptive behaviors, impulse management, and interpersonal proficiencies that are necessary to facilitate successful and lasting relations with others (Chevallier, Kohls, Troiani, Brodtkin, & Schultz, 2012). Research has contended that children who experience feelings of social isolation are prone to develop traits that carry an elevated risk for adjustment problems across the lifespan, including deficits in language acquisition, the ability to identify contextual

values, and the capacity to manage conflict effectively (Hawkley & Capitanio, 2015; Jennings, Rocque, Fox, Piquero, & Farrington, 2016). In fact, a number of studies have supported the predictive validity of prolonged feelings of social isolation in childhood for long-term social impairment, diminished life satisfaction, and the need for intensive psychiatric care (APA, 2017; Deckers, Muris, & Roelofs, 2017; Hawkley & Capitanio, 2015; Jennings et al., 2016; Lacey, Kumari, & Bartley, 2014; Matthews et al., 2015; Milojević, Dimitrijević, Marjanović, & Dimitrijević, 2016; Paik & Sanchagrin, 2013; Pearson, Griffin, Davies, & Kingham, 2013; Qualter et al., 2015; Ritchwood, Ebesutani, Chin, & Young, 2017; Stacciarini, Smith, Garvan, Wiens, & Cottler, 2015; Vanhalst, Goossens, Luyckx, Scholte, & Engels, 2013; Zeedyk et al., 2016).

The potential for prolonged feelings of social isolation in childhood to jeopardize well-being across the lifespan has been supported in the research (Danneel et al., 2018; Laursen & Hartly, 2013; Qualter et al., 2015; Vanhalst et al., 2015; Wong, Yeung, & Lee, 2018). Significant physical and emotional changes that occur during this period have a powerful influence on self-perception, self-esteem, and what is learned about the purpose, establishment, and maintenance of relationships (Luecken, Roubinov, & Tanaka, 2013; Madigan, Atkinson, Laurin, & Benoit, 2013; Pallini, Baiocco, Schneider, Madigan, & Atkinson, 2014; Patton et al., 2016; Zhou, Lebel, Treit, Evans, & Beaulieu, 2015; Zimmermann & Iwanski, 2015). The early identification and employment of interventions to address feelings of social isolation in childhood can promote improvement along important TEI constructs and serve to mediate future vulnerability (Anasuri, 2016; Gomes, 2017; Gugliandolo et al., 2015a; Hartley & Lee, 2015; Learning Box Preschool, 2018; Lim, You, & Ha, 2015; Littlefield et al., 2017; Lü et al., 2014; MacPhee, Lunkenheimer, & Riggs, 2015; NAEYC, 2018; Nikooyeh, Zarani, & Fathabadi, 2017;

Qualter et al., 2015; Shulman, 2016). This approach can provide important support for mental health and the successful navigation of critical developmental periods in childhood and adolescence (Allemand, Steiger, & Fend, 2015; Gruenenfelder-Steiger, Harris, & Fend, 2016; Milojević et al., 2016; Motamedi, Ghobari-Bonab, Beh-pajooh, Yekta, & Afrooz, 2017; Qualter et al., 2015; Sandler, Ingram, Wolchik, Tein, & Winslow, 2015).

A significant body of research has indicated that children who experience feelings of social isolation are likely to suffer from what they perceive as a lack of meaningful relationships (Cacioppo & Cacioppo, 2013; Danneel et al., 2018; Grygiel et al., 2014; Havik, Bru, & Ertesvåg, 2015; Paik & Sanchagrín, 2013; Shahzad, Begum, & Khan, 2014; Teo et al., 2013; Zhang et al., 2014). Given that healthy relationships not only provide opportunities for socialization and social skill development but have also been identified as indicators of resilience (Cacioppo et al., 2016; Kong & Zhao, 2013; Kong et al., 2012a, 2012b; Lü et al., 2014; Madigan et al., 2013; Masten, 2014; Ungar, 2015; Wheeler, 2016), concentrated efforts to strengthen TEI is as urgent as it is justified. Murphy (2014b) noted a propensity for children who are educated in socially indifferent or segregated contexts to develop behaviors that were not only incompatible with social development but that also had a negative impact on self-esteem and the development of social competence. Research has also suggested that children who feel socially isolated demonstrate a higher incidence of shyness, anxiety, and reticence when exposed to opportunities to participate in social activities (Rubin & Barstead, 2014; Smith et al., 2017; Witvliet et al., 2010; Woodhouse, Dykas, & Cassidy, 2011; Zeedyk et al., 2016). Depending on the context in which home education is conducted, the likelihood for these problems to remain undetected during critical periods of development is increased (Lacey et al., 2014; Qualter et al., 2015). Additional challenges emerge when limited social opportunities preclude the identification of

behaviors that in certain social contexts outside the family or more intimate groups, may be inappropriate or anti-social. Without sufficient opportunities to refine social competencies, it can be challenging to develop TEI. Learning to understand the complexity of social nuances including personal space, non-verbal cues, and the potential impact of one's behavior on others requires practice (Campo, Laborde, & Mosley, 2016; Chang, 2003; Hansenne, Nélis, Feyers, Salmon, & Majerus, 2014; Kotsou, Nelis, Grégoire, & Mikolajczak, 2011; Mikolajczak & Pena-Sarrionanda, 2015; Nélis et al., 2011; Nélis, Quidbach, Mikolajczak, & Hanseene, 2009; Pool & Qualter, 2012; Vesely, Saklofske, & Nordstokke, 2014). This is an important concern given that positive interactions with peers have been highly correlated to healthy psychological adjustment (Cacioppo et al., 2016; de Jong Gierveld et al., 2016; Liew, 2012; Teo et al., 2013).

**Geography and feelings of social isolation.** The experience of feeling socially isolated is certainly not limited to a particular context, but there are factors that the research has found to be likely contributors. One such candidate from the literature is geography (Bluemke, Resch, Lechner, Westerholt, & Kolb, 2017). Living in rural or remote areas is a potential risk factor for feelings of social isolation in students that are homeschooled (Adkins, 2004; Beck, 2008; Schafer & Khan, 2017) and for other vulnerable populations for whom limited social opportunities can promote loneliness (Age UK, 2016; Arthur Rank Centre, 2016; Beck, 2008; Bell & Menec, 2013; DiNapoli, Wu, & Scogin, 2014; Jopling, 2015; Mills, 2017; Stacciarini et al., 2015). Research that includes consideration for rural and remote living and feelings of social isolation specific to students that are homeschooled, is extremely limited; therefore, the present work includes examples from the literature that pertain to other special populations (e.g., children and the elderly) to support the author's contention for this relationship. The influence of geography on life satisfaction can be projected based on opportunities for socialization, travel, and access to

health services (DiNapoli et al., 2014; Liarakou, Gavrilakis, & Flogaitis, 2014; Mills, 2017; Stacciarini et al., 2015). Many rural and remote areas in Alaska have minimal infrastructure, another variable with the potential to dictate access to or quality of internet and phone service in terms of availability, bandwidth, and expense, which can pose additional limits on opportunities to interact with others (Allen, 2014; Bell & Menec, 2013; Biddle & Azano, 2016; Correa & Pavez, 2016).

*Defining rural and remote.* Living in Alaska is a unique experience in relation to the 48 contiguous states and Hawaii. The low population density in contrast to the immensity of its size lends to the categorization of almost the entire state as rural or remote (FORHP, 2016). In fact, the only portion of Alaska that does not meet this criterion is the small 13 square mile area that comprises the Municipality of Anchorage (FORHP, 2016; U.S. Department of Agriculture, n.d.).

Burd, Holder, and Fields (2016) explored the meaning of rural based on the definition offered by the U.S. Census Bureau (USCB). This approach relied not on what rural is, per se, but on what it is not, yielding to the definition of urban to categorize an area as one or the other. Hence, what is not urban is rural. Three other federal agencies likewise provided definitions of rural adapted to meet a specific function. The disparity should not be attributed to a semantic debate, nor does one version necessarily preempt another. The general construct is shared and then custom-fit to support a particular purpose. The literature had accepted and even deferred the definition of what is rural to the purpose of the research being conducted (Bell & Menec, 2013; Dijkstra & Poelman, 2008; ERS, 2017a; ERS, 2017b; FORHP, 2016; Institute for Energy Research, 2013; Liarakou et al., 2014; Miller, 2013; OMB, 2010, 2016; USDA, n.d.). An example of this practice is evidenced by the variation in classification protocols that have resulted in the same data yielding disparate results. A review of these definitions served as an

important procedural step in the effort to identify a definition that duly considered the substantial role of Alaska's geography.

The USCB, OMB, FORHP, and ERS have each employed a specific version of protocols to delineate an area as urban or rural based on the function the data is projected to serve. Bluemke et al. (2017) indicated a need to include a definition of rural sufficient to account for geographically isolated cities with populations in excess of the USCB (2016) threshold for Urban Clusters (UCs; populations with at least 2,500, but less than 50,000).

As discussed previously, amongst a handful of government agencies, various definitions are used to classify cities as remote, suburban, or rural. The unusual geography of Alaska's most populous cities, sans Anchorage, renders most of the standard definitions inadequate when applied to cities with larger populations that are geographically isolated and inaccessible by road. Therefore, it was necessary to the study to employ a definition that could accommodate the distinctive character of Alaska's cities (Dijkstra & Poelman, 2008; Institute for Energy Research, 2013; Liarakou et al., 2014).

The dependence on air and/or water travel for access to some cities that would otherwise be categorized as urban or suburban, as is the case with Juneau, Ketchikan, and Skagway, requires special consideration. This characteristic is unaccounted for by existing definitions that currently designate these cities based on population. To access the capital city of Juneau, for example, an individual must either fly or use the Alaska Marine Highway System (AMHS). If the latter, the journey from Anchorage, the state's most populous city (USCB, 2017b), would take roughly 30 hours, 8.5 of which would be spent on a ferry (Alaska Department of Transportation and Public Facilities [ADOTPF], 2017b) and cost approximately \$300 (ADOTPF, 2017a). Thus, it is important to recognize that while the USCB designated Juneau as a

Micropolitan area core (ERS, 2013), it would be inappropriate to liken it to cities sharing this description in the 48 contiguous states. The constructs of rural and remote are worthy of discussion for the role they play in this study and for the inconsistency with which they are defined. The literature allows for this variability by having encouraged the reasonable adaptation of definitions to meet the purposes of research given that adequate justification has been provided and thresholds clearly defined (Bell & Menec, 2013; Dijkstra & Poelman, 2008; Institute for Energy Research, 2013; Liarakou et al., 2014).

The USCB (2016) has defined rural as any area that does not meet the parameters of what it has defined as urban. Within its definition of urban, two subcategories are provided to delineate large urban areas from those that are smaller. Urban Areas (UAs) are those that include populations of 50,000 or more, while Urban Clusters (UCs) include areas with populations between 2,500 and 50,000. Those areas with populations below the UC threshold of 2,500 are rural. Unfortunately, the lower limit of UCs eliminates the usability of this definition for studies that include remote areas with populations in excess of 2,500, a category into which a number of Alaskan cities fall. Geographic isolation of some communities has highlighted the need for a definition that includes the means to account for life in remote areas with larger populations, such as in Alaska (see Appendix E).

The ERS (2017) provided an alternative classification for counties as either Metro (urban) or Nonmetro (rural). These labels are based on population density and economic relationships with other areas. Based on the ERS criteria, only three Alaska boroughs meet the criteria as a Metro area: the Municipality of Anchorage, the Fairbanks North Star Borough, and the Matanuska-Susitna Borough. According to the ERS (2017) definition, the Fairbanks North Star Borough is comparable to the Municipality of Anchorage; however, the population of the



Anchorage Municipality is three times that of the Fairbanks North Star Borough. In addition, Anchorage is host to an international airport, an ocean port, two large military installations, and a relatively mild climate that have collectively contributed to the development of the Anchorage Municipality and its larger commuting area, also known as the Anchorage/Mat-Su Economic Region (Alaska Department of Labor and Workforce Development [ADOLWD], 2019), as the current residence of over half of Alaska's total population.

Similarly, the OMB (2010) uses Metropolitan and Micropolitan to refer to the variance in population between urban census areas. Metropolitan areas are those with populations of at least 50,000 and Micropolitan, as the name implies, are smaller urban areas with populations between 10,000 and 49,999 (USCB, 2017a). Like UAs and UCs, rural areas are classified by their failure to meet the threshold for either designation. Further efforts by the OMB have sought to ensure the influence of urban areas has been considered when categorizing areas as urban or rural. To this end, the OMB (2010, 2016) has identified Core Based Statistical Areas (CBSAs) that consider the proximal impact of an urban area on surrounding communities. Per the OMB, there are three CBSAs in Alaska that are designated as Metropolitan: Anchorage and the greater Anchorage Municipality, Anchorage and the Matanuska-Susitna Borough, and Fairbanks and the Fairbanks North Star Borough; and, two additional CBSAs that are designated as Micropolitan: Juneau and the Juneau City and Borough and the Ketchikan Gateway Borough.

An important difference in these classification systems is that once a CBSA has been identified as Metropolitan or Micropolitan, the borough or boroughs in which it is located were likewise categorized. Thus, if a small area on a borough boundary reaches a population of 50,000 residents and is included in a Metropolitan or Micropolitan CBSA, the entire borough was designated as urban, regardless of borough size or population density. This is not the case

with other designators that separate a specific area's classification from others within the borough and from the borough as a whole. The latter approach enables a borough to be designated as rural even in the presence of a Micropolitan census area, but not if it includes one that is Metropolitan (OMB, 2010, 2016).

The misrepresentation of a borough can have a detrimental impact on vital government services and other considerations as it implies an access to goods and services that may not exist (Boyd et al., 2016; Burd et al., 2016; FORHP, 2016; Liarakou et al., 2014; Mills, 2016; Stacciarini et al., 2015). Alaska is particularly prone to inappropriate labeling as in the case of the Matanuska-Susitna Borough of Alaska. The borough's two largest communities lie adjacent to each other, encompassing a mere 18.35mi<sup>2</sup> of the county's 25,258 mi<sup>2</sup>. With 30% of the area's population commuting to Anchorage for work (Sullivan, 2016), this area enjoys an access to services and amenities that are radically different from residents in other areas of the borough. To address this discrepancy, the Health Services and Resource Administration (HSRA; 2016) identified 25 counties in which the application of standard criteria for classification would be inadequate to describe the true character of the county. Thus, when consideration of these counties in their entirety, the FORHP (2016) excluded from the list of Metropolitan counties after consideration for the borough in its entirety, one of which the Matanuska-Susitna Borough (see Appendix F).

Having discerned the potential for negative consequences, the FORHP (2016) supplemented the OMB's (2010) definitions of Metropolitan and Micropolitan with RUCA codes (ERS, 2013). The adoption of RUCA codes enabled the delineation of rural census tracts in counties or boroughs that would otherwise be classified as urban. RUCA codes 4-10 identify rural census tracts (ERS, 2013); however, FORHP (2016) has also provided specific guidance

that has allowed census tracts with RUCA codes 2 and 3 to be classified as rural if they are at least 400 square miles from a metropolitan area and have a population density of no more than 35 people (see Appendix G).

In addition, FORHP (2016) has sought to prevent the misrepresentation of census areas based on the OMB's (2010) system of classification that has identified some remote boroughs as metropolitan without consideration for other important variables besides population, as in the case of the Fairbanks North Star Borough in Alaska. Despite a metropolitan designation and access to the road system, Fairbanks is limited in its capacity to provide the same range of services available in other U.S. cities of similar size. This is an important distinction to make based on Fairbanks' remote location (Bell & Menec, 2013; Conventions, Sports and Leisure International, 2012; Dijkstra & Poelman, 2008; Institute for Energy Research, 2013; Liarakou et al., 2014). Due to resource limitations, residents must travel outside of the area for some services, most notably to access medical specialists. At a minimum, travel requires a 7-8 hour drive or a flight to Anchorage that can be costly depending on the time of year and the immediacy of travel (CSLI, 2012).

*Alaskan weather, seasonal extremes, and feelings of social isolation.* An additional circumstance consequent to geography is weather. Extremes in weather conditions include -50° temperatures in the winter and seasonal changes to the city's sun exposure that ranges from a low of 3.75 hours of daylight on December 21st to 22 hours of daylight on June 21st (City of Fairbanks, 2017). Thus, despite a population of 32,094 (USCB, 2017c), barriers to access and unique geographic conditions consequent to a remote location, qualified residents of the North Star Borough as a remote population for this study. As a result of these extenuating conditions,

the target population for this research included students between the ages of 8 and 12 who homeschooled in Alaska but did not reside within the Municipality of Anchorage.

This status alone has bearing on the potential for an individual to experience feelings of social isolation; however, in Alaska, geography is cause for additional circumstances that, in combination with feelings of isolation, can magnify the risk for consequent harm. Despite regional variations in daylight hours, Alaska's latitude imposes seasonal extremes with statewide implications (Alaska.org, 2018; State of Alaska, 2018; Time and Date, 2018). In June, the state is exposed to longer hours of sunlight with the interior and more northern regions boasting 24 hours of full sun and the more southern, days in which the sun sets but never completely leaves the horizon (Alaska.org, 2018; State of Alaska, 2018; Time and Date, 2018). By December, the former Alaska regions will not see the sun rise for days while in the latter regions, daylight will decrease to between five and six hours a day (Alaska.org, 2018; Time and Date, 2018).

This information is highly relevant given the research that reveals a strong seasonal link to mental health at this latitude (Hull-Jilly, 2015; Melrose, 2015; Silveira et al., 2016; Snodgrass, 2013; Tam & Gough, 2013). Seasonal affect can magnify feelings of social isolation and has been correlated with effects as extreme as suicide (American Foundation for Suicide Prevention [AFSP], 2017; CDC, 2015; Gallagher, Prinstein, Simon, & Spirito, 2014; Hull-Jilly, 2015; Pompili, 2015; Sawe, 2017; Silveira et al., 2016; Tavernise, 2016; Tejada-Vera, 2014; Woelber & Hull-Jilly, 2013). When considered in light of statistics that cite suicide as the second leading cause of death for adolescents from 10-14 in the U.S. (National Institute of Mental Health [NIMH], 2019; UHF, 2015), with Alaska leading the nation in suicides (Hull-Jilly, 2015; National Violent Death Reporting System [NVDRS], 2015; World Atlas, 2017), the significance of research to locate effective interventions becomes urgent.

The association between transient weather and depressed mood has been shown to intensify the adverse impact of coexisting conditions such as geographical isolation and limited sun exposure (Feddersen, Metcalfe, & Wooden, 2016; Flaskerud, 2012; Luhmann, Murdoch, & Hawkley, 2015; Thogerson-ntownani et al., 2014). Still other studies focus on the potential long-term effects of certain weather conditions on mental health, such as Depressive Disorder with Seasonal Pattern (DDSP; formerly known as Seasonal Affective Disorder [SAD]; Flaskerud, 2012; Jankowski, 2017; Lowe, 2015; Steinberg & Sprigg, 2016). Large-scale studies investigating the impact of living in various climates on subjective well-being have struggled with the limits posed by the sample population's exposure to weather conditions that can be drastically disparate (Diener et al., 2013; Luhmann et al., 2015; Lucas & Lawless, 2013). To this end, researchers suggest a direction for future research to limit sample populations to individuals living in similar climates as a means to improve reliability (Diener et al., 2013; Luhmann et al., 2015; Lucas & Lawless, 2013).

The transient and unpredictable nature of weather further confounds research by imposing obstacles that impede tests of reliability on assessments designed to measure certain aspects of well-being given a particular condition (Feddersen et al., 2016; Lucas & Lawless, 2013). With an average accuracy rate of 50% for weather forecasts (Hu & Skaggs, 2009), planning research to validate the psychometric properties of a survey given a defined set of weather conditions is virtually impossible. Interestingly, the accuracy of forecasts is a topic commonly referenced throughout the National Oceanic and Atmospheric Administration's (NOAA; 2019) website, to include those resources provided via hyperlink and available for download; yet, the only inclusion of an actual numerical rate of accuracy is from a 2009 study by Hu and Skaggs.

Weather in Alaska is known for seasonal extremes (Allen, Brutkoski, Farnsworth, & Larsen, 2016; Meeker, 2016; Steinberg & Sprigg, 2016). Severe weather conditions carry the risk of interrupting traditional modes of communication (e.g., telephone and Internet) and travel, severely restricting mobility and impeding access to resources and opportunities for socialization (Li, Wang, & Hovy, 2014). This is especially true in the more vulnerable rural and remote areas of Alaska where typical options for communication, if they even exist, are susceptible to interruption in service during periods of inclement weather (Day et al., 2018). A review of the research related to children that are homeschooled, feelings of social isolation, and geography, to include rural and remote communities, seasonality, and weather, support the contention that children who are homeschooled in rural and remote areas of Alaska can be especially vulnerable to feelings of social isolation. When considered within the context of mental health, the potential risk to well-being underscores the importance of research to identify factors that serve to mitigate feelings of social isolation. This study investigated TEI as one possible means by which feelings of social isolation in children that are homeschooled in rural and remote areas of Alaska can be alleviated or averted entirely.

**Feelings of social isolation, TEI, and gender.** A number of researchers cite the importance of including gender as a variable for analysis and have called for the inclusion of both male and female participants as standard practice in research (Johnson, Fitzgerald, Salganicoff, Wood, & Goldstein, 2014; Oveseko et al., 2016; Woodruff, 2014). The majority of the literature reviewed for this study supported this trend and included gender as a variable of analysis even when it was not identified as a variable of interest. This development in research protocol expands the utility of data by providing the means for current and future studies to investigate the influence of gender across a range of contexts.

The inclusion of gender as a variable for analysis can provide additional insight into factors that contribute not only to an individual's propensity to experience feelings of social isolation, but into his or her capacity for resilience as well (Ovseiko et al., 2016; Salguero, Extremera, & Fernández-Berrocal, 2012a). A review of the literature revealed mixed results for TEI and feelings of social isolation in relation to gender, presenting as much evidence to support its influence (e.g., Ang, Mansor, & Tan, 2014; Billings et al., 2014; Gugliandolo et al., 2015a, 2015b; Stassart, Dardenne, & Etienne, 2014; Undheim & Sund, 2017) as not (e.g., Akhtar, Boustani, Tsivrikos, & Chamorro-Premuzic, 2015; Menon & Kalaveena, 2015; Mikolajczak et al., 2015; Qualter et al., 2015; Siegling, Furnham et al., 2015; Zeidner, Matthews, & Shemesh, 2016). The inclusion of gender as a variable for analysis is important to help identify and support populations for which there is a higher risk for harm or in whom important resilience indicators can be identified and leveraged for both sexes (Arens & Hasselhorn, 2014; Keefer, Holden, & Parker, 2013; Undheim & Sund, 2017; Zeidner et al., 2016).

As previously discussed, when sorted by gender, measures of TEI are inconclusive. In fact, there are multiple examples in which the same researcher, investigating the same construct (TEI), has found evidence to support gender variance in one study and invariance in another (Coplan, Closson, & Arbeau, 2007; Coplan et al., 2013; Petrides & Furnham, 2000; Petrides, Furnham, & Martin, 2004; Siegling et al., 2015; Siegling, Saklofske, Vesely, & Nordstokke, 2012). Given the ambiguity surrounding gender roles, it is not surprising to note a progressive trend in the literature to examine performance data at the more elemental TEI facet and factorial levels. Interestingly, gender invariance decreases when analyzed across a progressively discerning scale, in contrast to analyses conducted at the more inclusive global TEI level (Arens

& Hasselhorn, 2014; Esnaola, Revuelta, Ros, & Sarasa, 2017; Gökçen et al., 2014; Keefer et al., 2013; Tsaousis & Kazi, 2013).

Along these same lines, some researchers challenge the veracity of self-report measures, like the TEIQue, contending instead that gender differences are sensitive to the mode of assessment. This hypothesis is based on the consistency with which female respondents score across various measures of EI when compared to corresponding inconsistency amongst males (Laborde, Dosseville, Guillén, & Chávez, 2014; Lopez-Zafra & Gartzia, 2014; Siegling, Furnham et al., 2015; Stassart et al., 2014). Thus, some studies suggest that differences in performance between males and females on certain measures of TEI are better attributed to gender stereotypes than to genuine disparities (Lopez-Zafra & Gartzia, 2014; Petrides et al., 2004).

When it comes to feelings of social isolation, the challenge of determining the extent and nature of the role played by gender is equally as problematic. Qualter et al. (2015) attributed this circumstance to what they perceive as the pervasive neglect of the loneliness research to include gender as a variable for analysis. In studies in which gender was taken into account, females tended to demonstrate higher overall scores on a variety of measures across social domains (Billings et al., 2014; de los Dolores Valadez Sierra, África Borges del Rosal, Ruvalcaba-Romero, Villegas, & Lorenzo, 2013; Maguire, Niens, McCann, & Connolly, 2016) and in emotional expression (Chaplin & Aldao, 2013). This circumstance echoes the previous discussion on the benefit of aggregating data by gender, even in analyses where it may not be essential (Johnson et al., 2014; Oveseko et al. 2016; Woodruff, 2014).

Like the research on TEI, several studies that investigated gender differences in feelings of social isolation failed to find any statistically significant differences between males and



females (Danneel et al., 2018; Menon & Kalaveena, 2015; Qualter et al., 2015; Siegling, Furnham et al., 2015; Tsaousis & Kazi, 2013). These conclusions coincide with Billings et al. (2014) who found that “gender differences in emotional development are not always apparent” (p. 17). The inability of current research to demonstrate consistent findings with regard to gender variance reveals a gap in the literature in need of further investigation.

### **Benefits of TEI**

The benefits of TEI justify an investigation of the means to improve it (Mikolajczak, Petrides, Coumans, & Luminet, 2009). Current research indicates that TEI is an indicator of success in school (Chew, Zain, & Hassan, 2015; Ferrando et al., 2011; Görgens-Ekermans et al., 2015; Humphrey-Murto, Leddy, Wood, Puddester, & Moineau, 2014; Mavroveli & Sánchez-Ruiz, 2011), work (Akhtar et al., 2015; García & Costa, 2014; Gutierrez, Ang, Carlos, & Umali, 2015; Hui-Hua & Schutte, 2015; Joseph et al., 2015; Mérida-López, Extremera, & Rey, 2017; Schutte & Loi, 2014; Zeidner, Matthews, & Roberts, 2009), sports (Bande, Fernández-Ferrín, Varela, & Jaramillo, 2014; Campo et al., 2016; Campo, Laborde, & Weckemann, 2015; Hodzic et al., 2018; Joseph et al., 2015; Laborde et al., 2014; Sánchez-Álvarez, Extremera, & Fernández-Berrocal, 2016; Schutte & Loi, 2014; Siegling et al., 2014), and mental and physical health (Bhatti & Haq, 2017; Karahan & Yalçın, 2009). In addition, TEI is effective in promoting positive outcomes with populations that are ethnically diverse (Hasani & Khalatbari, 2013; Huang et al., 2017; Sánchez-Ruiz, Mavroveli, & Poulis, 2013). Individuals with healthy TEI perceive themselves as emotionally flexible and adept at adjusting their emotional temperature to meet the needs of a range of situations, even those that are unfamiliar (Kong & Zhao, 2013). Thus, TEI approaches problem resolution from the context in which it has evolved, adapting to the demands presented by a given combination of people, problem, and context (Aliprantis,

2014; Herbert & Manjula, 2017; Goleman, 1998; Jahangard et al., 2012; Kong, 2012a, 2012b; Tschannen-Moran, Salloum, & Goddard, 2014; Zandberg, Quinn, Naguib, & van Oers, 2017). This perception of emotional flexibility is fundamental to resilience in that it facilitates confidence in one's competence to navigate emotionally-laden or novel circumstances (Coifman & Almahmoud, 2016; Coifman, Flynn, & Pinto, 2016; Kashdan, Barrett, & McKnight, 2015; Kong & Zhao, 2013; Kong et al., 2012a, 2012b; Lü et al., 2014; Waugh, Thompson, & Gotlib, 2011). Still more studies correlate TEI with well-being, life satisfaction, and happiness (Akbari & Khormaiee, 2015; Bhullar et al., 2013; Blatný, Millová, Jelínek, & Osecká, 2015; Bowen, Pilkington, & Rose, 2015; Firozna & Jayan, 2015; Furnham & Petrides, 2003; Mavroveli, Petrides, Rieffe, & Bakker, 2007; Neto, 2015; Özer, Hamarta, & Deniz, 2016; Platsidou, 2013; Raimule & Bhawalkar, 2015). Given the quantity of scientific evidence that demonstrates a relationship between TEI and quality of life measures, it is an important and relevant topic for exploration to better address the needs of the sample population.

Not only is the construct of TEI informative as a strong predictor of success (Akhtar et al., 2015; Anglim & Grant, 2016; Di Fabio & Palazzeschi, 2015; Downey, Lomas, Billings, Hansen, & Stough, 2014; Koydemir et al., 2013; Joseph et al., 2015; Libbrecht, Lievens, Carette, & Côté, 2014), but it also provides valuable insight when used as a resource to identify compromised TEI and establish measures by which to strengthen it (Barlow & Banks, 2014; Malouff, Schutte, & Thorsteinsson, 2014; Mikolajczak & Van Belleghem, 2017; Murphy, 2014b; Nélis et al. 2009; Nélis et al., 2011; Vesely et al., 2014). The research suggests TEI training is a promising direction for mitigating feelings of social isolation and the consequent potential for harm (Moroń, 2014; Paik & Sanchagrin, 2013; Shemesh, 2017; Smith, Barstead, & Rubin, 2017; Wols et al., 2015; Zysberg, 2015). The identification of empirically supported interventions is

especially important when determining how best to support populations that are particularly vulnerable (Grant, Kinman, & Alexander, 2014; Herpertz, Schütz, & Nezelek, 2016; Hodzic, Ripoll, Bernal, & Zenasni, 2015; Vesely et al., 2014). This position underscores the primary objective of this study. If an inverse relationship between TEI and feelings of social isolation were found, it would be expedient to implement an evidence-based approach to promote the development of TEI in the target population. Subsequent efforts to identify or construct a curriculum that is TEI-centric and that can be made readily accessible to homeschoolers could provide a proactive means to improve resilience and decrease the potential for harm (Centre for Reviews and Dissemination, 2014; Mikolajczak et al., 2009; Matthews et al., 2015, 2016).

Feelings and self-perception are functions of the affective domain and thus, are central to any discussion pertaining to child development (Gaffney & Dannels, 2015). The significance of attending to this domain in childhood is advanced by the work of McRae et al. (2012) which asserts that “emotion regulation is a crucial, adaptive skill in adulthood” (p. 11). An understanding of the relationship between the cognitive and affective domains can equip homeschoolers with important strategies to facilitate their mutual development (Cole, 2014). Research cautions that prioritizing cognitive development without like emphasis on EI increases the potential for negative outcomes (Crone & Dahl, 2012). These findings call attention to the importance of putting emphasis on TEI throughout child development and highlights the need for its deliberate inclusion in curricular planning.

The perception a child has of being in control of his or her own emotions is particularly important given the inevitability and frequency of emotional experiences. Intentional efforts to bolster a child’s perception as competent to manage emotional aspects in his or her environment is important to empowering the child and building resilience (Anasuri, 2016; Centers for Disease

Control and Prevention [CDC], 2013; Flook, Goldberg, Pinger, & Davidson, 2015; Kimberly et al., 2015). A number of recent studies (Maiese, 2014; Mattern, 2014; Swain, 2013) contend that education in any setting must be responsive to this need by adopting an approach that does not seek to separate the cognitive from the emotional. Efforts to address skills that underlie TEI could help fortify the position of homeschoolers by addressing the crux of their critics' primary argument. Inclusion of a social-emotional component would explicitly foster the development of emotional awareness, and by doing so, improve it (Hill & Updegraff, 2012; Martin-Raugh, Kell, & Motowidlo, 2016; Rowsell, 2015).

TEI theory provides a framework for emotional competence driven by self-perception (Petrides, Siegling, & Saklofske, 2016). An important element of this framework is emotional awareness which includes the recognition and mindfulness of one's own emotions, as well as those of others (Chhatwal & Lane, 2016; Petrides et al., 2007; Petrides, Gómez, & Pérez-González, 2017; Schonert-Reichl et al., 2015). The inherent unlikelihood of children to express emotions directly, furthers the case for training that will deliberately address development in this area (Saarni, 2011). Dunsmore, Booker, and Ollendick (2013) suggest that the most productive approaches to fostering TEI competencies are intentional and explicit in their focus on both the promotion of emotional self-awareness and accuracy in perceiving the emotions of others. Fortunately, effective interventions shown to increase this consciousness are relatively easy to facilitate. A number of studies found that emotional awareness in children can be improved by prompting them to identify their own feelings, as well as those of others; and by facilitating discussion about responses to reinforce accuracy and provide additional instruction as needed (Dunsmore et al., 2013; Katz, Maliken, & Stettler, 2012; Mikolajczak et al., 2009; Schonert-Reichl et al., 2015).

TEI is indicative of well-being across the lifespan (Bhullar et al., 2013; Deckers et al., 2017; Hawkey & Capitano, 2015; Jennings et al., 2016; Matthews et al., 2015; Mavroveli et al., 2007; Neto, 2015; Qualter et al., 2015; Ritchwood et al., 2017; Zeedyk et al., 2016). This relationship has placed additional emphasis on the importance of fostering its development in childhood. TEI is a product of one's accumulated experience of interacting with other people. For children who attend traditional public schools, numerous interactions with multiple individuals is a typical part of the school day; but even then, the most influential relationship in the development of TEI is the family (Alavi, Mehrinezhad, Amini, & Singh, 2017; Luecken et al., 2013; Madigan et al., 2013). For children that homeschool, relationships with individuals outside the family are likely to be less diverse and not as frequent, which increases the influence of the parent-child relationship on the development of TEI (Dunsmore et al., 2013; Dunsmore, Booker, Ollendick, & Greene, 2016; Katz et al., 2012).

EI includes the capacity to apply reason, adopt the perspectives of others, adapt to a variety of settings, and identify potential solutions to problems (Conway & Kovacs, 2015). Despite a variation in theoretical underpinnings, it is evident that the construct of EI is a comprehensive variable that includes a central focus on emotional self-efficacy. As such, it is integral to the definition of perceived social competence, if not equivalent to it (Brackett, Delaney, & Salovey, 2016; Emmerling & Boyatzis, 2012; Schlegel, Grandjean, & Scherer, 2013). Shim and Finch (2014) maintain that the perception of social competence is invaluable to an individual's positive relationship with the environment. This perspective is echoed in the definition proposed by Wolf and McNamara (2013) in which social competence is identified as "the ability of individuals to adjust their social behavior flexibly depending on the available social information" (p. 253).

Emotional awareness is an important component of TEI that includes the accurate perception of emotions in oneself, as well as in others (Petrides et al., 2007), a definition echoed in the work of Chhatwal and Lane (2016). As discussed previously, the most productive approaches to fostering TEI competencies are intentional and explicit in their focus on the promotion of emotional self-awareness and the accurate perception of emotions in others (Dunsmore et al., 2013). This is important considering that children are not disposed to express emotions directly (Moyses, 2013; Saarni, 2011), a circumstance which highlights the importance of training that deliberately addresses the development of TEI. A focused approach can facilitate self-perceived competencies of emotional awareness by prompting children to identify their own feelings, as well as those of others (Dunsmore et al., 2013; Katz et al., 2012). Unfortunately, in view of competing academic demands, it is not unusual for emotional competence to take a subordinate position to instruction in core subject areas assessed on high-stakes exams, a circumstance that compromises efforts to prioritize and invest limited resources in curricula aimed at improving TEI (Sternberg, 2015).

Understanding the influence of TEI to well-being across the life-span underscores its importance in child development (Allemand et al., 2015; Bhullar et al., 2013; Chaby, Cavigelli, White, Wang, & Braithwaite, 2013; Gruenenfelder-Steiger et al., 2016; Mavroveli et al., 2007; Milojević et al., 2016; Motamedi et al., 2017; Qualter et al., 2015; Sandler et al., 2015). For homeschoolers, this places additional emphasis on the role of quality parent-child relationships (Dunsmore et al., 2013; Dunsmore et al., 2016; Katz et al., 2012; Madigan et al., 2013; Mavroveli et al., 2007). Employing strategies that encourage self-reflection and expression of emotion in tandem with thoughtful feedback invites additional discussion that is important to increasing self-awareness and confidence in navigating emotions (Clément, Bernard, Grandjean,

& Sander, 2013; Dunsmore et al., 2013, 2016; Ellis, Alisic, Reiss, Dishion, & Fisher, 2014; Kehoe, Havinghurst, & Harley, 2014). Prioritizing and investing in the development of TEI results in children who perceive themselves as emotionally competent and confident in their capacity to form and sustain relationships, a skill that is elusive to those Goleman (1995) refers to as emotional illiterates. These skills enable emotional self-reliance and sustained well-being by nurturing self-control, patience, empathy, and optimism (Kong & Zhao, 2013; Platsidou, 2013).

The purpose of this study was to investigate the relationship between feelings of social isolation and TEI given a specific population. Establishing the efficacy of TEI as a mediator for feelings of social isolation is an important focus for research as a means to identify methods that effectively enhance well-being, happiness, and life-satisfaction. The exploration of TEI has produced some interesting discussion regarding its potential to mitigate a range of emotional, behavior, and social challenges (Mavroveli et al., 2009; Petrides & Furnham, 2003; Wheeler, 2016). TEI theory has even piqued the interest of epidemiologists who believe it could improve the social and behavioral challenges associated with special education challenges such as autism and ADHD (Dawson et al., 2012; Mikolajczak et al., 2009). Particularly relevant to this study is the correlation between TEI and adaptive functioning or resilience (Bande et al., 2014; Bar-On, 2006; Brouzos, Misailidi, & Hadjimattheaou, 2014; Frydenberg, 2017; Keefer et al., 2013; Magnano et al., 2016; Prince-Embury & Saklofskey, 2014). Some studies go so far as to equate TEI with resilience, which is an exciting consideration in terms of successfully alleviating or preventing feelings of social isolation.

Despite the inherent and long-term benefits of strengthening TEI, the assessment of this construct is far from routine and therefore prone to inaction (Frederiksen, 1984; Haertel, 2013;

Leu, Everett-Cacopardo, Zawilinski, Mcverry, & O'Byrne, 2013). Given the value attributed to TEI (Andrei, Mancini, Mazzoni, Russo, & Baldaro, 2015; Brackett, Rivers, Reyes, & Salovey, 2012; Motamedi et al., 2017; Poulou, 2014), it is reasonable to prioritize the development of resources that provide a means by which it can be effectively assessed within the context of the homeschool environment. Parents that homeschool are in an ideal position to not only identify areas of concern in their child's emotional development, but to leverage their extremely low student-teacher ratio. Once assessed, homeschoolers retain the advantage in that recommended changes or additions to align instruction with student need can be implemented immediately without a lengthy approval process that can delay a child's access to effective interventions (Anthony & Burroughs, 2012; Green-Hennessey, 2014; Jolly et al., 2013; Kunzman & Gaither, 2013; Riley, 2016; Thomas, 2016). The benefits of home education provide the means for an immediate, adaptive response to increasing TEI based on individual need and tailoring instruction to improve TEI (Anthony & Burroughs, 2012). This objective is important as a source of resilience and a means to prevent or mitigate feelings of social isolation (Akbari & Khormaiee, 2015; Armstrong et al., 2011; Cassidy et al., 2014, 2015; Dolev & Leshem, 2016; Firozna & Jayan, 2015; Liu et al., 2013b; Mikolajczak et al., 2009; Piqueras et al., 2017).

Relationship quality and longevity are key indicators of happiness, life satisfaction, and well-being; and further, they are evidence of proficiency in TEI (Marryat et al., 2014; Neto, 2015; Qualter et al., 2013; Rowsell, 2015; Ruvalcaba-Romero et al., 2017). Healthy relationships fulfill important mental and emotional needs and have been shown to contribute significantly to physical health and have been correlated to a low incidence of feelings of social isolation (Bhatti & Haq, 2017; Butler & Randall, 2013; Cacioppo & Cacioppo, 2014; Chopik, Edelstein, & Fraley, 2013; Madigan et al., 2013; Salguero et al., 2012a). Likewise, a dearth of



unhealthy relationships can be indicative of a TEI deficiency. Given that interpersonal relationships are not only inevitable, but are also a significant indicator of well-being, it is not surprising that an extensive volume of research has been dedicated to the exploration of strategies to improve them (Clarke & Mahadi, 2017; Malouff et al., 2014; Mikolajczak, Brasseur, & Fantini-Hauwel, 2014; Neto, 2015; Petrides, Siegling et al., 2016). Investing in the formation of positive social relationships is an effective means by which feelings of social isolation are likely to be prevented or alleviated.

The threats posed by feelings of social isolation to well-being encourage the ongoing investigation of measures that demonstrate the capacity to improve life-satisfaction, enhance well-being, and strengthen resilience (Anasuri, 2016; Hofmann, Carpenter, & Curtiss, 2016; Houghton et al., 2015; Kashdan et al., 2014; Nélis et al., 2009; Nélis et al., 2011; Wols et al., 2015). Considering the dominant role of TEI in the development, maintenance, and quality of interpersonal relationships, weakness in this area is likely to jeopardize an important source of resilience for individuals who experience feelings of social isolation (Castillo, Salguero, Fernández-Berrocal, & Balluerka, 2013; Matthews et al., 2017; Postma, 2017; Shemesh, 2017; Zych et al., 2017). To this end, the exploration of interventions likely to promote growth across TEI facets has become a mainstay of the literature (Ali, 2017; Chong & Chan, 2015; Hill, Milliken, Goff, Clark, & Gagnon, 2015; Jarczewska-Gerc & Gorgolweska, 2015; Lomas, 2016; Motamedi et al., 2017; Mpofu, Bracken, Van de Vijver, & Saklofske, 2017; Nélis et al., 2011; Petrides, Siegling et al., 2016).

### **Summary**

Feelings of social isolation have been an area of study that has warranted attention for its potential long-term consequences on well-being (Allemand et al., 2015; Gruenenfelder-Steiger et

al., 2016; Milojević et al., 2016; Motamedi et al., 2017; Qualter et al., 2015; Sandler et al., 2015).

The investigation of interventions that can serve a preventative or mediating function is, therefore, important. The purpose of this study was to explore the relationship between feelings of social isolation and TEI in students that homeschool in rural and remote areas of Alaska. Due to the prevalence of homeschooling in a state that is one-fifth the size of the continental U.S. (Lynch & Miller, 2017; Redford et al., 2017) and almost entirely classified as rural (FORHP, 2016), with extremes in weather, sunlight, and topography, the target population presented a unique opportunity for research. Trait theory asserts that EI is located on the personality hierarchy (Petrides, 2010; Petrides et al., 2007). The 4 factors and 15 facets, 9 of which are measured in the two children's versions of the TEIQue (Mavroveli & Petrides, 2009; Mavroveli et al., 2008), comprise traits considered necessary to resilience (Liu et al., 2013b; Magnano et al., 2016; Salguero et al., 2012b), thus TEI was chosen as the independent variable for this study. If research can isolate specific traits that demonstrate an inverse relationship to feelings of social isolation, the identification or development of interventions that are best suited to a specific population can be proactively employed to mediate the potential for long-term consequences. This research adds to the literature by investigating the value of TEI as a potential focus for interventions to mediate feelings of social isolation and to promote an understanding of the target population and conditions unique to homeschooling in rural and remote Alaska.

## **CHAPTER THREE: METHODS**

### **Overview**

The previous chapter discussed the relevance of this study and examined the related research. It clarified the variables and terminology as applied in this study and presented the research questions and hypotheses that guided the analysis of data. A review of the literature explored the independent variable, trait emotional intelligence (TEI), and the dependent variable, feelings of social isolation and the role of each in the context of research questions. Separately, the research available on each of these variables is sizeable, yet very little has attempted to specifically investigate their relationship to each other, and none could be found that has examined this relationship in the context of the target population. This research attempted to address this gap by exploring the relationship between TEI and feelings of social isolation in students that homeschool in rural and remote Alaska. This chapter explains the methodology of this study to include setting, research design, sample population, instruments used, procedures, and data analysis.

### **Design**

This study employed a quantitative correlational design to test three null hypotheses. A correlational approach is appropriate in research that seeks to determine the nature of a relationship between two variables (Edmonds & Kennedy, 2017). This study explored the relationship between TEI and feelings of social isolation in students that homeschool in rural and remote Alaska. Qualtrics® research CORE™ (Qualtrics, 2017), an online survey platform, was employed to administer the assessment battery to students between the ages of 8 and 12 who homeschool in Alaska. The Municipality of Anchorage does not meet the criteria established by

this study as rural or remote (FORHP, 2016), consequently, homeschoolers who live within the Municipality were ineligible to participate.

TEI is defined as “a constellation of emotional self-perceptions located at the lower levels of personality hierarchies” (Siegling, Furnham et al., 2015, p. 57); “a set of skills hypothesized to contribute to the accurate appraisal and expression of emotion in oneself and in others, the effective regulation of emotion in self and others, and the use of feelings to motivate, plan, and achieve in one’s life” (Salovey & Mayer, 1990, p. 185); “an array of emotional competencies and skills that enable individuals to cope with daily demands and be more effective in their personal and social life” (Bar-On, Tranel, Denburg, & Bechara, 2003, p. 1790); and, as a type of intelligence that, “involves monitoring, discriminating between and using emotions to guide thinking and actions. EI is related to interpersonal and communication skills” (Raimule & Bhawalkar, 2015, p. 432).

The construct, feelings of social isolation, is frequently defined in the literature as loneliness (de Jong Gierveld et al., 2016; Holt-Lunstad et al., 2015; Holwerda et al., 2012; Jopling, 2015; Lubben et al., 2015; Matthews et al., 2015; 2016; Mills, 2017; Weiss, 1973). The work of Victor, Thomas, and Sullivan (2016) explored the experience of feeling socially isolated and emphasized the importance of ensuring consensus when defining variables. This was particularly important in this study to ensure the construct of feelings of social isolation was understood as synonymous with loneliness. The treatment of these constructs as interchangeable is enabled by the word feelings as an antecedent to of social isolation (Cacioppo, Fowler, & Christakis, 2009; de Jong Gierveld et al., 2016). This makes certain that this variable is recognized as a subjective experience consistent with the central quality of TEI (Petrides et al., 2007; Siegling, Furnham et al., 2015). As a result, the primary variables in this study were

consistent in their reliance on self-perception, a condition that promotes agreement between the variables and the approach to assessment. Thus, feelings of social isolation are synonymous with loneliness, but the lesser, social isolation, is not (Peplau & Perlman, 1982; Victor et al., 2016).

As the dependent variable in this study, feelings of social isolation were indicated by the perceived absence of meaningful interactions or relationships with others when such interactions or relationships are desired (Age UK, 2012, 2016; Marryat et al., 2014; Nélis et al., 2011; Weiss, 1973; Zavaleta et al., 2017). This construct was measured using the CLSDS (Asher et al., 1984; Asher & Wheeler, 1984), a self-report questionnaire designed to assess feelings of social isolation, or loneliness.

### **Research Questions**

**RQ1:** Is there a relationship between trait emotional intelligence and feelings of social isolation in students between the ages of 8 and 12 that are homeschooled in rural and remote areas of Alaska?

**RQ2:** Is there a relationship between trait emotional intelligence and feelings of social isolation in female students between the ages of 8 and 12 that are homeschooled in rural and remote areas of Alaska?

**RQ3:** Is there a relationship between trait emotional intelligence and feelings of social isolation in male students between the ages of 8 and 12 that are homeschooled in rural and remote areas of Alaska?

### **Hypotheses**

The null hypotheses for this study were:

**H<sub>01</sub>:** There is no significant relationship between trait emotional intelligence and feelings of social isolation in students between the ages of 8 and 12 that are homeschooled in rural and remote areas of Alaska.

**H<sub>02</sub>:** There is no significant relationship between trait emotional intelligence and feelings of social isolation in female students between the ages of 8 and 12 that are homeschooled in rural and remote areas of Alaska.

**H<sub>03</sub>:** There is no significant relationship between trait emotional intelligence and feelings of social isolation in male students between the ages of 8 and 12 that are homeschooled in rural and remote areas of Alaska.

### **Participants and Setting**

In the broadest sense, this study was initiated in an effort to better understand the needs of students that homeschool in rural and remote settings. The extreme diversity of state homeschool laws (HSLDA, 2017), the availability of state sponsored support programs, and parent motivations for homeschooling (McQuiggan & Megra, 2017) make large scale research with this population impractical, if not impossible. Thus, it was necessary to delimit the study setting to narrow the sample population to the same state, thus operating under the same laws and with the same access to state sponsored correspondence schools that provide support for families that homeschool. Thus, the setting for this study was limited to the state of Alaska.

The population for this study was limited to typically developing students (Mavroveli et al., 2009; Mavroveli et al., 2008; Russo et al., 2012) and included both males and females between the ages of 8 and 12 years old who were actively homeschooling in rural and remote areas of Alaska. As grade levels included children of multiple ages, this study opted to use age as a chronologically consistent measure (Parkin, 2016). Indeed, age has been shown to be a

more reliable predictor in research with children than grade (Cressman & Liljequist, 2014; Parkin, 2016; Schroeder, Würzner, Heister, Geyken, & Kliegl, 2015). Additional benefits of using age norms were identified by Bear (2011) and include technical advantages, federal regulations pertaining to “severe discrepancy calculations” (p. 2), and the higher likelihood that the population being studied will be homogeneous. The age and typical development criteria are compatible with the administration guidelines and norming populations for the CLSDS (Asher et al., 1984; Asher & Wheeler, 1984) and the TEIQue-CSF (Mavroveli & Petrides, 2006, 2009; Mavroveli et al., 2008). Further, both the CLSDS and the TEIQue-CSF are self-report measures, which have been found to be appropriate for use with children eight and above (Oliveira, Taveira, Cadime, & Porfeli, 2016).

Participants for this study were solicited using purposive and snowball sampling. Purposive sampling is a non-probability sampling method in which participants are recruited from a specific, predetermined group to increase the likelihood of reaching members of the target population (Amon et al., 2014; Baltar & Brunet, 2012; Dusek et al., 2015; Fenner et al., 2012; Heckathorn, 2011). This sampling method was chosen based on the low incidence of the sample population and the time and expense involved in sifting through the larger, general population for homeschooling families in remote and rural areas of Alaska with students between the ages of eight and 12 (Akard, Wray, & Gilmer, 2015; Barratt et al., 2015; King, O’Rourke, & DeLongis 2014; Thornton, Baker, Johnson, & Lewin, 2013; Whitaker, Stevelink, & Fear, 2017; Yuan, Bare, Johnson, & Saberi, 2014). For this study, purposive sampling was used to recruit parents of children that are homeschooled in Alaska (Thornton et al., 2016). Students that homeschool using one of the state’s many correspondence programs (AKDEED, 2018) were the

target population for recruitment as they have a verified presence in nearly every community and village in Alaska (Dunleavy, 2013).

Participants were recruited via Facebook, e-mail, a research flyer, and personal communication with homeschoolers in Alaska. The flyer for this study (see Appendix D) was distributed via social media and emailed to individual homeschoolers, homeschool groups, Facebook groups comprised of Alaskan homeschoolers, and regional offices for correspondence schools that serve the target population; and hardcopies of the flyer were distributed at an annual state homeschool conference. Social media posts (see Appendix H) and e-mail announcements (see Appendix I) were scheduled for weekly distribution and a dedicated Facebook page for the study was created as an efficient means for participants to access information about the study, read related research, and ask questions (Amon et al., 2014; Baltar & Brunet, 2012; Brickman-Bhutta, 2012; Fenner et al., 2012; see Appendix J).

The decision to use Facebook to recruit participants for this study was informed by the research regarding hard-to-reach populations and communication with directors from two of the state's largest correspondence school programs (AKDEED, 2019a, 2019b; B. Rozell, personal communication, April 24, 2019; D. Bowers, personal communication, April 4, 2019; Kayrouz et al., 2016; Lane et al., 2013). The use of Facebook in research, particularly with regard to recruiting, is becoming increasingly popular for multiple reasons (Brickman-Bhutta, 2012; Kayrouz et al., 2016). There were four motives for the use of Facebook in this study. The first and primary, of which, was for its capacity to access hard-to-reach populations (Kayrouz et al., 2016; Lane et al., 2013). Second, it is effective (Kayrouz et al., 2016; Rait, Prochaska, & Rubinstein, 2015; Ramo & Prochaska, 2012). Participants can be recruited in greater numbers and at a faster rate than traditional recruitment methods such as flyers, brochures, and letters.



Third, the efficiency of Facebook reduces costs typically associated with recruiting efforts (Baltar & Brunet, 2012; Fenner et al., 2012; Kayrouz et al., 2016; Thornton et al., 2016).

Finally, the Facebook platform provides the opportunity to enhance productivity by narrowing the recruiting focus to individuals or groups that already identify with one or more of the study's criteria (Amon et al., 2014; Child et al., 2014; Barratt et al., 2015; DiBenedetti et al., 2014; Fazzino, Rose, Pollack, & Helzer, 2015; Fenner et al., 2012; Gilligan, Kypri, & Bourke, 2014; Martinez-Mesa, Gonzalez-Chica, Bastos, Bonamigo, & Duquia, 2014; Parkinson & Bromfield, 2013; Richards et al., 2014; Thornton et al., 2016; Valdez et al., 2014).

In addition to Facebook, an incentive was used to encourage participation (Busby & Yoshida, 2015; Cerasoli, Nicklin, & Ford, 2014; Göritz & Luthe, 2013a, 2013b; Grant, 2015; Huber, Sloof, & van Praag, 2017; Loewenstein, Price, & Volpp, 2016; Morrill, Madden, Wengreen, Fargo, & Aguilar, 2016). The literature regarding the effectiveness of incentives in research has failed to provide compelling evidence for either side of the usage argument (Akard et al., 2015; Berry, 2015; Brubacher, Poole, & Dickinson, 2015; Fazzino et al., 2015; Gilligan et al., 2014; Gneezy, Meier, & Rey-Biel, 2011; Göritz & Luthe, 2013a, 2013b; Grant & Sugarman, 2004; Just & Price, 2013; Marshall & Rossman, 2014; Redfern & Enright, 2016; Robinson, 2014; Schoeppe, Oliver, Badland, Burke, & Duncan, 2014; Thornton et al., 2016; Trung et al., 2017). Notwithstanding the debate, a number of studies that have demonstrated high response rates from children also incorporated incentives into their recruitment procedures (Berry, 2015; Just & Price, 2013; Loewenstein et al., 2015; Morrill et al., 2016; Redfern et al., 2016; Redfern & Enright, 2016; Sims, Scarborough, & Foster, 2015; Strohacker, Galarraga, & Williams, 2014). Despite a lack of consensus, the author felt there was enough empirical support to justify the inclusion of an incentive in this study (Busby & Yoshida, 2015; Göritz & Luthe, 2013a, 2013b;

Mduluza, Midzi, Duruza, & Ndebele, 2013; Nelson, Hughes, Oakes, Pankow, & Kulasingam, 2014).

To ensure anonymity, contact information was not collected from participants. This omission precluded immediate entry into the incentive drawing for a \$100 Amazon gift card. To remedy the situation, once an individual concluded his or her survey, either by ineligibility, withdraw, or completion, the Qualtrics® program generated a screen with instructions on how the drawing could be entered (see Appendix K). The incentive was chosen based on evidence for the use of gift cards as a plausible means to increase participation in research (Akard et al., 2015; Boyce, Schanding, Backscheider Burridge, & Keller-Margulis, 2013; Dworkin, Hessel, Gliske, & Rudi, 2016; Fazzino et al., 2015; Nelson et al., 2014) and for being appropriate for children between the ages of eight and 12 (Rice & Broome, 2004). To enter, participants were required to contact the researcher via text message, email, or Facebook; and confirmation that the entry was received was sent. Confirmation that the drawing occurred was posted to the study's Facebook page and the winner was notified. The winner chose to receive the gift card by e-mail and an e-gift card was sent.

The number of students that participated in the study was 143. The sample population exceeded the minimum criteria of 66 male and 66 female participants for what Warner (2013) cited as the required minimum for a medium effect size with statistical power of .7 at the .05 alpha level. The participants included a total of 143 students, 75 females (52.45%) and 68 males (47.55%). All respondents were between the ages of 8 and 12. Thirty students were 12-years-old (21.38%), 36 students were 11-years-old (24.83%), 29 students were 10-years-old (20.0%), 26 students were 9-years-old (17.93%), and 22 students were 8-years-old (15.38%). Twenty-one students identified as Alaska Native (14.69%), 93 identified as White (65.03%), and 29 students

identified as Other (20.28%). Finally, all respondents were residents of Alaska. Fifty-four students lived in the Interior region (37.76%), 58 lived in the Southcentral region, not including the Municipality of Anchorage (40.56), 14 students lived in the Southeast region (9.79%), and 17 lived in the Southwest region (11.89%). See Table 2 for a summary of the demographic data collected. Demographic data was collected at the beginning of the survey to ensure respondents met the criteria for participation (see Appendix L). The failure to respond to any of the demographic questions resulted in the conclusion of the survey.

Table 2

*Demographic Variables*

<b>Demographic Variable</b>	<b>N</b>	<b>%</b>
Gender		
Male	68	48
Female	75	52
Total	143	100
Age		
8-years-old	22	15
9-years-old	26	18
10-years-old	29	20
11-years-old	36	25
12-years-old	30	21
Total	143	100
Region of Residence		
Interior	54	38
Southcentral	58	41
Southeast	14	10
Southwest	17	12
Total	143	100
Race		
Alaska Native	21	15
White	93	65
Other	29	20
Total	143	100

## Instrumentation

### TEIQue-CSF

The Trait Emotional Intelligence Questionnaire-Child Short Form (TEIQue-CSF) was designed to provide a global measure of TEI across nine facets of personality: adaptability, affective disposition, emotion expression, emotion perception, emotion regulation, low impulsivity, peer relations, self-esteem, and self-motivation (Mavroveli & Petrides, 2009; Mavroveli et al., 2008; see Appendix B). As discussed in Chapter One, a surge of interest in the study of EI surfaced in the social science research in the latter part of the 20th century. This movement gave way to the widespread acceptance of Gardner's (1983, 1993) multiple intelligence theory and the popularity of work such as Goleman's (1995, 1998, 1999, 2001) publications on emotional intelligence.

Of the theories that emerged, Petrides (2001) claimed that emotional intelligence existed within the hierarchy of personality and thus, could only be assessed using a measure of self-report. The subsequent work by Petrides and others has continued to capitalize on TEI theory and the psychometric performance of the TEIQue family of assessments (London Psychometric Laboratory, 2018; Mavroveli & Petrides, 2009; Mavroveli et al., 2008; Petrides, 2009; Petrides & Mavroveli, 2009; Petrides et al., 2007). The publication of the TEIQue-CSF (Mavroveli & Petrides, 2009; Mavroveli et al., 2008) is grounded in TEI theory and represents an intentional effort to design a measure of global TEI specific to children and not merely a simplified adaptation of the adult version (Mavroveli et al, 2008). Like other TEIQue assessments, the TEIQue-CSF is available free of charge if used solely for academic research and does not require permission for use (London Psychometric Laboratory, 2018).

The TEIQue-CSF included 36-items and used a five-point Likert scale ranging from 1 (*completely disagree*) to 5 (*completely agree*). This questionnaire was designed to measure global TEI in children between the ages of 8 and 12 and took approximately 10-15 minutes to complete. Reverse scoring was required for 16 of the 36 items. The range of possible scores was 36-117, with lower scores indicating a negative self-perception of emotional competence. The TEIQue-CSF has demonstrated satisfactory levels of internal consistency (Cronbach's  $\alpha = .80$ ) and temporal stability ( $r = .79$ ), similar to those of other TEIQue measures (Petrides, 2009) and was used to assess the independent variable, TEI (Mavroveli & Petrides, 2009; Mavroveli et al., 2008). Several studies that have supported the credibility of the TEIQue as a valid measure of TEI are cited in Table 3 (Cassidy et al., 2014; Mikolajczak et al., 2007; Peachey, Wenos, & Baller, 2017; Petrides, Siegling et al., 2016; Petrides, Siegling, & Saklofske, 2016; Piqueras et al., 2017; Stassart et al., 2014, 2017; Raimule & Bhawalkar, 2015).

Table 3

*Empirical Support for the Internal Consistency of the TEIQue-CSF*

Study	Cronbach's $\alpha$
Babalis et al. (2013)	.80
Jacobs, Wollny, Sim, and Horsch (2016)	.88
Laborde, Allen, and Guillén (2016)	.84
Peachey, Wenos, and Baller (2017)	.87
Petrides, Gómez, and Pérez-González (2017)	.85
Raimule & Bhawalkar (2015)	.80
Stassart et al. (2017)	.83
Stassart et al. (2014)	.83

## CLSDS

The CLSDS was designed to provide a measure for feelings of social isolation, also referred to as feelings of loneliness and social dissatisfaction, in children based on self-perception (Asher et al., 1984; see Appendix C). Asher et al. (1984) noted that traditional measures used to assess loneliness in children were overwhelmingly external to the child and thus, inherently flawed. As a feeling, loneliness is a construct that cannot be accurately measured without reliance on the subjective experience of the individual, thus it was necessary to the study of loneliness in children to either identify or construct an instrument capable of addressing this shortcoming and promoting the accurate assessment of children who may be experiencing feelings of social isolation. Further, such a measure was necessary to inform potentially critical interventions.

The CLSDS included 24-items and used a five-point Likert scale ranging from 1 (*always true*) to 5 (*not true at all*). This questionnaire was designed to measure feelings of loneliness in children between the ages of 8 and 12 and took approximately 10-15 minutes to complete (Asher & Wheeler, 1984). Eight filler items were included to promote positivity during participation and reverse scoring was required for 10 of the 16 scored items. The range of possible scores was 16-80, with lower scores indicating a lower incidence of feelings of social isolation. The CLSDS is publicly available and did not require additional permission for use (Rand Corporation, 2019).

Asher and Wheeler (1984) found that the internal consistency of the CLSDS ( $\alpha = .83$ ) exceeded the  $\alpha = .80$  standard for research established by Salvia and Ysseldyke (1981). Factor analysis indicated that the 16 weighted items loaded on the same factor while the 8 filler items did not, establishing the internal consistency of the CLSDS with a Cronbach's  $\alpha = .90$ . In

addition, the internal reliability of the CLSDS was substantiated by several psychometric measures, including the Spearman-Brown, which generated a reliability coefficient of .91.

The CLSDS has been identified as the “gold standard” (Maes, Van den Noortgate, Vanhalst, Beyers, and Goossens (2017, p. 1) for the assessment of feelings of loneliness in children, a claim that has been reinforced by its sustained use in the literature (Asher et al., 1984; Asher & Wheeler, 1985; Bagner, Storch, & Roberti, 2004; Liu et al., 2013a; Maes, Van Den Noortgate, & Goossens, 2015; Roiste, 1998; Shaver & Brennan, 1991; Wang, Wang, & Ma, 1999). Additionally, recent research, as indicated in Table 4, has continued to support the relevance of the CLSDS as a measure of feelings of social isolation (Cifci-Tekinarslan & Kucuker, 2015; Demerican & Demir, 2014; Duy & Yildiz, 2014; Galanaki, Mylonas, & Vogiatzoglou, 2015; Kasari & Sterling, 2014; Kaya, 2015; Kucuker & Tekinarslan, 2015; Maes et al., 2017; Tekinarslam & Kucuker, 2015).

Participants used a five-point Likert-scale with numerical values assigned to response choices that range from 5 (*always true*) to 1 (*not true at all*) to complete the CLSDS. Eight items required reverse scoring and an additional eight were filler items intended to promote the comfort level of respondents, e.g., “I like to read” and “I like music.” Responses to these items were not scored or used for data analysis (Asher et al., 1984).

Table 4

*Empirical Support for the Internal Consistency of the CLSDS*

Study	Cronbach's $\alpha$
Cifci-Tekinarslan and Kucuker (2015)	.87
Duy and Yildiz (2014)	.85
Galanaki, Mylonas, and Vogiatzoglou (2015)	.85
Kucuker and Tekinarslan (2015)	.87
Maes, Van den Noortgate, Vanhalst, Beyers, and Goossens (2015)	.85
Maes, Van den Noortgate, Vanhalst, Beyers, and Goossens (2017)	.85
Maes, Vanhalst, Van den Noortgate, and Goossens (2017)	.91
Ritchwood, Ebesutani, Chin, and Young (2017)	.88
Tekinarslam and Kucuker (2015)	.87
Vorria, Ntouma, and Rutter (2014)	.86

### Procedures

The study was conducted after having obtained approval from the Institutional Review Board (IRB; see Appendix M). Once IRB approval was granted, the Facebook page dedicated to the study (see Appendix J) was changed from “secret” to “public” and the parent consent information (see Appendix N) was “pinned” to the top of the page so as to be immediately accessible to visitors. Research supports the use of a Facebook page as a means by which to access hard-to-reach populations and for its usefulness in the recruitment and retention of participants in research (Amon et al., 2014; Barrat et al. 2015; Jones, 2017; Kayrouz et al., 2016; Lane et al., 2013). The research flyer (see Appendix D) was also posted to the page, as was the first in a series of weekly scheduled announcements (see Appendix H). Announcements were also sent by email (see Appendix I). The flyer was also sent to the directors of two of the largest



correspondence schools in Alaska, sent out by email distribution to homeschool groups, and posted to numerous homeschool Facebook pages.

The flyer included information regarding participant criteria, the purpose of the research, the web address for the study's dedicated Facebook page (see Appendix J), and the researcher's contact information. The purpose of a dedicated Facebook page was to share information about the study, which included the website and password for participation, as well as regular updates and reminders about participation (Sue & Ritter, 2011). It also provided an easy means for communication and was used by both parents and homeschool groups to request electronic copies of the flyer, parent consent, child assent, and the survey instruments. This promoted access to a hard-to-reach population and was available across the state to homeschoolers with internet access (Kayrouz et al., 2016; Lane et al., 2013). A Facebook account was not required to access the page due to the page being set to "public."

When parents chose to allow a child to participate, they accessed the survey either by contacting the researcher directly or by visiting the study's Facebook page. For parents who accessed the Facebook page, parents either clicked on the hyperlink in the pinned post or took a picture of the QR code (see Appendix O) posted to the page with a smart phone or tablet. Both the hyperlink and QR code directed the parent to the survey on the Qualtrics® platform. The parent or participant then entered the password for the survey, which was also provided in the pinned post on the Facebook page. A progress bar on the top of the screen (see Appendix P) and arrow icons on either side of the bottom (see Appendix Q) were displayed to promote completion (Downes-LeGuin, Baker, Mechling, & Ruyle, 2012; Yentes, Toaddy, Thompson, Gissel, & Stoughton, 2012) and simplify navigation. Additionally, participants were required to scroll down on some pages to access content.

Once a participant activated the navigation arrows on the lower right of the screen to submit the password, the child assent form (see Appendix R) was displayed. As the survey is anonymous, no signatures were required or collected during the study. Once the participant read the assent and scrolled to the bottom, he or she would navigate to the next screen by again activating the arrows at the lower right. The participant was then taken to a screen with a list of five short suggestion for completing the survey. Specifically, participants were instructed to do their best to answer every question, answer the questions on their own, and to work fast. They were also reminded that there were no right or wrong answers, that the progress bar at the top of the page would tell them how much of the survey they had left to complete, and to use the arrows on the bottom of the screen for navigation. To proceed, the participant activated the right arrow icon on the bottom of the screen.

The participant was then presented with a series of five demographic questions (see Appendix L) to confirm eligibility. The questions collected demographic information on the participant's homeschool status, age, race, gender, and region of residence in Alaska. Graphics were included to promote clarity. To respond, participants were required to click or tap the correct answer, depending on the platform used to take the survey. If a participant's answers to these questions indicated that he or she did not meet the eligibility criteria for the study's target population, once the arrow icon on the bottom right of the screen was activated, the survey was concluded, and the participant was redirected to the end of the survey. This screen included information about the incentive drawing for survey participants, contact information for the researcher, and the web address for the study's Facebook page (see Appendix K). For participants who met the eligibility criteria, activating the right arrow icon on the bottom of the screen took them to the first page of the survey.

The first page included four practice questions and the 24-item Children's Loneliness and Social Dissatisfaction Scale (CLSDS; adapted from Asher et al., 1984; Asher & Wheeler, 1984; see Appendix C) as a measure of feelings of social isolation. Large horizontal bars were used to present the 5-point Likert scale response options ranging from 1 (*always true*) to 5 (*not true at all*) and participants were required to click on the bar with the response that they feel most accurately described them. Once completed, participants again clicked the right arrow icon to proceed.

The following screen displayed the 36-item TEIQue-CSF (Mavroveli, 2008) as a measure of TEI (see Appendix B). As with the CLSDS, response options were comprised of a 5-point Likert scale and used horizontal bars to present response options ranging from 1 (*disagree completely*) to 5 (*agree completely*). Again, participants clicked on the bar with the response that they felt most accurately described them. When finished, participants again activated the right arrow icon to proceed.

The next and final screen indicated that the survey had been completed and participants were encouraged to contact the researcher with any questions. This screen also included the researcher's contact information, the internet address for the study's Facebook page, and reminded participants about the incentive drawing and how to enter. Participants were informed that the drawing would be held when the study was complete and the winner would be notified. At the end of the study, the drawing was held and the gift card distributed. The dedicated Facebook page was then set to "secret" and the survey was closed.

### **Data Analysis**

This study employed a quantitative correlational design to test the three null hypotheses. A Pearson's correlation coefficient ( $r$ ) was used to determine the strength and direction of the

relationship between TEI and feelings of social isolation at a .05 level of significance. A correlational approach is appropriate in research that seeks to determine the nature of a relationship between two variables (Edmonds & Kennedy, 2017). No interventions were attempted in this study. Qualtrics® research CORE™ (Qualtrics, 2017), a secure online survey platform, was used to administer the survey and store the data.

Data analysis included a description of the sample population based on demographic data, to include age, region of residence, race, and gender. A descriptive statistics table was created to describe the means and standard deviations of scores on two instruments, the TEIQue-CSF and the CLSDS, designed to measure TEI and feelings of social isolation, respectively. The data were screened for missing and irregular data.

The Kolmogorov-Smirnov Test of Normality was used to evaluate the assumption of normality for the independent and dependent variables at the .05 alpha level and histograms were used to confirm the results. Box plots were employed to examine the assumption of univariate outliers for the variables given the three null hypotheses. Three additional assumptions were investigated using scatter plots: the assumption of bivariate outliers, the assumption of linearity, and the assumption of bivariate normal distribution.

## CHAPTER FOUR: RESULTS

### Overview

This study sought to address the gap in the literature with respect to the relationship between trait emotional intelligence (TEI) and feelings of social isolation in children that homeschool from geographically diverse settings. This purpose of this study was to examine the relationship between TEI and feelings of social isolation in students between the ages of eight and 12 that homeschool in rural and remote areas of Alaska. The TEIQue-CSF (Mavroveli & Petrides, 2009; Mavroveli et al., 2008; see Appendix B) and the CLSDS (Asher, et al., 1984; Asher & Wheeler, 1984; see Appendix C) were used to collect data on the presence of the independent and dependent variables, respectively, in the target population using an anonymous link to an online survey administration platform. This chapter presents an analysis of the data.

### Research Questions

**RQ1:** Is there a relationship between trait emotional intelligence and feelings of social isolation in students between the ages of 8 and 12 that are homeschooled in rural and remote areas of Alaska?

**RQ2:** Is there a relationship between trait emotional intelligence and feelings of social isolation in female students between the ages of 8 and 12 that are homeschooled in rural and remote areas of Alaska?

**RQ3:** Is there a relationship between trait emotional intelligence and feelings of social isolation in male students between the ages of 8 and 12 that are homeschooled in rural and remote areas of Alaska?

### **Null Hypotheses**

**H<sub>01</sub>:** There is no significant relationship between trait emotional intelligence and feelings of social isolation in students between the ages of 8 and 12 that are homeschooled in rural and remote areas of Alaska.

**H<sub>02</sub>:** There is no significant relationship between trait emotional intelligence and feelings of social isolation in female students between the ages of 8 and 12 that are homeschooled in rural and remote areas of Alaska.

**H<sub>03</sub>:** There is no significant relationship between trait emotional intelligence and feelings of social isolation in male students between the ages of 8 and 12 that are homeschooled in rural and remote areas of Alaska.

### **Descriptive Statistics**

To assess TEI and feelings of social isolation, 143 participants completed the TEIQue-CSF and the CLSDS, respectively. Seventy-five participants were female and 68 were male. The frequency, means, and standard deviation for the sample population are presented in Table 5.

Table 5

*Descriptive Statistics of Sample Population*

Variables		N	Mean	SD
Females	TEIQue-CSF	75	3.371	.663
	CLSDS	75	2.570	.708
Males	TEIQue-CSF	68	3.451	.599
	CLSDS	68	2.298	.628
Total	TEIQue-CSF	143	3.409	.633
	CLSDS	143	2.441	.682

**Results****Null Hypothesis One**

**Data screening.** Data were screened for missing data, outliers, and inconsistencies. Incomplete responses were excluded from the analysis and deleted. Box plots (see Figure 1) were used to detect univariate outliers. A visual inspection confirmed that the data set, for both the independent variable, TEI; and the dependent variable, feelings of social isolation, contained no outliers.

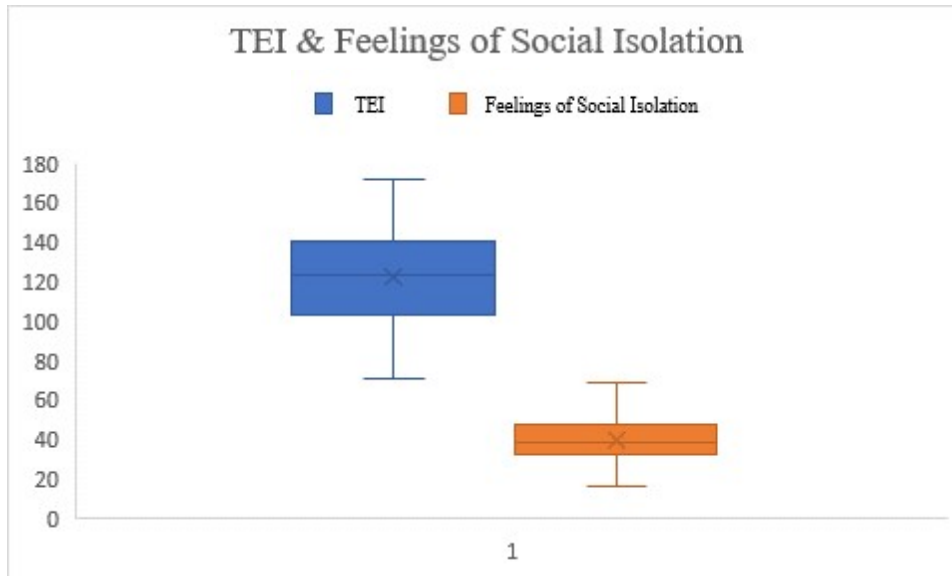
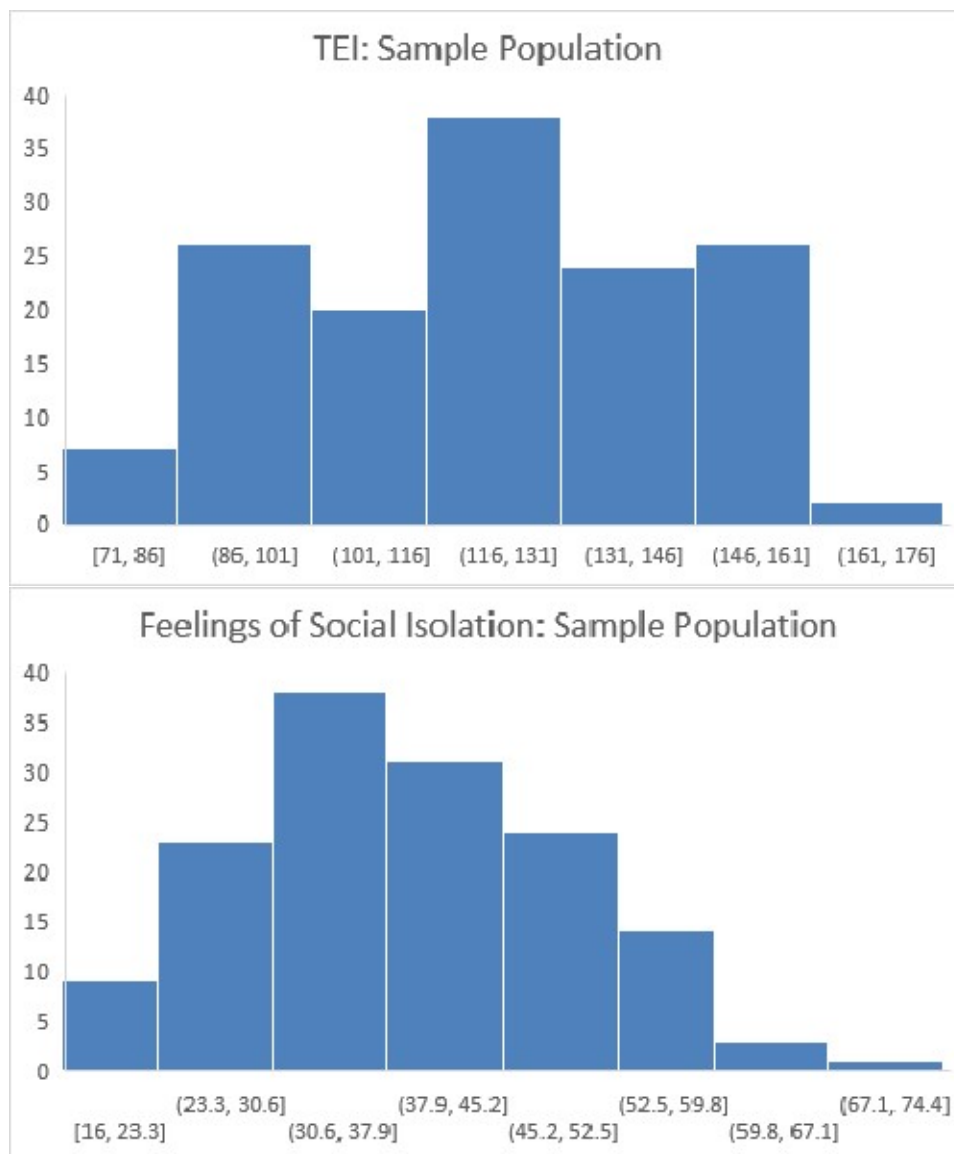


Figure 1. Box plots of participants' scores for TEI and feelings of social isolation.

**Assumption tests.** Normality was examined for the independent and dependent variables using the Kolmogorov-Smirnov test of normality (Warner, 2013) and confirmed by a visual inspection of histograms for each variable (see Figure 2). For  $H_{01}$ , the assumption for normality for the independent variable, TEI, was found tenable at the .05 alpha level ( $p = .328$ ). The assumption for normality for the dependent variable, feelings of social isolation, was also found tenable at the .05 alpha level ( $p = .561$ ). Therefore, there was no significant difference between the data and a normal distribution.

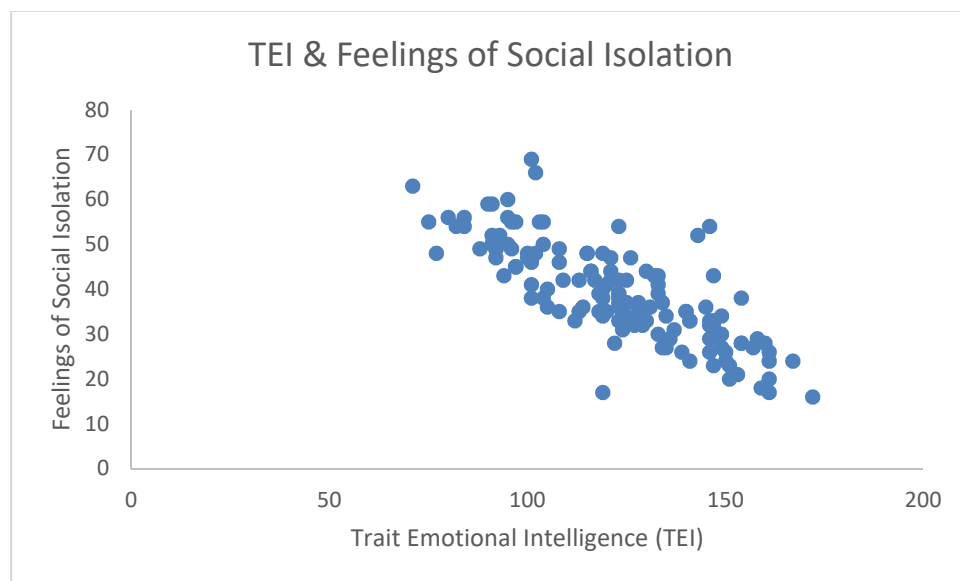




*Figure 2.* Histograms of participants’ scores for TEI and feelings of social isolation. Histograms were used to confirm the assumption of normality for each variable given the sample population.

A scatter plot between the independent variable (x) and dependent variable (y) was used to assess the tenability of the assumption of bivariate outliers (see Figure 3). A visual inspection was conducted and found no “extreme” bivariate outliers (Warner, 2013, p. 166); therefore, the assumption of bivariate outliers was tenable. The assumption of linearity was conducted between participants’ scores for TEI and feelings of social isolation using a scatter plot (see Figure 3). A visual inspection found that the data demonstrated a linear relationship and

approximated a straight line, therefore, the assumption of linearity was tenable. A scatter plot of the independent and dependent variables was used to assess bivariate normal distribution in the sample population (see Figure 3). A visual inspection confirmed that the data formed a classic “cigar shape,” therefore, the assumption of bivariate normal distribution was tenable (Warner, 2013, p. 269).



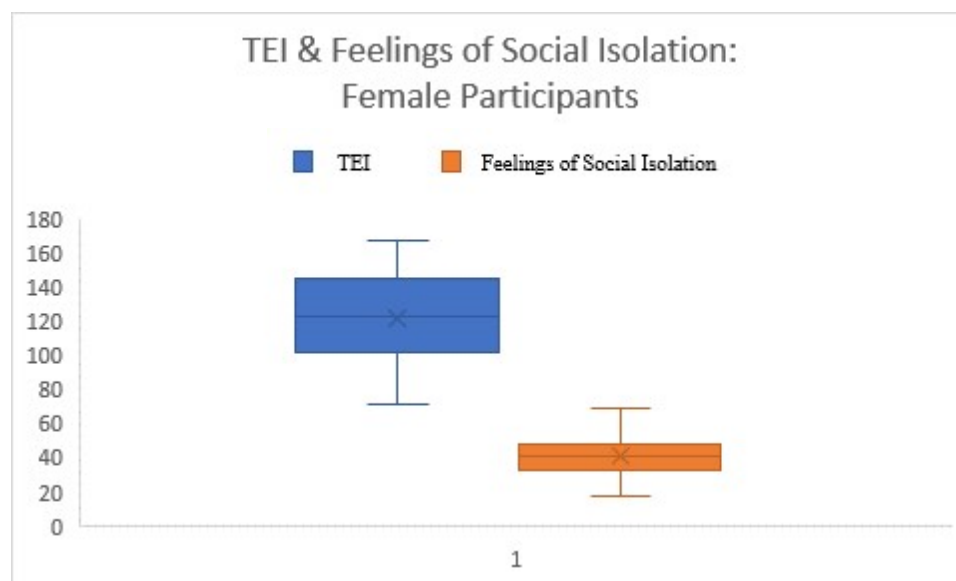
*Figure 3.* Scatter plot of participant scores for TEI and feelings of social isolation. A scatter plot was used to investigate the assumption of bivariate outliers, the assumption of linearity, and the assumption of bivariate normal distribution on the data collected from the sample population.

**Statistical analysis.** A Pearson’s correlation was run to determine the nature of the relationship between TEI and feelings of social isolation in the sample population. A statistically significant, inverse relationship was found between TEI and feelings of social isolation where  $r(143) = -.799, p = .000$ . The effect size, where  $|r| = .799$  was large according to Cohen’s effect-size index (Warner, 2013, p. 208). This data was not consistent with the null hypothesis that there is no relationship between TEI and feelings of social isolation in the sample population. Therefore, this study rejects the null hypothesis and concludes that given the sample population,

there is a relationship between TEI and feelings of social isolation that is outside the normal distribution.

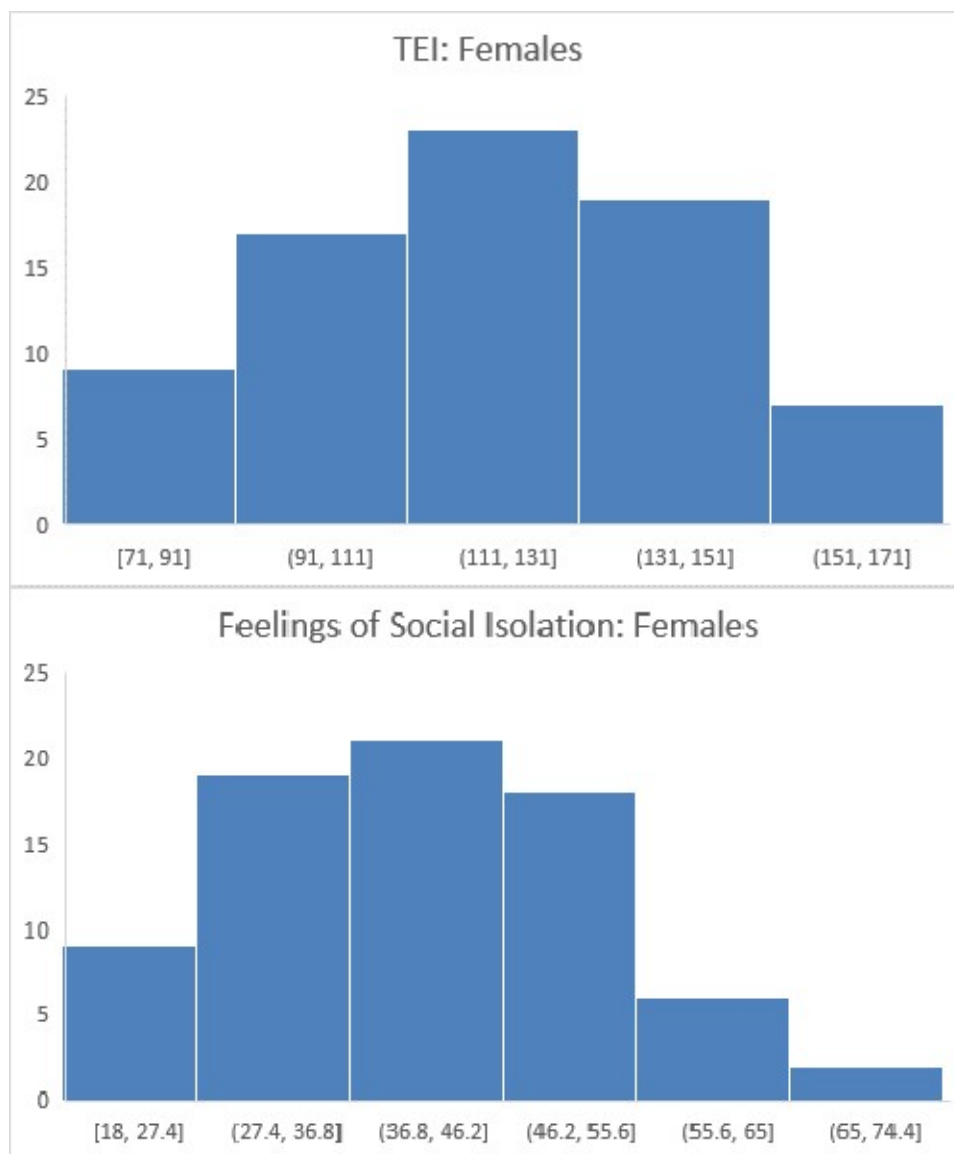
### Null Hypothesis Two

**Data screening.** Data were screened for missing data, outliers, and inconsistencies. Incomplete responses were excluded from the analysis and deleted. Box plots (see Figure 4) were used to detect univariate outliers. A visual inspection confirmed that the data set, for both the independent variable, TEI; and the dependent variable, feelings of social isolation, contained no outliers.



*Figure 4.* Box plots of female participants' scores for TEI and feelings of social isolation. Box plots were used to detect univariate outliers in the data collected from female participants.

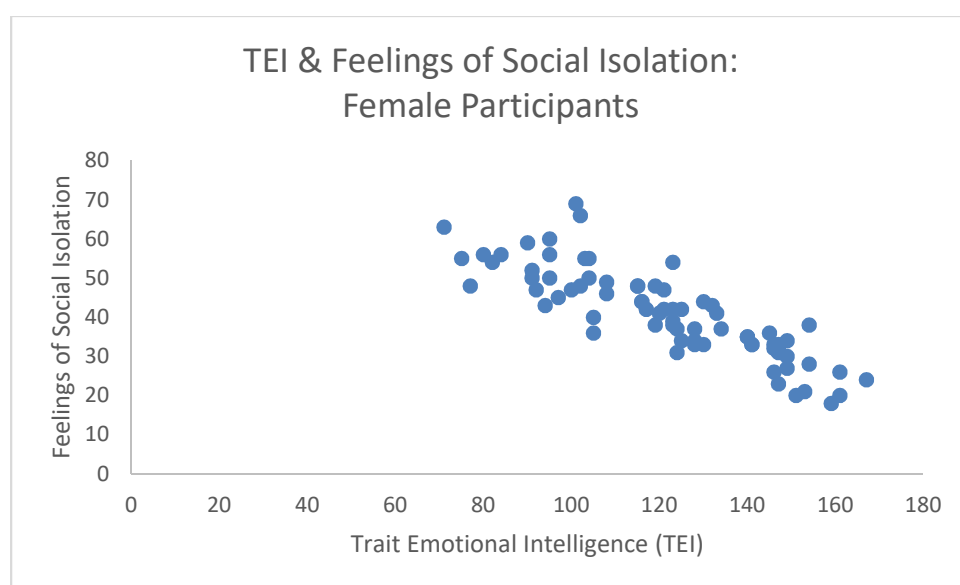
**Assumption tests.** Normality was examined for the independent and dependent variables using the Kolmogorov-Smirnov test of normality (Warner, 2013) and histograms (see Figure 5). For  $H_02$ , the assumption for normality for the independent variable, TEI, was found tenable at the .05 alpha level ( $p = .496$ ). The assumption for normality for the dependent variable, feelings of social isolation, was also found tenable at the .05 alpha level ( $p = .913$ ). Therefore, there was no significant difference between the data and a normal distribution.



*Figure 5.* Histograms of female participants' scores for TEI and feelings of social isolation. Histograms were used to confirm the assumption of normality for each variable among female participants.

A scatter plot between the independent variable (x) and dependent variable (y) was used to assess the tenability of the assumption of bivariate outliers (see Figure 6) in the data collected from female participants in the sample population. A visual inspection was conducted and found no “extreme” bivariate outliers (Warner, 2013, p. 166); therefore, the assumption of bivariate outliers was tenable. The assumption of linearity was conducted between female participants'

scores for TEI and feelings of social isolation using a scatter plot (see Figure 6). A visual inspection found that the data demonstrated a linear relationship and approximated a straight line; therefore, the assumption of linearity was tenable. A scatter plot of the independent and dependent variables was used to assess bivariate normal distribution in the data collected from female participants in the sample population (see Figure 6). A visual inspection confirmed that the data formed a classic “cigar shape;” therefore, the assumption of bivariate normal distribution was tenable (Warner, 2013, p. 269).



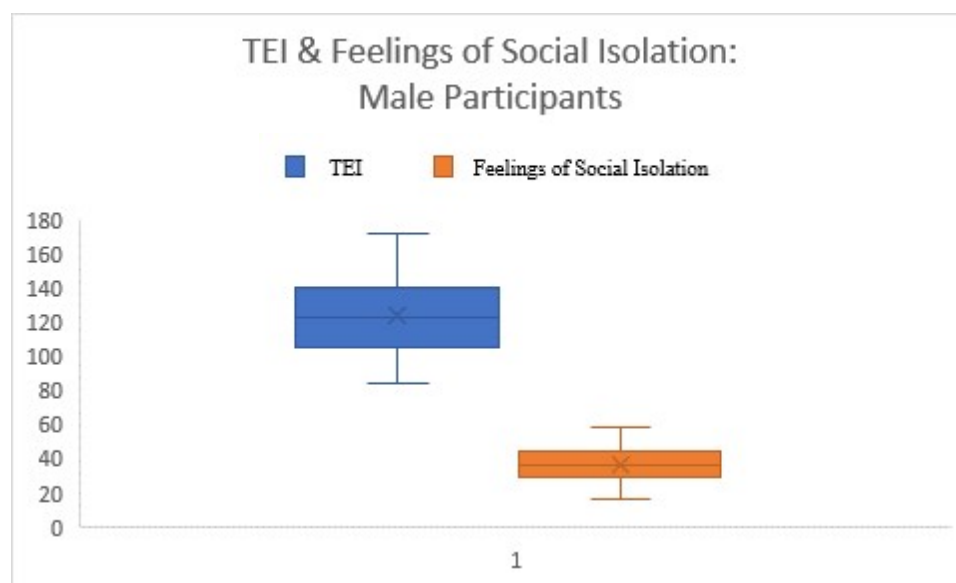
*Figure 6.* Scatter plot of female participant scores for TEI and feelings of social isolation. A scatter plot was used to assess the assumption of bivariate outliers, the assumption of linearity, and the assumption of bivariate normal distribution in the data collected from female participants.

**Statistical analysis.** A Pearson’s correlation was run to determine the nature of the relationship between TEI and feelings of social isolation in female members of the sample population. A statistically significant, inverse relationship was found between TEI and feelings of social isolation where  $r(75) = -.857$ ,  $p = .000$ . The effect size, where  $|r| = .857$  was large according to Cohen’s effect-size index (Warner, 2013, p. 208). This data was not consistent with the null hypothesis that there is no relationship between TEI and feelings of social isolation for

female participants in the sample population. Therefore, this study rejects the null hypothesis and concludes that, given female participants from the sample population, there is a relationship between TEI and feelings of social isolation that is outside the normal distribution.

### Null Hypothesis Three

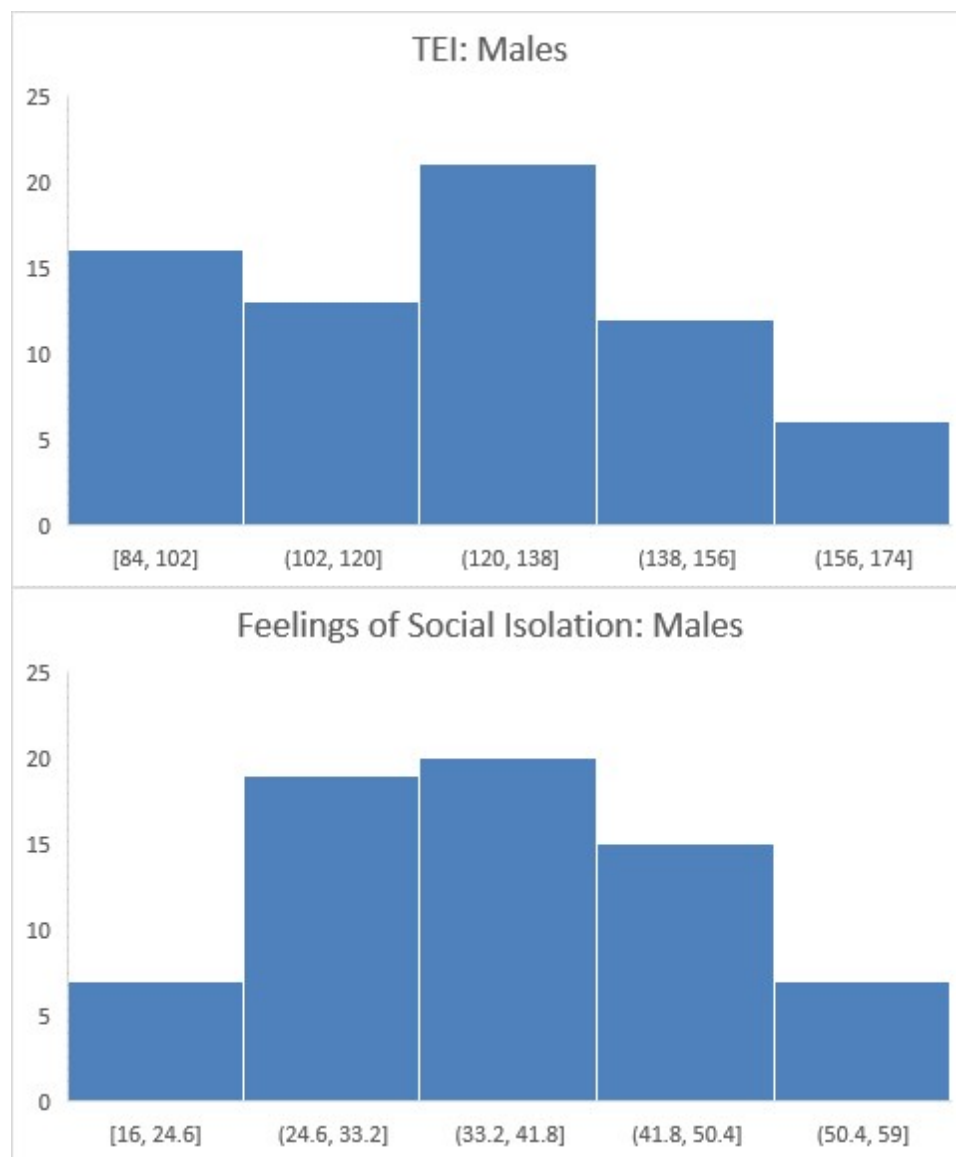
**Data screening.** Data were screened for missing data, outliers, and inconsistencies. Incomplete responses were excluded from the analysis and deleted. Box plots (see Figure 7) were used to detect univariate outliers. A visual inspection confirmed that the data set, for both the independent variable, TEI, and the dependent variable, feelings of social isolation, contained no outliers.



*Figure 7.* Box plots of male participants' scores for TEI and feelings of social isolation. Box plots were used to detect univariate outliers in the data collected from male participants.

**Assumption tests.** Normality was examined for the independent and dependent variables using the Kolmogorov-Smirnov test of normality (Warner, 2013) and histograms (see Figure 8). For H<sub>03</sub>, the assumption for normality for the independent variable, TEI, was found tenable at the .05 alpha level ( $p = .521$ ). The assumption for normality for the dependent variable, feelings

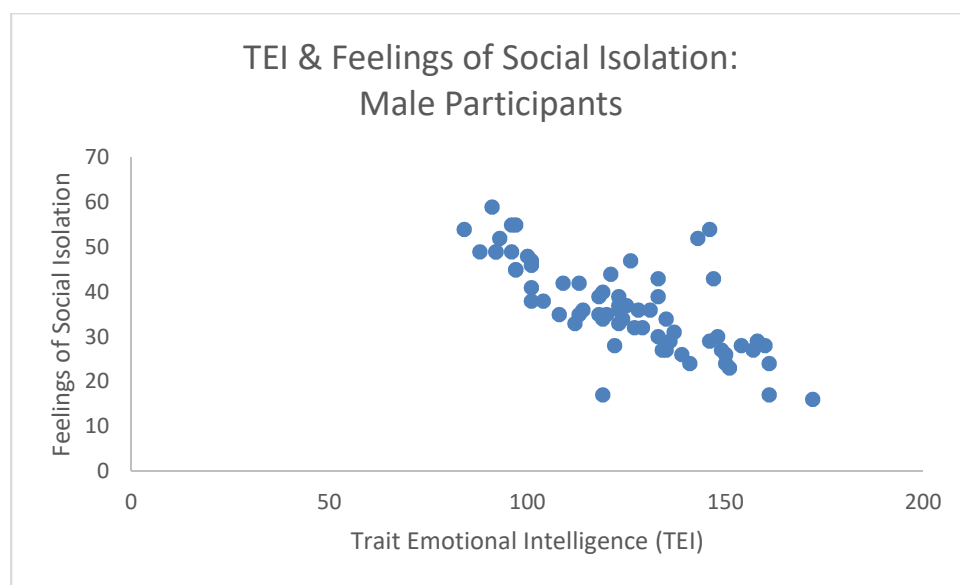
of social isolation, was also found tenable at the .05 alpha level ( $p = .815$ ). Therefore, there was no significant difference between the data and a normal distribution.



*Figure 8.* Histograms of male participants' scores for TEI and feelings of social isolation. Histograms were used to confirm the assumption of normality for each variable among male participants.

A scatter plot between the independent variable (x) and dependent variable (y) was used to assess the tenability of the assumption of bivariate outliers (see Figure 9) in the data collected from male participants in the sample population. A visual inspection was conducted and found

no “extreme” bivariate outliers (Warner, 2013, p. 166); therefore, the assumption of bivariate outliers was tenable. The assumption of linearity was conducted between male participants’ scores for TEI and feelings of social isolation using a scatter plot (see Figure 9). A visual inspection found that the data demonstrated a linear relationship and approximated a straight line, therefore, the assumption of linearity was tenable. A scatter plot of the independent and dependent variables was used to assess bivariate normal distribution in the data collected from male participants in sample population (see Figure 9). A visual inspection confirmed that the data formed a classic “cigar shape;” therefore, the assumption of bivariate normal distribution was tenable (Warner, 2013, p. 269).



*Figure 9.* Scatter plot of male participants’ scores for TEI and feelings of social isolation. A scatter plot was used to assess the assumption of bivariate outliers, the assumption of linearity, and the assumption of bivariate normal distribution in the data collected from male participants.

**Statistical analysis.** A Pearson’s correlation was run to determine the nature of the relationship between TEI and feelings of social isolation in male members of the sample population. A statistically significant, inverse relationship was found between TEI and feelings of social isolation where  $r(68) = -.732, p = .000$ . The effect size, where  $|r| = .732$  was large



according to Cohen's effect-size index (Warner, 2013, p. 208). This data was not consistent with the null hypothesis that there is no relationship between TEI and feelings of social isolation for male participants in the sample population. Therefore, this study rejects the null hypothesis and concludes that, given male participants from the sample population, there is a relationship between TEI and feelings of social isolation that is outside the normal distribution.

## **CHAPTER FIVE: CONCLUSIONS**

### **Overview**

The literature is replete with studies on well-being and children. Unfortunately, the vast majority of research has not addressed the well-being of children that homeschool. Even less has looked to include additional variables, such as living in rural and remote areas. The population for this study was chosen for its exposure to multiple risk factors shown to contribute to feelings of social isolation in an effort to clarify the relationship between the independent and dependent variables. The correlation of a potential mitigating factors with feelings of social isolation would make a worthwhile contribution to the research and guide further investigation on how best to support homeschool students in rural and remote areas. This chapter will begin with a review of the rationale and purpose of this study. Next, it will discuss the findings in terms of the three research questions and address the null hypotheses. Finally, limitations of the study will be identified, and suggestions offered for future research.

### **Discussion**

Homeschooling has continued to play an increasing role in Alaska's educational repertoire (AKDEED, 2018; Alaska State Legislature, 2017a; CRHE, 2017; Davis, 2016; HSLDA, 2017; Huseman, 2015; ICHER, 2017; Jones, 2017; Komer & Grady, 2017; Lynch & Miller, 2017; Noodle, 2017; Schafer & Khan, 2017; Schafft, 2016; World Population Review, 2017). Current estimates put the number of children actively homeschooling in Alaska at 24,198 (Zeise, 2019); thus, research that seeks to address the needs of this population is important. The purpose of this study was to add to the homeschooling research by investigating the relationship between trait emotional intelligence (TEI) and feelings of social isolation in children between the ages of 8 and 12 that homeschool in rural and remote areas of Alaska. Adkins (2004) identified

a gap in the literature regarding children that homeschool in geographically diverse settings. A review of the literature indicated that while research on homeschooling had maintained a presence, this gap remained. Indeed, the influence of geographical context on children that are homeschooled has been effectively ignored. Consequently, this study relied on research that investigated the relationship between geography and feelings of social isolation, distinct from homeschooling, to help inform the discussion on geographical context as a variable of influence (Age UK, 2016; Arthur Rank Centre, 2016; Bluemke et al., 2017; DiNapoli et al., 2014; Jopling, 2015; Mills, 2017; Stacciarini et al., 2015).

While research on homeschooling has continued to address the issue of social isolation (Anthony, 2015; Apple, 2015; Brewer & Lubienski, 2017; Guterman & Neuman, 2016; Lubienski & Brewer, 2015; Morrison, 2014; Shepherd, 2016), this study chose to accept that there are certain conditions that increase the risk of an individual to experience feelings of social isolation. Living in rural and remote areas is a condition that naturally contributes to a less diverse and unvarying social experience (Age UK, 2016; Arthur Rank Centre, 2016; Bluemke et al., 2017; Jopling, 2015; Mills, 2017; Schafer & Khan, 2017; Stacciarini et al., 2015) which, apart from a student's educational status, has been associated with the development of feelings of social isolation (Melrose, 2015; Silveira et al., 2016; Tam & Gough, 2013). Seasonal extremes in weather (Alaska.org, 2018; State of Alaska, 2018; City of Fairbanks, 2017; Time and Date, 2018) and a lack of infrastructure in many remote areas of Alaska (Bell & Menec, 2013; CSLI, 2012; Dijkstra & Poelman, 2008; Institute for Energy Research, 2013; Liarakou et al., 2014) can also impact access to opportunities for socialization (Allen, 2014; Bell & Menec, 2013; Biddle & Azano, 2016; Correa & Pavez, 2016).

Seasonality poses an additional threat to children that homeschool in Alaska. Not only has seasonal affect consistently demonstrated a link to mental health (Hull-Jilly, 2015; Melrose, 2015; Silveira et al., 2016; Snodgrass, 2013; Tam & Gough, 2013), but when combined with feelings of social isolation and geographical remoteness, the adverse effects have been decidedly magnified (AFSP, 2017; CDC, 2015; Feddersen et al., 2016; Gallagher et al., 2014; Hull-Jilly, 2015; Luhmann et al., 2015; Pompili, 2015; Sawe, 2017; Silveira, 2016; Tavernise, 2016; Tejada-Vera, 2014; Thogerson-ntownani et al., 2014). When considered from this perspective, the relevance of research to investigate potential variables of influence, with regard to feelings of social isolation, becomes evident.

Research that proposed TEI training provided a promising direction for mitigating feelings of social isolation (Moroń, 2014; Paik & Sanchagrin, 2013; Shemesh, 2017; Smith et al., 2017; Wols et al., 2015; Zysberg, 2015), informed the choice of TEI as the independent variable for this study. TEI theory contends that EI is a facet of personality that is operationalized by the self-perception of emotional competence (Bar-On, 2006; Petrides & Furnham, 2001; Petrides, 2011, 2017; Petrides et al., 2007). A review of the literature found that TEI facilitated flexibility, resilience, and instinctive emotional control across settings (Cadman & Brewer, 2001; Romanelli et al., 2006; Goleman, 2001), all attributes that are incompatible with feelings of social isolation. Individuals with high scores on measures of TEI identified as confident and in control of their emotions, even in unfamiliar and high stress situations (Bar-On, 2000; Goleman, 1999), thus, TEI represented the antithesis of the dependent variable, feelings of social isolation.

This study examined the correlation between TEI and feelings of social isolation and found a statistically significant, inverse relationship between the variables. This finding suggests that, given the sample population, increasing TEI could result in a decrease in feelings of social

isolation. The Trait Emotional Intelligence Questionnaire-Children's Short Form (TEIQue-CSF) was used to assess TEI; and, the Children's Loneliness and Social Dissatisfaction Scale (CLSDS) was used to measure feelings of social isolation in the sample population. A correlation was appropriate for this study due to its utility in identifying the strength and direction of the relationship between variables (Gall, Gall, & Borg, 2007). Statistical analyses identified that the correlation between participants' scores on these assessments demonstrated a strong negative correlation for each of the three research questions.

### **Null Hypothesis One**

This study found a statistically significant relationship between TEI and feelings of social isolation, at the .05 alpha level  $r(143) = -.799, p = .000$ . Therefore, the null hypothesis was rejected. This finding coincides with previous research that suggests individuals with high TEI are less likely to experience feelings of social isolation (Deckers et al., 2017; Hawkley & Capitanio, 2015; Jennings et al., 2016; Matthews et al., 2015; Mavroveli et al., 2007; Neto, 2015; Qualter et al., 2015; Ritchwood et al., 2017; Zeedyk et al., 2016).

The significance of these findings should promote additional research about the relationship between TEI and feelings of social isolation, to include how deliberate efforts to strengthen TEI affects feelings of social isolation. This relationship is valuable in the potential it conveys for mitigating feelings of social isolation and with it, the likelihood of long-term harm. If these findings are substantiated, the identification of evidence-based measures to leverage this relationship can promote a proactive approach to safeguarding the well-being of children that homeschool in rural and remote areas of Alaska.

Additionally, these findings raise questions about feelings of social isolation that some curricular-centric homeschool parents may have failed to consider. Research has examined the

reasons why parents choose to homeschool (McQuiggan & Megra, 2017; Redford et al., 2017), but there is little aside from anecdotal evidence of participation in co-ops and support groups (Anthony, 2015; Kunzman, 2017a; Ray, 2018; Ripperger-Suhler, 2016) to establish intentionality when it comes to addressing the potential for a child to experience feelings of social isolation. It is also likely that some parents do not believe that a child who is homeschooled is at an increased risk for feeling socially isolated; which, based on the inconsistency of findings throughout the literature (Brewer & Lubienski, 2017; Guterman & Neuman, 2015; Jamaludin et al., 2015; Jaynes, 2016; Jones, 2017; Jones & Barrett, 2015; Ray, 2016a, 2016b, 2017; Riley, 2015; Stitzlein, 2015; Vaughn et al., 2015), may well be correct.

Previous research involving children that homeschool, however, has largely neglected to consider geography as a variable of influence (Adkins, 2004; Bluemke et al., 2017; Schafer & Khan, 2017). In this regard, Alaska presents a unique set of conditions that are individually known to contribute to feelings of social isolation, such as extremes in weather (Allen et al., 2016; Meeker, 2016; Steinberg & Sprigg, 2016), seasonality (Hull-Jilly, 2015; Melrose, 2015; Pjrek et al., 2016; Silveira et al., 2016; Snodgrass, 2013; Tam & Gough, 2013), limited infrastructure (Allen, 2014; Bell & Menec, 2013; Biddle & Azano, 2016; Correa & Pavez, 2016; Liarakou et al., 2014), and geographical isolation (Age UK, 2016; Arthur Rank Centre, 2016; DiNapoli et al., 2014; Jopling, 2015; Mills, 2017; Schafer & Khan, 2017; Stacciarini et al., 2015). When combined, these conditions raise serious concerns for any population (AFSP, 2017; CDC, 2015; Feddersen et al., 2016; Gallagher et al., 2014; Hull-Jilly, 2015; Luhmann et al., 2015; Pompili, 2015; Sawe, 2017; Silveira, 2016; Tavernise, 2016; Tejada-Vera, 2014; Thogerson-ntownani et al., 2014), which is why children that homeschool in rural and remote areas of Alaska are of particular interest. For a state that has long relied on the flexibility

provided by homeschooling to educate a relatively sparse population across a massive area (AKDEED, 2011; Hanson, 2000; Leman, 1997), no discernable efforts could be found to indicate that the well-being of children who homeschool in rural and remote areas of Alaska has ever been addressed.

### **Null Hypothesis Two**

This study found a statistically significant relationship between TEI and feelings of social isolation, for female participants at a .05 alpha level  $r(75) = -.857, p = .000$ . The females in the sample population demonstrated a slightly stronger correlation than either the males ( $r = -.732$ ) or the sample population as a whole ( $r = -.799$ ). Therefore, the null hypothesis was rejected. Cohen's effect size index (Warner, 2013, p. 208) denotes a large effect size where  $|r| \geq .7$ , thus the finding of this study, given female participants from the sample population, was particularly significant.

The strength of the relationship between the independent and dependent variables in this study may indicate that for females, TEI and feelings of social isolation are particularly sensitive to one another. This understanding can help inform parents' curricular decisions and encourage the inclusion of research-based protocols to leverage this relationship and, ideally, mitigate feelings of social isolation. While the relationship between TEI and feelings of social isolation was stronger for female participants, male participants scored higher on TEI and lower on feelings of social isolation. The literature review for this study revealed mixed results for TEI and feelings of social isolation in relation to gender, presenting as much evidence to support its influence (Gugliandolo et al., 2015a, 2015b; Melrose, 2015; Undheim & Sund, 2017) as not (Akhtar et al., 2015; Menon & Kalaveena, 2015; Mikolajczak et al., 2015; Qualter et al., 2015; Siegling et al., 2015; Zeidner et al., 2016).

The inclusion of gender as a variable for analysis for this study was important for two reasons. One, to address a gap in the literature regarding the role of gender and feelings of social isolation (Qualter et al., 2015); and two, to help identify populations for which there may be an increased threat to well-being (Arens & Hasselhorn, 2014; Keefer et al., 2013; Undheim & Sund, 2017; Zeidner et al., 2016). One finding that supported the value of gender as a consideration in the present study involved the manifestation of seasonality trends in self-harm behavior. Silveira et al. (2016) found that while seasonality can negatively impact both males and females, there was a distinct variation in the time of year each was more likely to engage in self-harm. Thus, a better understanding of the role gender plays in relation to not only TEI and feelings of social isolation, but to those variables consequent to Alaska's geography, can help increase the capacity to address the needs of the sample population with respect to gender differences.

### **Null Hypothesis Three**

This study found a statistically significant relationship between TEI and feelings of social isolation, for male participants at the .05 alpha level  $r(68) = -.732, p = .000$ . Therefore, the null hypothesis was rejected. While strong, the correlation coefficient for males was not as high as it was for either the sample population as a whole ( $r = -.799$ ) or the female respondent group ( $r = -.857$ ). Nonetheless, the scores for male participants also demonstrated a strong relationship between TEI and feelings of social isolation. Here again, the effect size, per Cohen's effect size index (Warner, 2013, p. 208), was above the minimum threshold for large  $|r| \geq .7$ . As with the female participant group, the strength of this relationship can inform protocols that leverage TEI as a means to mitigate feelings of social isolation.

Gender differences, as discussed in the previous section, have been largely inconclusive with regard to TEI and feelings of social isolation; however, research linking feelings of social



isolation to suicide has not (Chu et al., 2018; Freeman et al., 2017; Silveira et al., 2016; Weller, Barnett, Trout, & Moto, 2018). For example, Silveira et al. (2016) found that while suicidal ideation and behavior among females was more frequent, it was far more likely to result in a fatality for males. This finding, and others like it (Freeman et al., 2017), presents a significant gender consideration, especially given that suicide had been repeatedly linked to feelings of social isolation (Chu et al., 2018; Dzung & Pantilat, 2018; Weller et al., 2018). Thus, given an individual's geographical context, recognizing the potential influence of gender can increase the likelihood of selecting an appropriate intervention.

Ultimately, this study contributes to the literature by highlighting the relationship between TEI and feelings of social isolation. Including gender as a variable of analysis furthers efforts to identify the most effective strategies for improving TEI as a means to mitigate feelings of social isolation. Likewise, geographic considerations should promote the use of targeted interventions that leverage TEI within the unique context of living in rural and remote areas of Alaska.

### **Implications**

Adkins (2004) identified a gap in the homeschool literature with regard to the potential influence of gender and geography on feelings of social isolation. Given the long-term threats to well-being, life satisfaction, and longevity (Andreou et al., 2015; Cacioppo et al., 2015; Cassidy et al., 2015; Houghton et al., 2015; Jopling, 2015; Lubben et al., 2015; Mills, 2017; Zach et al., 2016), a review of the literature was needed to identify variables that were incompatible with feelings of social isolation. Based on this review, TEI was identified as the independent variable for this study (Morón, 2014; Paik & Sanchagrin, 2013; Shemesh, 2017; Smith et al., 2017; Wols et al., 2015; Zysberg, 2015). This study found a significant, inverse relationship between TEI

and feelings of social isolation, thus, it may be implied that when TEI improves, feelings of social isolation diminish. This finding was consistent with the theoretical framework used in the study. TEI theory asserts that emotion is inherently subjective (Petrides, 2016; Petrides et al., 2007; Petrides et al., 2016; Siegling et al., 2014; Siegling et al., 2015). TEI exists within the personality hierarchy and is one's self-perception of emotional competence (Petrides, 2010; Petrides et al., 2007). Therefore, TEI theory supports the incompatibility of high TEI with prolonged feelings of social isolation, as confirmed by the significant, inverse relationship found in this study.

Social media was identified as the primary means for recruiting participants for this study. Multiple studies have endorsed the use of social media platforms for recruiting hard-to-reach populations for research (Jones, 2017; Kayrouz et al., 2016; Lane et al., 2015; Noel et al., 2016; Snyder, 2013). Given that homeschoolers are a hard-to-reach population (Denscombe, 2014; Gosling & Mason, 2015; Piqueras et al., 2017; Ramsey et al., 2016; Ray, 2016b; Sutter & Klein, 2007; Vieux, 2014) and that the state of Alaska has a footprint over one-fifth the size of the continental United States (State of Alaska, 2017), social media was chosen as an efficient and effective means for reaching and recruiting members of the target population. The success of social media for recruiting hard-to-reach populations was not supported by this study, thus, gaining access to the target population presented a significant methodological challenge. The effort to recruit via social media and e-mail fell short and the researcher was required to supplement technology-based recruiting efforts with personal networking among homeschoolers known to the researcher. This experience implies the need for an alternative methodological approach when recruiting homeschoolers for research.

Alaskan homeschoolers, policymakers, and the superintendents, principals, and directors who oversee Alaska's 30 correspondence schools may be interested in using these findings to identify how to best serve the children in their purview. As the number of homeschoolers in Alaska continues to increase (AKDEED, 2018; HSLDA, 2017; ICHER, 2017; Jones, 2017; Noodle, 2017; Zeise, 2019), so should efforts to better understand the needs of this population. Research should be used to safeguard the well-being of children that homeschool in the same way it has been used to promote the well-being of children in traditional educational settings. In Alaska, where homeschooling is a key component of the educational repertoire, and given the unique challenges consequent to Alaska's geography, it is particularly important that the research investigate ways to support children that homeschool. Findings from the present study imply that resources designed to improve TEI would support the well-being of the sample population.

### **Limitations**

There were multiple limitations to this study. First, the study population was very narrowly defined by specific and relatively unique geographic variables that required residence in rural and remote Alaska. Alaska's geography has an inherent negative impact on the ability to recruit individuals outside technology-based platforms, and even then, some remote areas have unreliable connectivity that can inhibit access to internet or cellular service. This condition may help explain why no responses were received from the Far North or Southwest, Alaska's two most remote regions (see Table 6). Challenges with access to reliable internet service can have a negative impact on research that employs technology-based recruiting strategies.

Table 6

*Alaska Population Estimates by Region*

Region	Population
Southcentral (not including Anchorage)	173,665
Interior	111,214
Far North	27,704
Southeast	72,876
Southwest	55,415
Municipality of Anchorage	295,365

*Note.* Data for Alaska population estimates by region from Alaska Department of Labor (2019).

In addition, the status of participants as homeschoolers posed a significant challenge in terms of participation. Homeschoolers are traditionally averse to participation in research (Green-Hennessey, 2014; Kunzman, 2015; Kunzman & Gaither, 2013; Murphy, 2014a; Ray, 2014), and the researcher found this to be true in this study as well. Initially, recruiting plans were heavily reliant on social media and email based on the literature review (Barratt et al, 2015; Fazzino et al., 2015; Kayrouz et al., 2016; Lane et al., 2013, Rait et al., 2015; Thornton et al., 2016); however, this protocol failed to result in the level or number of responses required to meet the study's criteria. The researcher found networking to be the single most effective recruitment strategy for reaching the target population.

The sample size was also a limitation. While the sample size exceeded the minimum criteria for what Warner (2013, p. 300) cited as the required minimum for a medium effect size with statistical power of .7 at the .05 alpha level, given the 24,198 estimated homeschoolers in Alaska, the number of participants was comparatively small (Zeise, 2019). Previous research has

consistently criticized the small, unrepresentative samples sizes of research involving homeschoolers and the typically low response rate (Green-Hennessey, 2014; Hodge et al., 2017; Jolly et al., 2013; Kunzman, 2015, 2017; Murphy, 2014a; Ray, 2014, 2016c; Vieux, 2014).

### **Recommendations for Future Research**

Recommendations for further research:

- (a) Further investigation of the relationship between TEI and feelings of social isolation should be conducted to substantiate the present findings.
- (b) It would be of value to the research community to identify protocols to successfully recruit homeschoolers for research. This was an unexpected challenge, but as the homeschooling population continues to grow, it will become increasingly important.
- (c) Data analysis revealed a difference in mean scores between TEI and feelings of social isolation among the three ethnic groups included in this study (see Table 7). This difference suggests that ethnicity may have been a variable of influence, with participants who identified as “Other” scoring lower on TEI and higher of feelings of social isolation than both Alaska Native and White participants. Future research to explore the role of ethnicity with regard to TEI and feelings of social isolation could help identify at-risk populations.

Table 7

*Participation and Mean Scores on the TEIQue-CSF and CLSDS by Ethnicity*

Ethnicity	N	TEIQue-CSF	CLSDS
Alaska Native	21	3.51	2.40
White	93	3.42	2.41
Other	29	3.30	2.58
Total	143	3.41	2.44

- (d) As the results support a strong correlation between TEI and feelings of social isolation, an exploration of strategies to improve TEI would be an important next step. Research conducted on strategies to improve TEI in children would help identify resources for at risk populations.
- (e) Future studies should explore the relationship between TEI and other emotional, behavior, and social challenges (Mavroveli et al., 2009; Petrides & Furnham, 2003; Wheeler, 2016).
- (f) This study suggested a correlation between TEI and resilience (Bande et al., 2014; Bar-On, 2006; Brouzos et al., 2014; Frydenberg, 2017; Keefer et al., 2013; Magnano et al., 2016; Prince-Embury & Saklofskey, 2014). In fact, the use of resilience in some studies, mirrored definitions used by others for TEI regarding the positive self-management of emotions (Anasuri, 2016; Armstrong et al., 2011; Edward & Warelow, 2005; Hongshan & Junmin, 2014; Lü et al., 2014). An exploration of this relationship could identify resources already in use to promote resilience that could be readily employed to strengthen TEI.

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**APPENDIX A: ALASKA CORRESPONDENCE SCHOOLS**

<p><b>AKTEACH</b> 722 Mill Bay Road Kodiak, AK 99615</p> <p><input checked="" type="checkbox"/> Statewide Program Check for "yes"</p> <p>[Redacted]</p> <p>[Redacted]</p>	<p><b>Alaska REACH Academy</b> Box 454 Tok, AK 99780</p> <p><input checked="" type="checkbox"/> Statewide Program Check for "yes"</p> <p>[Redacted]</p> <p>[Redacted]</p>	<p><b>Bristol Bay Correspondence</b> P.O. Box 169 Naknek, AK 99633</p> <p><input type="checkbox"/> Statewide Program Check for "yes"</p> <p>[Redacted]</p> <p>[Redacted]</p>
<p><b>Connections</b> 143 E Park Ave. Soldotna, AK 99669</p> <p><input type="checkbox"/> Statewide Program Check for "yes"</p> <p>[Redacted]</p> <p>[Redacted]</p>	<p><b>Cordova Innovative Learning Program</b> P.O. Box 1330 Cordova, AK 99574</p> <p><input type="checkbox"/> Statewide Program Check for "yes"</p> <p>[Redacted]</p> <p>[Redacted]</p>	<p><b>CyberLynx</b> P.O. Box 599 Nenana, AK 99760</p> <p><input checked="" type="checkbox"/> Statewide Program Check for "yes"</p> <p>[Redacted]</p> <p>[Redacted]</p>
<p><b>Delta-Greely Homeschool</b> P.O. Box 396 Delta Junction, AK 99737</p> <p><input type="checkbox"/> Statewide Program Check for "yes"</p> <p>[Redacted]</p> <p>[Redacted]</p>	<p><b>Denali Peak Program</b> 4240 Old Seward Hwy Suite #4 Anchorage, AK 99503</p> <p><input checked="" type="checkbox"/> Statewide Program Check for "yes"</p> <p>[Redacted]</p> <p>[Redacted]</p>	<p><b>Dillingham Correspondence</b> P.O. Box 170 Dillingham, AK 99576</p> <p><input type="checkbox"/> Statewide Program Check for "yes"</p> <p>[Redacted]</p> <p>[Redacted]</p>
<p><b>Distance Learning Center</b> P.O. Box 772182 Eagle River, AK 99577</p> <p><input checked="" type="checkbox"/> Statewide Program Check for "yes"</p> <p>[Redacted]</p> <p>[Redacted]</p>	<p><b>Extensions Correspondence</b> P.O. Box 131 Nome, AK 99762</p> <p><input checked="" type="checkbox"/> Statewide Program Check for "yes"</p> <p>[Redacted]</p> <p>[Redacted]</p>	<p><b>Fairbanks B.E.S.T.</b> 520 Fifth Ave. Fairbanks, AK 99701</p> <p><input type="checkbox"/> Statewide Program Check for "yes"</p> <p>[Redacted]</p> <p>[Redacted]</p>
<p><b>Family Partnership</b> 401 E. Fireweed Lane Suite 100 Anchorage, AK 99503</p> <p><input type="checkbox"/> Statewide Program Check for "yes"</p> <p>[Redacted]</p> <p>[Redacted]</p>	<p><b>Fast Track</b> 2610 4th Avenue Ketchikan, AK 99901</p> <p><input checked="" type="checkbox"/> Statewide Program Check for "yes"</p> <p>[Redacted]</p> <p>[Redacted]</p>	<p><b>FOCUS Homeschool</b> 9312 Vanguard Drive Anchorage, AK 99507</p> <p><input checked="" type="checkbox"/> Statewide Program Check for "yes"</p> <p>[Redacted]</p> <p>[Redacted]</p>
<p><b>Frontier Charter School</b> 400 W. Northern Lights Blvd., Suite #4 Anchorage, AK 99503</p> <p><input type="checkbox"/> Statewide Program Check for "yes"</p> <p>[Redacted]</p> <p>[Redacted]</p>	<p><b>Haines Home School</b> 604 Haines Highway, P.O. Box 1289 Haines, AK 99827</p> <p><input type="checkbox"/> Statewide Program Check for "yes"</p> <p>[Redacted]</p> <p>[Redacted]</p>	<p><b>HomeBRIDGE</b> 10014 Crazy Horse Drive Juneau, AK 99801</p> <p><input type="checkbox"/> Statewide Program Check for "yes"</p> <p>[Redacted]</p> <p>[Redacted]</p>

<p><b>IDEA</b> 2157 Van Horn Road Fairbanks, AK 99701</p> <p><input checked="" type="checkbox"/> Statewide Program Check for "yes"</p> <p>[Redacted]</p>	<p><b>Lakeview Home School</b> PO Box 498 King Salmon, AK 99613</p> <p><input type="checkbox"/> Statewide Program Check for "yes"</p> <p>[Redacted]</p>	<p><b>Mat-Su Central School</b> 600 E. Railroad Ave., Ste 6 Wasilla, AK 99654</p> <p><input checked="" type="checkbox"/> Statewide Program Check for "yes"</p> <p>[Redacted]</p>
<p><b>NWABSD HomeSchool</b> P.O. Box 51 Kotzebue, AK 99752</p> <p><input type="checkbox"/> Statewide Program Check for "yes"</p> <p>[Redacted]</p>	<p><b>PACE Statewide Correspondence</b> PO Box 800 Craig, AK 99921</p> <p><input checked="" type="checkbox"/> Statewide Program Check for "yes"</p> <p>[Redacted]</p>	<p><b>PAIDEA Cooperative</b> 616 W 10th Ave Anchorage, AK 99501</p> <p><input type="checkbox"/> Statewide Program Check for "yes"</p> <p>[Redacted]</p>
<p><b>Raven Correspondence</b> 4762 Old Airport Way Fairbanks, AK 99709-4456</p> <p><input checked="" type="checkbox"/> Statewide Program Check for "yes"</p> <p>[Redacted]</p>	<p><b>Reach Home School Support</b> 305 Baranof St., Rm 30 Sitka, AK 99835</p> <p><input type="checkbox"/> Statewide Program Check for "yes"</p> <p>[Redacted]</p>	<p><b>Twindly-Bridge Charter School</b> 141 East Seldon Road Wasilla, AK 99654</p> <p><input type="checkbox"/> Statewide Program Check for "yes"</p> <p>[Redacted]</p>
<p><b>Upstream Learning</b> PO Box 108 Glennallen, AK 99588</p> <p><input checked="" type="checkbox"/> Statewide Program Check for "yes"</p> <p>[Redacted]</p>	<p><b>Valdez Homeschool Program</b> P.O. Box 398 Valdez, AK 99686</p> <p><input type="checkbox"/> Statewide Program Check for "yes"</p> <p>[Redacted]</p>	<p><b>Yakutat LEADSchool</b> P.O. Box 429 Yakutat, AK 99689</p> <p><input checked="" type="checkbox"/> Statewide Program Check for "yes"</p> <p>[Redacted]</p>

## APPENDIX B: TEIQUE-CSF AND SCORING PROTOCOL

No.	Question	Completely Agree	Agree	Neither Agree nor Disagree	Disagree	Completely Disagree	Mean Score	Interpretation
1	I always try to be in a good mood.							
2	I like meeting new people.							
3	I find it hard to get used to a new school year.*							
4	I feel great about myself.							
5	When I feel sad, I try to do something to change my mood.							
6	I often feel sad.*							
7	If I'm happy with someone, I will tell them.							
8	I get along with everyone.							
9	I often feel angry.*							
10**	Other kids like playing with me.							
11	When I'm in a new place, I get used to it quickly.							
12	Often, I'm not happy with myself.*							
13	Many times, I don't think before I do something.*							
14	I'm very good at understanding how other people feel.							
15	I don't like trying hard for something.*							
16	It's easy for me to understand how I feel.							
17	If I have to do something, I know I can do it very well.							
18	I get angry very easily.*							
19	I try to do my schoolwork as well as I really can.							
20	It's easy for me to talk about my feelings.							
21	I don't like waiting to get what I want.*							
22	I'm a very happy kid.							
23	I don't like studying hard.*							
24	I think I may be sad when I grow up.*							
25	Most people like me.							
26	I think very carefully before I do something.							
27	I'm not good at controlling the way I feel.*							
28	I get used to new people very quickly.							
29	I can't find the right words to tell others how I feel.*							
30	I don't like trying out new things.*							
31	I like being with other people.							
32	I know how to show to others how much I care about them.							
33	I'm often confused about the way I feel.*							
34	I find it difficult to understand what others are feeling.*							
35	If I don't do something well, I don't like trying again.*							
36	Usually, I think very carefully before I talk.							
<b>Total Mean Score – Emotional Intelligence</b>								

\*Items with reversed scoring.

\*\*Adapted from Mavroveli and Petrides, 2006; and Mavroveli, Petrides, Shove, and Whitehead, 2008.

## TEIQue-CSF Scoring Protocol

No.	Completely Agree	Agree	Neither Agree nor Disagree	Disagree	Completely Disagree
1	5	4	3	2	1
2	5	4	3	2	1
3	1	2	3	4	5
4	5	4	3	2	1
5	5	4	3	2	1
6	1	2	3	4	5
7	5	4	3	2	1
8	5	4	3	2	1
9	1	2	3	4	5
10**	5	4	3	2	1
11	5	4	3	2	1
12	1	2	3	4	5
13	1	2	3	4	5
14	5	4	3	2	1
15	1	2	3	4	5
16	5	4	3	2	1
17	5	4	3	2	1
18	1	2	3	4	5
19	5	4	3	2	1
20	5	4	3	2	1
21	1	2	3	4	5
22	5	4	3	2	1
23	1	2	3	4	5
24	1	2	3	4	5
25	5	4	3	2	1
26	5	4	3	2	1
27	1	2	3	4	5
28	5	4	3	2	1
29	1	2	3	4	5
30	1	2	3	4	5
31	5	4	3	2	1
32	5	4	3	2	1
33	1	2	3	4	5
34	1	2	3	4	5
35	1	2	3	4	5
36	5	4	3	2	1
<b>Total:</b>					
		<b>Total of All</b>			

36-63	64-90	91-117	117+
Fail	Marginal	Pass	Pass
-1 SD <sub>→</sub>	Mean <sub>→</sub>	+1 SD <sub>→</sub>	+2 SD <sub>→</sub>

\*Items with reversed scoring

\*\*Adapted from Mavroveli and Petrides, 2006; and Mavroveli, Petrides, Shove, and Whitehead, 2008.



### APPENDIX C: CLSDS AND SCORING PROTOCOL

No.	Question	Always True	True Most of the Time	Sometimes True	Hardly Ever True	Not True at All	Mean Score	Interpretation
1**	It's easy for me to make new friends.							
2	I like to read.							
3	I have nobody to talk to.*							
4	I'm good at working with other children.							
5	I watch TV a lot.							
6	It's hard for me to make friends.*							
7	I like school.							
8	I have lots of friends.							
9	I feel alone.*							
10	I can find a friend when I need one.							
11	I play sports a lot.							
12	It's hard to get other kids to like me.*							
13	I like science.							
14	I don't have anyone to play with.							
15	I like music.							
16	I like to get along with other kids.							
17	I feel left out of things.							
18	There's nobody I can go to when I need help.*							
19	I like to paint and draw.							
20	I don't get along with other children.*							
21	I'm lonely.*							
22**	I am well-liked by other kids.							
23	I like playing board games a lot.							
24	I don't have any friends.*							
<b>Total Mean Score – Feelings of Social Isolation</b>								

\*Items with reversed scoring.

\*\*Adapted from (Asher & Wheeler, 1984).

## CLSDS Scoring Protocol (Asher &amp; Wheeler, 1984).

No.	Always True	True Most of the Time	Sometimes True	Hardly Ever True	Not True at All
1*	5	4	3	2	1
2					
3	1	2	3	4	5
4	5	4	3	2	1
5					
6	1	2	3	4	5
7					
8	5	4	3	2	1
9	1	2	3	4	5
10	5	4	3	2	1
11					
12	1	2	3	4	5
13					
14	1	2	3	4	5
15					
16	5	4	3	2	1
17	1	2	3	4	5
18	1	2	3	4	5
19					
20	1	2	3	4	5
21	1	2	3	4	5
22*	5	4	3	2	1
23					
24	1	2	3	4	5
<b>Total:</b>					
	<b>Total of All</b>				

16-28	29-40	41-52	52+
Fail	Marginal	Pass	Pass
-1 SD $\underline{\quad}$	Mean $\underline{\quad}$	+1 SD $\underline{\quad}$	+2 SD $\underline{\quad}$

## APPENDIX D: RESEARCH STUDY FLYER

# Research Participants Needed

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## The Correlation Between Trait Emotional Intelligence & Feelings of Social Isolation in Students Between the Ages 8-12 that Homeschool in Rural & Remote Alaska

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- Are you a current homeschooler?
- Do you have a child between the ages of 8-12?
- Do you live *outside* the Municipality of Anchorage?

If you answered “*Yes*” to these questions, your child may be eligible to participate in an educational research study.

The purpose of this study is to assess the compatibility of trait emotional intelligence & feelings of social isolation in students that homeschool in rural & remote Alaska. Potential benefits of the study include the opportunity to evaluate the relevance of trait emotional intelligence as a potential resource for the prevention or mediation of feelings of social isolation.

Participants will be entered to win a \$100 Amazon gift card.

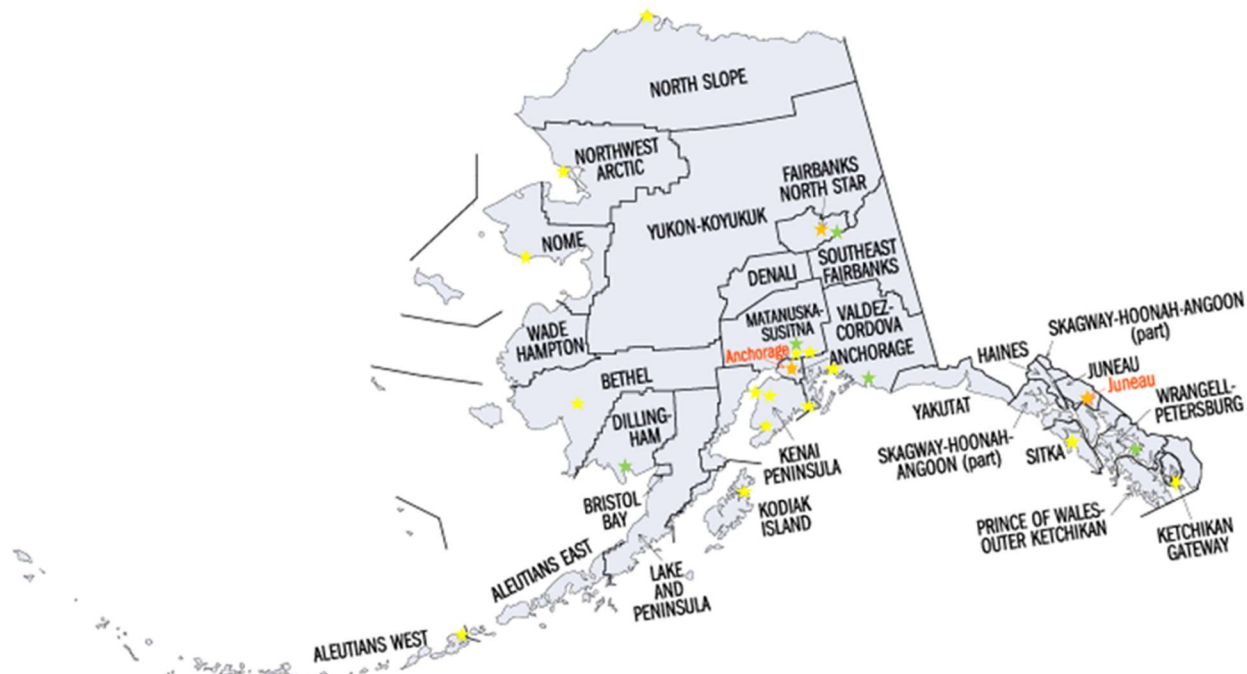
This study is being conducted using a secure online platform. To access the study, please visit: [www.facebook.com/groups/](http://www.facebook.com/groups/) [REDACTED]

**For more information, contact:**  
Doniel Wolfe at [REDACTED] [dwolfe@liberty.edu](mailto:dwolfe@liberty.edu)




Liberty University IRB- 1971 University Blvd, Green Hall 1887, Lynchburg VA 24515

## APPENDIX E: MAP OF ALASKA WITH URBAN AREAS AND CLUSTERS NOTED

U.S. Census Bureau (USCB; 2016): Urban Areas (UA) and Urban Clusters (UC) in Alaska



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USCB (2016)	Threshold
 Urban Area	$\geq 50,000$
 Urban Cluster	$>2,500 \leq 50,000$
 Approaching Urban Cluster	2205-2411
Rural	$>2,500$

## Estimated 2016 Population for UAs and UCs in Alaska (ADLWD, 2017)

City	2016 Population Estimate	City	2016 Population Estimate	City	2016 Population Estimate
★ Anchorage Municipality	298192	★ Bethel	6378	★ Kotzebue	3245
★ Fairbanks	32751	★ Kodiak	6191	★ Seward	2787
★ Juneau City & Borough	32468	★ Homer	5631	★ <i>Wrangell City &amp; Borough</i>	2411 <sup>a</sup>
★ Wasilla	9748	★ Soldotna	4617	★ <i>Dillingham</i>	2364 <sup>a</sup>
★ Sitka City & Borough	8830	★ Unalaska	4437	★ <i>Houston</i>	2290 <sup>a</sup>
★ Ketchikan	8208	★ Barrow	4335	★ <i>North Pole</i>	2232 <sup>a</sup>
★ Kenai	7745	★ Valdez	3862	★ <i>Cordova</i>	2205 <sup>a</sup>
★ Palmer	7000	★ Nome	3797		

<sup>a</sup> Denotes cities on the cusp of meeting the threshold for UCs.

## APPENDIX F: FORHP RURAL BOROUGHES IN ALASKA

### List of Rural Counties and Designated Eligible Census Tracts in Metropolitan Counties

Updated Census 2010

The Office of Rural Health Policy uses two methods to determine geographic eligibility for its grant programs. As in prior years, all counties that are not designated as parts of Metropolitan Areas (MAs) by the Office of Management and Budget (OMB) are considered rural. Any county that is not a part of a Metropolitan Area is considered rural. Counties classified as Micropolitan are non-Metropolitan. The current list of MAs, issued in 2013, and updates are available on the Internet at

<http://www.census.gov/population/www/metroareas/metrodef.html>

Due to the fact that entire counties are designated as Metropolitan when, in fact, large parts of many counties may be rural in nature, the Office of Rural Health Policy has sought an alternative method of looking at sub-county sections of these Metropolitan counties that would allow sections to be designated rural. The Goldsmith modification was originally developed and used to identify rural Census tracts in large Metropolitan counties.

The Office of Rural Health Policy has funded the development of the Rural Urban Commuting Area Codes (RUCAs) to designate "Rural" areas within MAs. Census tracts with RUCA codes 4 through 10 are considered rural for the purposes of Rural Health grants. While use of the RUCA codes has allowed identification of rural census tracts in Metropolitan counties, among the more than 60,000 tracts in the U.S. there are some that are extremely large and where use of RUCA codes alone fails to account for distance to services and sparse population. In response to these concerns, ORHP has also designated as rural census tracts with RUCA codes 2 or 3 that are at least 400 square miles in area with a population density of no more than 35 people. More information on RUCAs is available at

<http://www.ers.usda.gov/dataproducts/rural-urban-commuting-area-codes.aspx>

To determine whether a county or a particular address is designated rural, visit the webpage Rural Health Grants Eligibility Advisor.

The attached list is in two Sections.

Section I is a list of non-Metro counties arranged by State. The entire area of these counties is considered rural.

Section II is a list of Metropolitan counties in which we have identified certain Census Tracts that are considered rural. Only the area of the identified tracts is considered rural in those Metropolitan counties.

Please check the lists carefully.

For further information, contact the Office of Rural Health Policy at (301) 443-0835.

## Section I

STATE:	Wilcox	AMERICAN SAMOA -
	Winston	All
County:	ALASKA	
ALABAMA		ARIZONA
Barbour	Aleutians East	Apache
Bullock	Aleutians West	Gila
Butler	Bethel	Graham
Chambers	Bristol Bay Denali	Greenlee
Cherokee	Dillingham	La Paz
Choctaw	Haines	Navajo
Clarke	Hoonah-Angoon	Santa Cruz
Clay	Juneau	ARKANSAS
Cleburne	Kenai Peninsula	Arkansas
Coffee	Ketchikan Gateway	Ashley
Conecuh	Kodiak Island	Baxter
Coosa	Kusilvak	Boone
Covington	Lake and Peninsula	Bradley
Crenshaw	Matanuska-Susitna	Calhoun
Cullman	This county is eligible	Carroll
Dale	even though it is	Chicot
Dallas	designated as a	Clark
DeKalb	Metropolitan County. All	Clay
Escambia	census tracts in the	Cleburne
Fayette	county qualify as rural.	Columbia
Franklin		Conway
Greene	Nome	Cross
Jackson	North Slope	Dallas
Lamar	Northwest Arctic	Desha
Macon	Petersburg	Drew
Marengo	Pr of Wales-Hyder	Franklin
Marion	Sitka	Fulton
Marshall	Skagway	Greene
Monroe	Southeast Fairbanks	Hempstead
Perry	Valdez-Cordova	Hot Spring
Pike	Wrangell City and	Howard
Randolph	Borough	Independence
Sumter	Yakutat	Izard
Talladega	Yukon-Koyukuk	Jackson
Tallapoosa		Johnson
Washington		

## Section II

## ALABAMA

## Baldwin County

01003010100

01003010200

01003010500

01003010600

01003011000

01003011401

01003011403

01003011406

01003011407

01003011408

01003011501

01003011502

01003011601

## Blount County

01009050101

01009050102

01009050300

01009050400

## Chilton County

01021060101

01021060102

01021060200

01021060500

01021060600

01021060700

## Elmore County 01051030400

## Etowah County

01055011001

01055011002

## Geneva County 01061050100

## Henry County

01067030300

## Lawrence County

01079979400

01079979800

## Limestone County

01083020201

01083020202

01083020300

01083020401

01083020402

01083020500

01083020600

01083020700

01083020900

01083021000

01083021100

## Mobile County

01097007202

## Morgan County

01103005600

## Pickens County

01107050200

## Shelby County

01117980000

## St. Clair County

01115040201

01115040203

01115040204

01115040205

## Walker County

01127020900

01127021100

01127021200

## ALASKA

## Anchorage

02020000101

02020002900

## Fairbanks North Star

02090001700

02090001800

02090001900

## Matanuska-Susitna

All census tracts in the  
county qualify as rural.

## ARIZONA

## Cochise County

04003000100

04003000201

04003000202

04003000203

04003000301

04003000303

04003000400

04003000500

04003000600

04003000700

04003000800

04003000901

04003000902

04003001000

04003001100

04003001200

## Coconino County

04005001500

04005001600

04005001700

04005002000

04005002100

04005002300



### APPENDIX G: RUCA CODES

Rural Urban Commuting Area (RUCA) Codes (ERS, 2013)

RUCA Code (ERS, 2013)	1	2	3	4	5	6	7	8
Anchorage Municipality	48	7						
Bethel Census Area							1	
Fairbanks North Star Borough	14	4					1	
Juneau City Borough				6				
Kenai Peninsula Borough							2	3
Ketchikan Gateway Borough				4				
Kodiak Island Borough							3	2
Matanuska-Susitna Borough				13	8			
Nome Census Area							1	
North Slope Borough							1	
Northwest Arctic Borough							1	
Sitka City & Borough							2	

Primary RUCA Codes, 2010 (ERS, 2013)	
1	Metropolitan area core: primary flow within an urbanized area (UA)
2	Metropolitan area high commuting: primary flow 30% or more to a UA
3	Metropolitan area low commuting: primary flow 10% to 30% to a UA
4	Micropolitan area core: primary flow within an Urban Cluster of 10,000 to 49,999 (large UC)
5	Micropolitan high commuting: primary flow 30% or more to a large UC
6	Micropolitan low commuting: primary flow 10% to 30% to a large UC
7	Small town core: primary flow within an Urban Cluster of 2,500 to 9,999 (small UC)
8	Small town high commuting: primary flow 30% or more to a small UC

## APPENDIX H: WEEKLY FACEBOOK POSTS

**Wednesday Week 1-** Attention homeschool families! My name is Doniel Wolfe and I am a graduate student at Liberty University. I am recruiting volunteers to participate in my research study, *The Correlation Between Trait Emotional Intelligence and Feelings of Social Isolation in Students Between the Ages 8-12 that Homeschool in Rural and Remote Alaska*. The target population for this study includes typically developing homeschool students between the ages of 8-12 who live *outside* the Municipality of Anchorage. Participants will complete an anonymous survey that will take approximately 25 minutes. Participants can enter a drawing for a \$100 Amazon gift card by having a parent email or text the researcher at [dwolfe@liberty.edu](mailto:dwolfe@liberty.edu) or [REDACTED]. [REDACTED] Confirmation will be sent and the drawing to be held at the completion of the study.

The survey will be available at the following link:

[http://uaa.co1.qualtrics.com/jfe/form/SV\\_72sxqnrU3XUR3D](http://uaa.co1.qualtrics.com/jfe/form/SV_72sxqnrU3XUR3D). The password to access the survey is “homeschool.” Parental consent is available as the pinned post on the study’s dedicated Facebook page at

[https://www.facebook.com/groups/\[REDACTED\]](https://www.facebook.com/groups/[REDACTED]) Students will be presented with assent information at the beginning of the survey.

**Wednesday Week 2-** Dear homeschool families! This is a reminder that I am still in need of volunteers to participate my research study, *The Correlation Between Trait Emotional Intelligence and Feelings of Social Isolation in Students Between the Ages 8-12 that Homeschool in Rural and Remote Alaska*. The target population for this study includes typically developing homeschool students between the ages of 8-12 who live *outside* the Municipality of Anchorage. Participants will complete an anonymous survey that will take approximately 25 minutes. Participants can enter a drawing for a \$100 Amazon gift card by having a parent email or text the

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[https://www.facebook.com/groups/\[REDACTED\]](https://www.facebook.com/groups/[REDACTED]) Students will be presented with assent information at the beginning of the survey.

**Wednesday Week 3-** Dear homeschool families! I am now in the third week of data collection and am still in need of volunteers to participate my research study, *The Correlation Between Trait Emotional Intelligence and Feelings of Social Isolation in Students Between the Ages 8-12 that Homeschool in Rural and Remote Alaska*. The target population for this study includes typically developing homeschool students between the ages of 8-12 who live *outside* the Municipality of Anchorage. Participants will complete an anonymous survey that will take approximately 25 minutes. Participants can enter a drawing for a \$100 Amazon gift card by having a parent email or text the researcher at [dwolfe@liberty.edu](mailto:dwolfe@liberty.edu) or [REDACTED]. Confirmation will be sent and the drawing to be held at the completion of the study. The survey will be available at the following link:

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[https://www.facebook.com/groups/\[REDACTED\]](https://www.facebook.com/groups/[REDACTED]). Students will be presented with assent information at the beginning of the survey.

**Wednesday Week 4-** Dear homeschool families! It is week four of data collection and I am still looking to increase participation in my research study, *The Correlation Between Trait Emotional Intelligence and Feelings of Social Isolation in Students Between the Ages 8-12 that Homeschool in Rural and Remote Alaska*. The target population for this study includes typically developing homeschool students between the ages of 8-12 who live *outside* the Municipality of Anchorage. Participants will complete an anonymous survey that will take approximately 25 minutes. Participants can enter a drawing for a \$100 Amazon gift card by having a parent email or text the researcher at [dwolfe@liberty.edu](mailto:dwolfe@liberty.edu) or [REDACTED]. Confirmation will be sent and the drawing to be held at the completion of the study. The survey will be available at the following link: [http://uaa.co1.qualtrics.com/jfe/form/SV\\_72sxqnrU3XUR3D](http://uaa.co1.qualtrics.com/jfe/form/SV_72sxqnrU3XUR3D). The password to access the survey is “homeschool.” Parental consent is available as the pinned post on the study’s dedicated Facebook page at [https://www.facebook.com/groups/\[REDACTED\]](https://www.facebook.com/groups/[REDACTED]) Students will be presented with assent information at the beginning of the survey.

**Wednesday Week 5-** Dear homeschool families, I am in the final two weeks of data collection for my study, *The Correlation Between Trait Emotional Intelligence and Feelings of Social Isolation in Students Between the Ages 8-12 that Homeschool in Rural and Remote Alaska*. I am very grateful for those of you who have encouraged your children to participate or referred others. The target population for this study includes typically developing homeschool students between the ages of 8-12 who live *outside* the Municipality of Anchorage. Participants will complete an anonymous survey that will take approximately 25 minutes. Participants can enter a drawing for a \$100 Amazon gift card by having a parent email or text the researcher at [dwolfe@liberty.edu](mailto:dwolfe@liberty.edu) or [REDACTED]. Confirmation will be sent and the drawing to be held at the completion of the

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[https://www.facebook.com/groups/\[REDACTED\]](https://www.facebook.com/groups/[REDACTED]) Students will be presented with assent information at the beginning of the survey.

**Wednesday Week 6-** Dear homeschool families! This is the FINAL week for data collection. I am so thankful to all those who have encouraged their children to participate or who have referred others. However, I am still hoping to collect more data for my study, *The Correlation Between Trait Emotional Intelligence and Feelings of Social Isolation in Students Between the Ages 8-12 that Homeschool in Rural and Remote Alaska*. The target population for this study includes typically developing homeschool students between the ages of 8-12 who live *outside* the Municipality of Anchorage. Participants will complete an anonymous survey that will take approximately 25 minutes. Participants can enter a drawing for a \$100 Amazon gift card by having a parent email or text the researcher at [dwolfe@liberty.edu](mailto:dwolfe@liberty.edu) or [REDACTED].

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[https://www.facebook.com/groups/\[REDACTED\]](https://www.facebook.com/groups/[REDACTED]) Students will be presented with assent information at the beginning of the survey.

**Thursday Week 6-** Dear homeschool families, TOMORROW is the last day to participate in my educational research study, *The Correlation Between Trait Emotional Intelligence and Feelings of Social Isolation in Students Between the Ages 8-12 that Homeschool in Rural and Remote Alaska*. The target population for this study includes typically developing homeschool students between the ages of 8-12 who live *outside* the Municipality of Anchorage. Participants will complete an anonymous survey that will take approximately 25 minutes. Participants can enter a drawing for a \$100 Amazon gift card by having a parent email or text the researcher at [dwolfe@liberty.edu](mailto:dwolfe@liberty.edu) or [REDACTED]. Confirmation will be sent and the drawing to be held at the completion of the study. The survey will be available at the following link:

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[https://www.facebook.com/groups/\[REDACTED\]](https://www.facebook.com/groups/[REDACTED]) Students will be presented with assent information at the beginning of the survey. If you are a parent with eligible participants, please consider taking some time in the next 2 days to answer a few questions to help me complete my study. Thank you!

**Monday Week 7-** Thank you, homeschool families! I am so grateful to all those who encouraged their child/children to participate in my research study or referred others. The drawing for the \$100 Amazon gift card will be held June 1, 2019 and the winner will be notified. The final dissertation will be made available upon request to parents and guardians of participants. All data collected is anonymous and will be stored on a password protected secure server. For additional information call or text [REDACTED] or email [dwolfe@liberty.edu](mailto:dwolfe@liberty.edu).

**APPENDIX I: WEEKLY E-MAIL ANNOUNCEMENTS**

**Week 1-** Attention homeschool families! My name is Doniel Wolfe and I am a graduate student at Liberty University. I am recruiting volunteers to participate in my research study, *The Correlation Between Trait Emotional Intelligence and Feelings of Social Isolation in Students Between the Ages 8-12 that Homeschool in Rural and Remote Alaska*. The target population for this study includes typically developing homeschool students between the ages of 8-12 who live *outside* the Municipality of Anchorage. Participants will complete an anonymous survey that will take approximately 25 minutes. Participants can enter a drawing for a \$100 Amazon gift card by having a parent email or text the researcher at [dwolfe@liberty.edu](mailto:dwolfe@liberty.edu) or [REDACTED].

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**Week 2-** Dear homeschool families! This is a reminder that I am still in need of volunteers to participate my research study, *The Correlation Between Trait Emotional Intelligence and Feelings of Social Isolation in Students Between the Ages 8-12 that Homeschool in Rural and Remote Alaska*. The target population for this study includes typically developing homeschool students between the ages of 8-12 who live *outside* the Municipality of Anchorage. Participants will complete an anonymous survey that will take approximately 25 minutes. Participants can enter a drawing for a \$100 Amazon gift card by having a parent email or text the researcher at

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survey is “homeschool.” Parental consent is available as the pinned post on the study’s dedicated Facebook page at

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Confirmation will be sent and the drawing to be held at the completion of the study. The survey will be available at the following link:

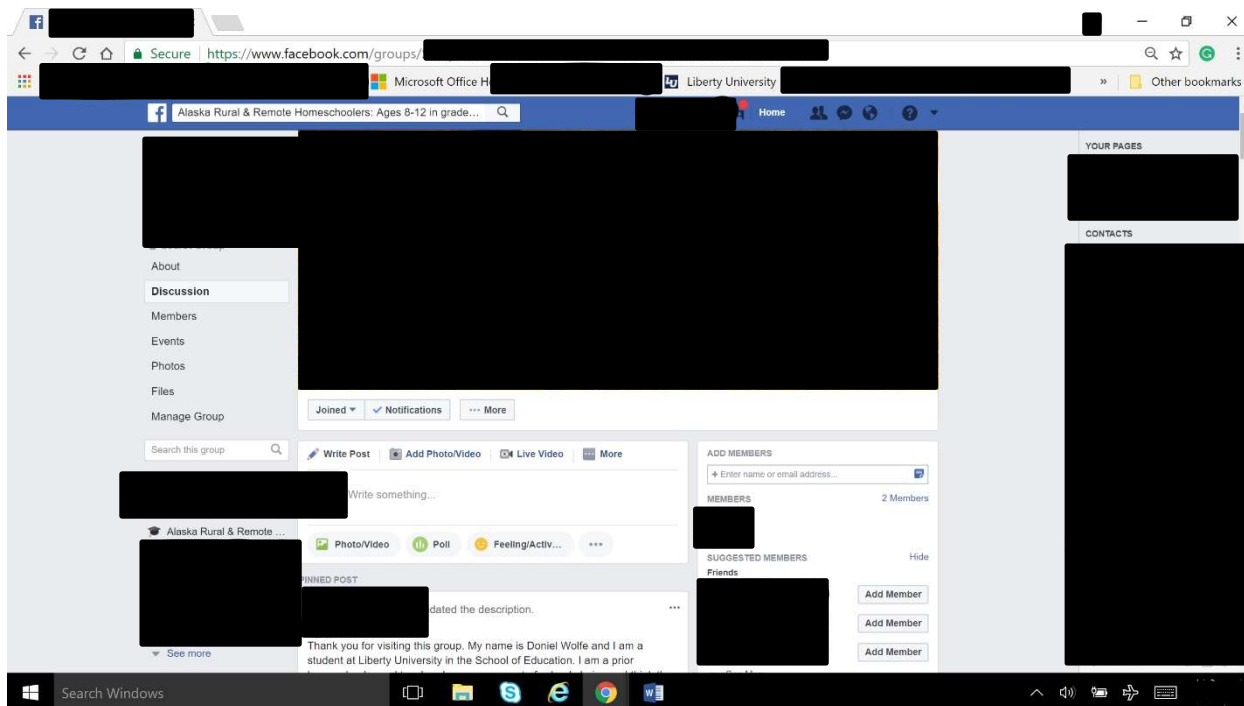
[http://uaa.co1.qualtrics.com/jfe/form/SV\\_72sxqnrU3XUR3D](http://uaa.co1.qualtrics.com/jfe/form/SV_72sxqnrU3XUR3D). The password to access the survey is “homeschool.” Parental consent is available as the pinned post on the study’s dedicated Facebook page at

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**Week 7-** Thank you, homeschool families! I am so grateful to all those who encouraged their child/children to participate in my research study or referred others. The drawing for the \$100 Amazon gift card will be held June 1, 2019 and the winner will be notified. The final dissertation

will be made available to parents and guardians of participants upon request. All data collected is anonymous and will be stored on a password protected secure server. For additional information call or text [REDACTED] email [dwolfe@liberty.edu](mailto:dwolfe@liberty.edu).

### APPENDIX J: DEDICATED FACEBOOK PAGE FOR STUDY



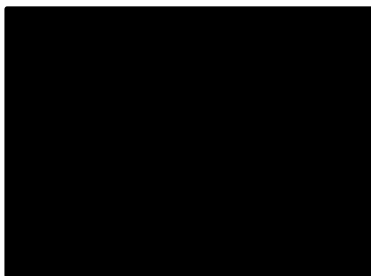
**APPENDIX K: SURVEY END SCREEN**

Thank you for your participation! Once my research is finished, the results will be posted to the Facebook group:  
[www.facebook.com/groups/](http://www.facebook.com/groups/) [REDACTED]

If you would like to enter the drawing to win a \$100 Amazon gift card, please have a parent send a Facebook message to the Facebook group, email me at [dwolfe@liberty.edu](mailto:dwolfe@liberty.edu), or send a text to [REDACTED]. When enough kids have responded, I will hold the drawing and contact the winner.

Updates will be posted every week to the Facebook group, but if you or your parents have any questions, you can contact me at any time!

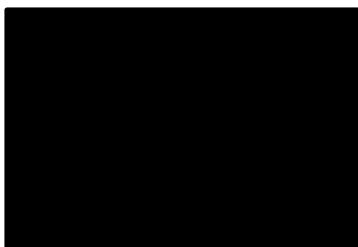
Thank you, again and happy homeschooling!  
D. Wolfe

**APPENDIX L: DEMOGRAPHIC QUESTIONS**

**I homeschool.**

True

False



**How old are you?**

8-years-old

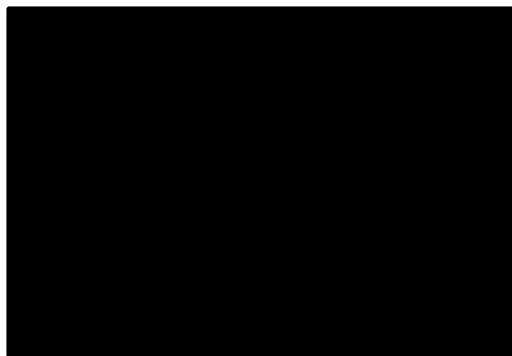
9-years-old

10-years-old

11-years-old

12-years-old

none of the above



I live in the \_\_\_\_\_ region of Alaska.

**MUNICIPALITY OF ANCHORAGE**

(e.g., Anchorage, Chugiak, Eagle River, and Girdwood)

**FAR NORTH**

(e.g., Barrow, Brooks Range, Cold Foot, Nome, North Slope Borough, Prudhoe Bay)

**INTERIOR**

(e.g., Fairbanks, Fort Yukon, Tok, Denali National Park, Galena, Healy)

**SOUTHCENTRAL- NOT including Anchorage**

(e.g., Big Lake, Copper River Valley, Cordova, Glennallen, Homer, Houston, Kenai Peninsula, Mat-Su Valley, Palmer, Prince William Sound, Seward, Talkeetna, Trapper Creek, Valdez, Wasilla, Willow)

**SOUTHEAST**

(e.g., Glacier Bay, Haines, Juneau, Ketchikan, Petersburg, Sitka, Skagway, Wrangell)

**SOUTHWEST**

(e.g., Alaska Peninsula, Aleutian Islands, Bethel, Bristol Bay, Dillingham, Dutch Harbor, King Salmon, Kodiak Archipelago, Pribilof Islands, Sand Point, Unalaska, Yukon-Kuskokwim Delta)

I am \_\_\_\_\_.



**Alaska Native**



**White**



**Other**



I am a \_\_\_\_\_.



**Female**



**Male**

## APPENDIX M: IRB APPROVAL

**LIBERTY UNIVERSITY.**  
INSTITUTIONAL REVIEW BOARD

April 3, 2019

Doniel Wolfe

IRB Approval 3673.040319: The Correlation between Trait Emotional Intelligence and Feelings of Social Isolation in Students between the Ages of 8-12 that are Homeschooled in Rural and Remote Alaska

Dear Doniel Wolfe,

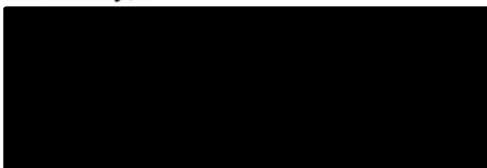
We are pleased to inform you that your study has been approved by the Liberty University IRB. This approval is extended to you for one year from the date provided above with your protocol number. If data collection proceeds past one year or if you make changes in the methodology as it pertains to human subjects, you must submit an appropriate update form to the IRB. The forms for these cases were attached to your approval email.

Your study falls under the expedited review category (45 CFR 46.110), which is applicable to specific, minimal risk studies and minor changes to approved studies for the following reason(s):

Your study involves surveying or interviewing minors, or it involves observing the public behavior of minors, and you will participate in the activities being observed.

Thank you for your cooperation with the IRB, and we wish you well with your research project.

Sincerely,



**LIBERTY**  
UNIVERSITY.

*Liberty University | Training Champions for Christ since 1971*

## APPENDIX N: PARENT/GUARDIAN CONSENT

Your child is invited to participate in a research study to investigate the *Correlation between Trait Emotional Intelligence and Feelings of Social Isolation in Students Between the Ages of 8-12 that are Homeschooled in Rural and Remote Alaska*. Eligible participants include typically developing homeschool students between the ages of 8-12 who do not live in the Municipality of Anchorage, including Girdwood, Eagle River, Chugiak, and the village of Eklutna.

Please read this form and ask any questions you may have prior to allowing your child to participate.

Doniel Wolfe, a doctoral candidate in the School of Education at Liberty University, is conducting this study.

**Background Information:** Previous research has suggested examining the role of geography on feelings of social isolation in students that homeschool. As both a homeschool parent and an Alaskan, I believe it is important to investigate this relationship in the context of Alaska's unique topography, including extremes in weather, geographical isolation, and seasonal changes in daylight that been identified as potential influences on feelings of social isolation. If this study suggests a correlation between trait emotional intelligence and feelings of social isolation, future research can focus on the exploration of effective measures to improve trait emotional intelligence as a mediating factor for feelings of social isolation.

**Procedures:** If you choose to allow your child to participate, your child will then be asked to do the following:

1. Answer 5 demographic questions (1 minute).
2. Review a short set of helpful hints for participation (30 seconds).
3. Complete a four practice questions and a 24-item questionnaire (10 minutes).
4. Complete a 36-item questionnaire (15 minutes).

**Risks:** The risks involved in this study are minimal, which means they are equal to or less than the risks your child would encounter in everyday life.

**Benefits:** Participants should not expect to receive a direct benefit from taking part in this study.

**Compensation:** Your child may be compensated for participating in this study. Participants have the option to be entered to win a \$100 Amazon gift card. To enter, parents of participants will need to notify the researcher by text at [REDACTED] email at [dwolfe@liberty.edu](mailto:dwolfe@liberty.edu) after their child has participated in the survey. Phone numbers and email addresses will not be linked to participant responses. You will receive a confirmation containing a ticket number that should be retained for verification, should it be drawn.

**Confidentiality:** The records of this study will be kept private. Research records will be stored using one of the most advanced, multi-layer security platforms available for online research (Qualtrics®) and may be used in future presentations. Only the researcher will have access to the

records. After three years, all electronic records will be deleted. Survey responses will remain anonymous and no personal, identifying information will be collected.

**Voluntary Nature of the Study:** Participation in this study is voluntary. The decision whether or not to allow your child to participate will not affect his or her current or future relations with Liberty University. If you decide to allow your child to participate, he or she is free to not answer any question or withdraw at any time, prior to submitting the survey, without affecting these relationships.

**How to Withdraw from the Study:** If your child chooses to withdraw from the study, your child should exit the survey and close his or her internet browser. Your child's responses will not be recorded or included in the study.

**Contacts and Questions:** The researcher conducting this study is Doniel Wolfe. If you have questions, you are encouraged to contact her [REDACTED] or [dwolfe@liberty.edu](mailto:dwolfe@liberty.edu). You may also contact the researcher's faculty advisor, Dr. Rebecca Lunde, at [rmfitch@liberty.edu](mailto:rmfitch@liberty.edu).

If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher, you are encouraged to contact the Institutional Review Board, 1971 University Blvd, Green Hall 2845, Lynchburg, VA 24515 or email at [irb@liberty.edu](mailto:irb@liberty.edu).

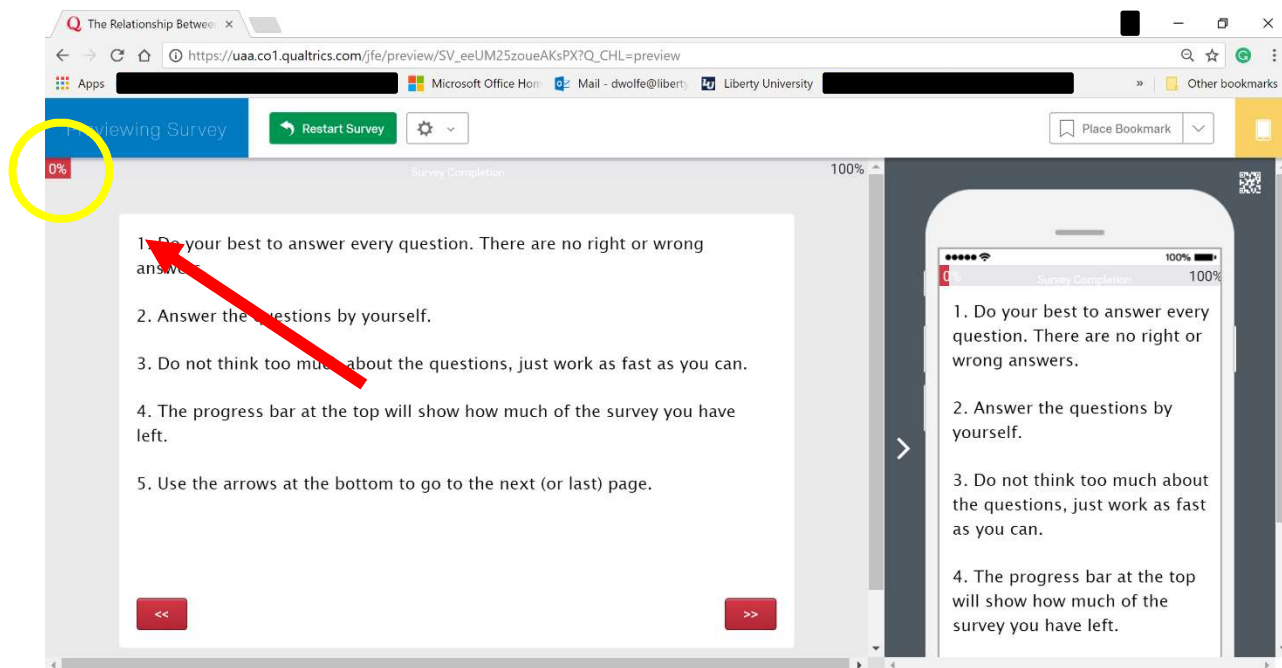
*Please notify the researcher if you would like a copy of this information for your records.*

**Statement of Consent:** I have read and understand the above information. I have asked questions and have received answers. I consent to allow my child to participate in the study.

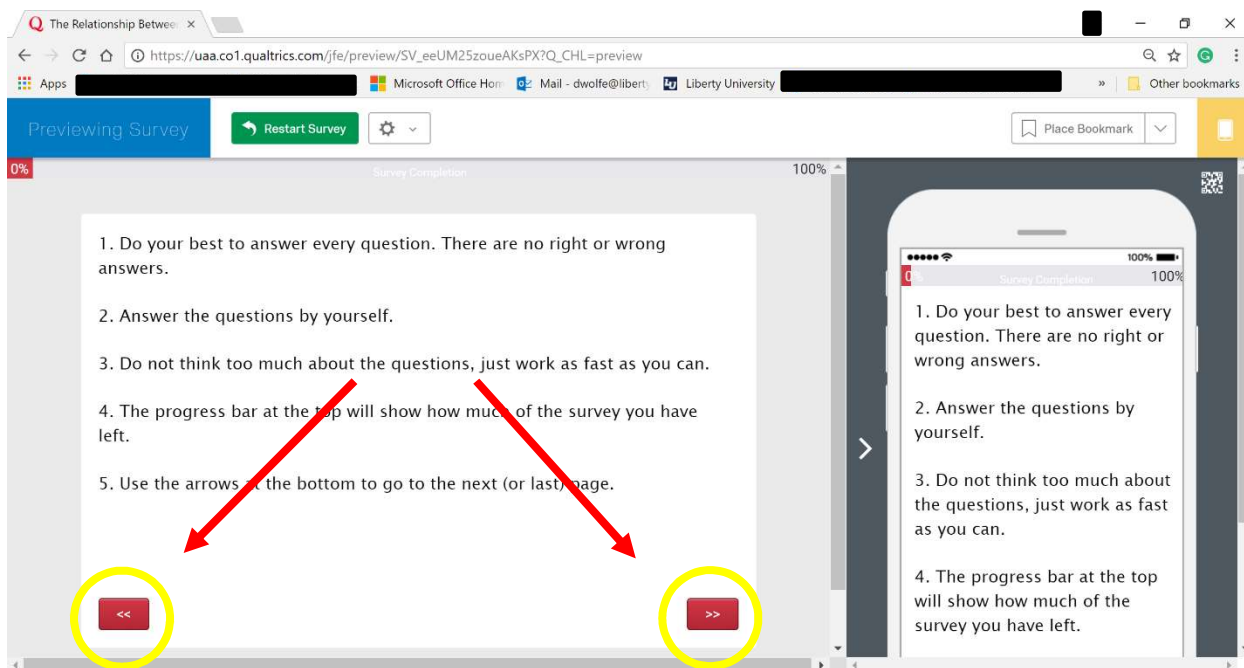
**APPENDIX O: QUICK RESPONSE (QR) CODE**



## APPENDIX P: PROGRESS BAR



## APPENDIX Q: NAVIGATION ARROWS



## APPENDIX R: CHILD ASSENT

The Liberty University Institutional  
Review Board has approved  
this document for use from  
4/1/2019 to 3/31/2020  
Protocol # 3673.040119

### ASSENT OF CHILD TO PARTICIPATE IN A RESEARCH STUDY

**What is the name of the study and who is doing the study?**

“The Correlation between Trait Emotional Intelligence and Feelings of Social Isolation in Students between the Ages of 8-12 that are Homeschooled in Rural and Remote Alaska.” This study is being done by Doniel Wolfe, a graduate student at Liberty University.

**Why are we doing this study?**

We are interested in studying if a child’s personality is related to feeling lonely. If you homeschool in parts of Alaska where there are not a lot of people, it is important to make sure that homeschool families know how they can help their kids do their best.

**Why are we asking you to be in this study?**

You are being asked to be in this research study because you are a homeschool student between 8 and 12-years-old and you do *not* live in Anchorage, Girdwood, Eagle River, Chugiak, or Eklutna.

**If you agree, what will happen?**

First, you will answer five questions about yourself by clicking the bubble next to the answer that best describes you. Then, you will complete two short questionnaires. Please be honest, work alone, and move as quickly as possible. There are no wrong answers.

**Do you have to be in this study?**

No, it is completely up to you! If you do not want to participate, that is fine, the researcher will not be angry. Even if you say yes now, you can change your mind at any time.

**Do you have any questions?**

You can ask questions any time. You can ask now. You can ask later. You can talk to the researcher. If you do not understand something, with an adult’s help, email the researcher at [dwolfe@liberty.edu](mailto:dwolfe@liberty.edu) or call her at (907) 227-0806 so she can explain it to you.

Principal Researcher: Doniel Wolfe  
Faculty Advisor: Rebecca M. Lunde, Ed.D.



[dwolfe@liberty.edu](mailto:dwolfe@liberty.edu)  
[rmfitch@liberty.edu](mailto:rmfitch@liberty.edu)

Liberty University Institutional Review Board, 1971 University Blvd, Green Hall 2845, Lynchburg, VA 24515 or email at [irb@liberty.edu](mailto:irb@liberty.edu).