

Examining the Mindset, Attitude Towards Writing, and Writing Achievement of Elementary-  
Aged Students at an Educational Disadvantage

A Dissertation Presented for the  
Doctor of Philosophy  
Degree  
The University of Tennessee, Knoxville

Beau Michael Whitsett  
December 2019

Copyright © 2019 by Beau Michael Whitsett  
All rights reserved.

### **Dedication**

This work is dedicated to the students of Harlan Elementary School for teaching me about caring for others and perseverance. This work is also dedicated to my family, past and present. Thank you, students and family, for so many opportunities to learn.

### **Acknowledgements**

I acknowledge the Boys and Girls Clubs of the Tennessee Valley. The efforts of the students and staff made this work possible. The efforts of faculty members in the Department of Theory and Practice in Teacher Education also made this work possible. Dr. Sherry Bell provided copies of the Test of Written Language-IV, Dr. Yuejong Park provided assessment resources, and Dr. Deborah Wooten provided children's books for incentives.

I also acknowledge my committee members: Drs. Sherry Bell, Karee Dunn, Steve McCallum, and Merilee McCurdy. Thank you for your help and patience.

## Abstract

The widespread adoption of the Common Core State Standards with greater emphasis on writing and increases in wide-scale state writing assessment accentuate efforts to improve writing achievement (Behizadeh & Pang, 2016; Calkins, Ehrenworth, & Lehman, 2012). Despite efforts to improve outcomes, writing achievement falls short of expectations in schools across the country (National Center for Education Statistics, 2012). Writing achievement is even lower for students at an educational disadvantage, as measured National School Lunch Program participation (Domina, et al., 2018). Researchers have known of the potential for motivational factors to promote writing achievement for many years, while few educators and policymakers are currently tapping into this potentially powerful area to promote improvement (Graham, Berninger, & Fan, 2007; Muenks & Miele, 2017; Tough, 2016). In this study, mindset, attitude towards writing, and writing achievement of upper elementary-aged students at an educational disadvantage are examined. A non-experimental statistical design using correlational calculations and mean difference calculations was used to examine the relationships between variables. Participants were members, ages nine to 12, from five Boys and Girls Clubs in a southeastern region ( $N = 58$ ) who had completed third, fourth, or fifth grades. All attended Title 1 schools. Participants completed a Theories of Intelligence Scale (Dweck, 2000), an adapted Writing Attitude Survey (Kear, Coffman, McKenna, & Ambrosio, 2000), and the Test of Written Language-IV (Hammill & Larsen, 2009). Relationships among variables were examined for all participants, males, and females. Differences in variables based on sex were also examined. Results indicate a significant relationship between mindset and writing achievement ( $p < .01$ ) and between attitude towards writing and writing achievement ( $p < .01$ ) for all participants. Results indicate a significant relationship between mindset and writing achievement ( $p < .01$ ) for female

participants and between attitude towards writing and writing achievement ( $p < .01$ ) for male participants. Mean scores for males and females for each variable do not differ significantly. Educators may benefit from understanding the motivational constructs of mindset and attitude towards writing with the goal of acting to stimulate motivation to help improve at-risk students' writing achievement.

## Table of Contents

|                                                                 |    |
|-----------------------------------------------------------------|----|
| Chapter One: Introduction and General Information.....          | 1  |
| Problem Statement.....                                          | 1  |
| Statement of Purpose.....                                       | 4  |
| Research Questions.....                                         | 4  |
| Overview of Methodology.....                                    | 6  |
| Rationale and Significance.....                                 | 6  |
| Rationale.....                                                  | 6  |
| Significance.....                                               | 7  |
| Role of the Researcher.....                                     | 8  |
| Researcher Assumptions.....                                     | 8  |
| Definition of Key Terminology.....                              | 9  |
| Organization of the Dissertation.....                           | 10 |
| Chapter Two: Literature Review.....                             | 11 |
| Writing Definition and Description.....                         | 12 |
| Writing definition.....                                         | 12 |
| Writing description.....                                        | 12 |
| Writing Process Models.....                                     | 12 |
| Hayes and Flower model.....                                     | 13 |
| Bereiter and Scardamalia model.....                             | 13 |
| Hayes model.....                                                | 13 |
| Zimmerman and Risemberg model.....                              | 14 |
| Model of domain learning applied to writing.....                | 14 |
| Conclusion.....                                                 | 14 |
| Model of Domain Learning.....                                   | 15 |
| Subject-matter knowledge.....                                   | 15 |
| Motivation.....                                                 | 15 |
| Strategic behaviors.....                                        | 16 |
| Model of Domain Learning Applied to Writing.....                | 16 |
| Writing Motivation Framework from Research Reviews.....         | 17 |
| Self-efficacy.....                                              | 18 |
| Goal orientation.....                                           | 20 |
| Interest.....                                                   | 22 |
| Attribution.....                                                | 23 |
| Conclusion.....                                                 | 25 |
| Differences in Writing Motivation by Sex.....                   | 25 |
| Differences in writing achievement and self-beliefs by sex..... | 25 |
| Differences in academic achievement by sex.....                 | 27 |
| Conclusion.....                                                 | 28 |
| Writing Motivation with Mindset.....                            | 28 |
| Mindset's psychological processes.....                          | 29 |
| Mindset as a motivational factor.....                           | 31 |
| Growth mindset & fixed mindset.....                             | 32 |
| Mindset with academic achievement.....                          | 33 |
| Conclusion.....                                                 | 36 |
| Writing Motivation with Attitude.....                           | 36 |
| Attitude with reading.....                                      | 37 |
| Attitude with writing.....                                      | 39 |

|                                                                                            |     |
|--------------------------------------------------------------------------------------------|-----|
| Conclusion.....                                                                            | 42  |
| Conceptual Framework .....                                                                 | 43  |
| Social cognitive theory.....                                                               | 43  |
| Achievement goal theory.....                                                               | 44  |
| Attributional theory.....                                                                  | 44  |
| Affective motivational states.....                                                         | 44  |
| Summary.....                                                                               | 44  |
| Chapter Three: Methodology.....                                                            | 46  |
| Rationale for Research Approach.....                                                       | 46  |
| Research Setting and Context.....                                                          | 47  |
| Research Sample and Data Sources .....                                                     | 48  |
| Data Collection Methods.....                                                               | 49  |
| Instruments.....                                                                           | 49  |
| Procedures.....                                                                            | 56  |
| Data Analysis Methods.....                                                                 | 58  |
| Issues of Trustworthiness .....                                                            | 59  |
| Summary.....                                                                               | 60  |
| Chapter Four: Results .....                                                                | 61  |
| Data Cleaning .....                                                                        | 61  |
| Descriptive Statistics from Instruments.....                                               | 63  |
| Overview of Research Questions .....                                                       | 63  |
| Relationship Between Mindset and Writing Achievement .....                                 | 65  |
| Relationship Between Attitude and Writing Achievement .....                                | 69  |
| Conclusions About Relationships Among Variables .....                                      | 71  |
| Mean Differences in Mindset, Attitude, and Writing Achievement for Males and Females ..... | 71  |
| Conclusions About Mean Differences Among Variables .....                                   | 72  |
| Summary.....                                                                               | 72  |
| Chapter Five: Discussion .....                                                             | 73  |
| Mindset and Writing Achievement.....                                                       | 74  |
| Attitude and Writing Achievement.....                                                      | 76  |
| Mean Differences in Mindset, Attitude, and Writing Achievement for Males and Females ..... | 77  |
| Limitations and Delimitations .....                                                        | 78  |
| Limitations.....                                                                           | 78  |
| Delimitations.....                                                                         | 79  |
| Implications for Practice.....                                                             | 80  |
| Significance of Study.....                                                                 | 81  |
| Future Research .....                                                                      | 82  |
| Conclusions .....                                                                          | 83  |
| References.....                                                                            | 85  |
| Appendices.....                                                                            | 102 |
| Appendix A: Cover Page.....                                                                | 103 |
| Appendix B: Theories of Intelligence Scale.....                                            | 104 |
| Appendix C: Writing Attitude Survey.....                                                   | 105 |
| Appendix D: Recruitment Flyer .....                                                        | 110 |
| Appendix E: Parental Consent.....                                                          | 111 |
| Appendix F: Parent Questionnaire .....                                                     | 112 |
| Appendix G: Study Script .....                                                             | 114 |

|                                        |     |
|----------------------------------------|-----|
|                                        | ix  |
| Appendix H: Student Assent Study ..... | 119 |
| Appendix I: Summary of Results .....   | 120 |
| Vita.....                              | 122 |

## List of Tables

|                                                                                                                                                                                                              |    |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| Table 1. Demographic Information (Age, Race/Ethnicity, and Lunch Status) about All (N=58), Male (n=36), and Female (n=22) Participants .....                                                                 | 50 |
| Table 2. Reliability and Validity Estimates of the Test of Written Language –IV (TOWL-4) Age-based Norms and Grade-based Norms.....                                                                          | 54 |
| Table 3. Test of Written Language –IV (TOWL-4) Subtests .....                                                                                                                                                | 55 |
| Table 4. Internal Consistency Coefficients of Motivational Scales.....                                                                                                                                       | 63 |
| Table 5. Descriptive Statistics for the Composites of the Test of Written Language-IV (TOWL-4) .....                                                                                                         | 64 |
| Table 6. Descriptive Statistics for the Theories of Intelligence Scale, the Writing Attitude Survey, and the Test of Written Language-IV for All Participants (N=58), Males (n=36), and Females (n=22) ..... | 64 |
| Table 7. Correlation Matrix for the Theories of Intelligence Scale, the Writing Attitude Survey, and the Test of Written Language-IV for All Participants (N=58).....                                        | 68 |
| Table 8. Correlation Matrix for the Theories of Intelligence Scale, the Writing Attitude Survey, and the Test of Written Language-IV for Male Participants (n=36) .....                                      | 68 |
| Table 9. Correlation Matrix for the Theories of Intelligence Scale, the Writing Attitude Survey, and the Test of Written Language-IV for Female Participants (n=22).....                                     | 68 |

## **Chapter One: Introduction and General Information**

Motivational variables have evidenced the potential to impact academic achievement positively and negatively (Muenks & Miele, 2017). Academic achievement in writing falls short of expectations for proficiency across the country according to the National Center for Education Statistics ([NCES], 2012). In the present study, a non-experimental statistical design using correlational calculations and mean difference calculations was used to examine writing motivation of upper elementary-aged school students. Participants were members of local Boys and Girls Clubs in the Southeastern part of the United States and attended Title 1 schools. The present study adds to the limited research available on writing motivation and writing achievement by examining multiple relationships between two motivational variables and writing achievement with students from lower socioeconomic homes and communities.

### **Problem Statement**

Writing achievement falls short of expectations in schools across the country. The National Assessment of Educational Progress (NAEP) provides student achievement data in a variety of areas, including writing (NCES, 2012). The NAEP writing assessments are developed by the National Assessment Governing Board and reviewed by the NCES, educators, and other experts (NCES, 2012). NAEP results are operationalized using student percentages of achievement within the following categories: Basic, Proficient, and Advanced (NCES, 2012). A national stratified sample of fourth graders, eighth graders, and 12<sup>th</sup> graders completed writing assessments in 1998, 2002, 2010, and 2017. The results from 2017 are scheduled to be reported in the summer of 2020. Between 1998 and 2011, less than 30% of all fourth graders, eighth graders, and 12<sup>th</sup> graders performed at or above Proficient (i.e., at the Proficient or Advanced level of achievement), while more than 70% of all fourth graders, eighth graders, and 12<sup>th</sup>

graders performed at or below Basic achievement level (Greenwald, Persky, Campbell, & Mazzeo, 1999; NCES, 2012). Writing achievement is lower than reading achievement for this same period (1998-2010) according to NCES (2012).

Writing achievement scores are lower for students with lower socioeconomic status, as measured by Census Bureau/Internal Revenue Service (IRS) data and reported by the NCES (2012). Education researchers regularly use National School Lunch Program (NSLP) participation as a substitution for economic disadvantage reported by the Census Bureau/IRS (Domina, et al., 2018; Hill, Bloom, Black, & Lipsey, 2008; Reardon, Kalogrides, & Shores, 2017). The NSLP serves free meals to students whose “household income is less than 130% of the poverty line and reduced-price lunches to students whose household income is between 130% and 185% of the poverty line” (Domina, et al., 2018, p. 539). Students, parents, or guardians typically self-report total household income information from the previous month of application to receive free or reduced-price meals (Domina, et al., 2018). Findings from a study comparing IRS-reported household income and NSLP status suggest school lunch status is not a reliable proxy for household income (Domina, et al., 2018). However, NSLP status correlates more strongly with test scores and is more predictive of academic achievement than measures of IRS-reported income (Domina, et al., 2018). This may be due to NSLP categories capturing dimensions of academic disadvantage such as income volatility and educator perceptions of family resources (Domina, et al., 2018). Unfortunately, the number of students eligible and participating in free/reduced-price school lunch has been on the rise since 1989 (Tough, 2016). Domina et al. stated that in the year 2018, “[n]early 99% of all public schools offer meals via the NSLP, and close to 60% of school-aged U.S. children regularly receive meals through the program” (Domina, et al., 2018, p. 539). Educationally disadvantaged students, as measured by

NSLP status, are at risk of educational failure and are often referred to as at-risk students (Domina, et al., 2018). At-risk students start school already far behind and continue to lag behind later creating an achievement gap between high and low socioeconomic status (SES) students (Alexander, Entwisle, & Olson, 2007).

Below average writing achievement has also increased in significance because emphasis on writing achievement is now more prevalent with the widespread adoption of the Common Core State Standards (CCSS) (Calkins, Ehrenworth, & Lehman, 2012). The CCSS place a greater emphasis on writing than most state standards of the past. The CCSS recognize writing as a partner with reading and mathematics (Calkins et al., 2012). Subsequently, wide-scale state writing assessment is increasing in the U.S. (Behizadeh & Pang, 2016).

Researchers have known of the potential for motivational factors to promote academic achievement for many years, while few educators and policymakers are currently tapping into this potentially powerful area to promote academic improvement (Muenks & Miele, 2017; Tough, 2016). According to the evidence, motivational factors impact cognitive engagement which in turn influences academic performance either positively or negatively. Greater motivation increases cognitive engagement which increases academic performance (Corno & Mandinach, 1983; Corno & Rohrkemper, 1985; Pintrich & De Groot, 1990; Schunk & Zimmerman, 1994). Researchers agree motivation is a catalyst for writing achievement (Graham, Berninger, & Fan, 2007; Graham, Schwartz, & MacArthur, 1993; Knudson, 1995; Shell, Colvin, & Bruning, 1995; Troia, Harbaugh, Shankland, Wolbers, & Lawrence, 2013; Vrugt, Oort, & Zeeberg, 2002).

In general, skilled writers score higher on measures of motivation than less skilled writers (Graham et al., 1993; Knudson, 1995; Shell et al., 1995; Vrugt et al., 2002). Potentially, mindset

(self-perception of ability) and attitude towards writing (affective disposition towards writing) are motivational factors with power to explain why some students achieve more academically than others (Dweck, 2006; Graham et al., 2007; Walberg & Tsai, 1985). So, mindset and attitude towards writing should be catalysts for writing achievement (Graham et al., 2007; Walberg & Tsai, 1985; Yeager & Dweck, 2012).

### **Statement of Purpose**

The main purpose of the present study is to examine writing motivation of upper elementary-aged school students. The major objective is to examine the relationship between two motivational constructs (mindset and attitude toward writing) and writing achievement. This study broadly adds to the literature about writing achievement for at-risk students. This study specifically adds to the literature about mindset (self-perception/self-theory), attitude toward writing (an affective state), and writing achievement, variables that have been understudied or not specifically studied in the literature.

The study's participants all attended Title 1 schools during the 2014-2015 school year. Title 1 status schools educate at-risk students, at least 40% free/reduced-price lunch participation; there is an acknowledgement that these schools require enhanced supports to equitably educate students. The participants were all upper-elementary school (ages nine to 12) students; the assumption is that students in this age range can accurately assess their performances, ability, and effort (Klassen & Welton, 2009; Nicholls, 1978; Schunk, Meece, & Pintrich, 2014; Stipek, 1981).

### **Research Questions**

Based on the literature, (e.g., MacArthur & Graham, 2016; Troia, Shankland, & Wolbers, 2012) it is predicted that the variables (mindset and attitude towards writing) are significantly

positively correlated with writing achievement. For this study, sex is defined as male or female.

Specific research questions that guided this study were:

1. Is there a significant positive relationship between mindset (as measured by the Theories of Intelligence Scale for Children) and writing achievement (as measured by the Test of Written Language-IV) of at-risk upper elementary-aged students?
  - 1A. Is there a significant positive relationship between mindset (as measured by the Theories of Intelligence Scale for Children) and writing achievement (as measured by the Test of Written Language-IV) for male participants?
  - 1B. Is there a significant positive relationship between mindset (as measured by the Theories of Intelligence Scale for Children) and writing achievement (as measured by the Test of Written Language-IV) for female participants?
2. Is there a significant positive relationship between attitude toward writing (as measured by the Writing Attitude Survey) and writing achievement (as measured by the Test of Written Language-IV) of at-risk upper elementary-aged students?
  - 2A. Is there a significant positive relationship between attitude toward writing (as measured by the Writing Attitude Survey) and writing achievement (as measured by the Test of Written Language-IV) for male participants?
  - 2B. Is there a significant positive relationship between attitude toward writing (as measured by the Writing Attitude Survey) and writing achievement (as measured by the Test of Written Language-IV) for female participants?
3. Is there a significant mean difference in mindset (as measured by the Theories of Intelligence Scale for Children) for male participants and female participants?
4. Is there a significant mean difference in attitude (as measured by the Writing Attitude

Survey) for male participants and female participants?

### **Overview of Methodology**

A non-experimental statistical design using correlational calculations and mean difference calculations was used to examine the relationships between study variables. Participants were members, ages nine to 12, from five Boys and Girls Clubs in a southeastern region ( $N = 58$ ) who had completed third, fourth, or fifth grades. All attended Title 1 schools. Participants completed several measures including a Theories of Intelligence Scale (Dweck, 2000), an adapted Writing Attitude Survey (Kear, Coffman, McKenna, & Ambrosio, 2000), and the Test of Written Language-IV (Hammill & Larsen, 2009). A team of researchers administered the two scales and the writing achievement test to participants in small group settings. Correlational analyses (Pearson  $r$ ) as well as analyses of differences between groups (independent samples  $t$ -test) were conducted to examine the data collected. The relevant statistical tests with all participants for predicted relationships will be one-tailed because correlations are predicted to be positive based on the literature. The relevant statistical tests with male and female participants for predicted relationships will be two-tailed because there are no predictions based on the literature.

### **Rationale and Significance**

**Rationale.** Research about writing achievement and motivation has increased in the last 20 years (Graham et al., 2007). Writing research has shifted from cognitive aspects to non-cognitive aspects following writing process models' inclusion of motivational variables (Hayes & Berninger, 2014; Zimmerman & Risemberg, 1997). Despite an increasing research base about writing achievement and motivation, research exploring the connection of these two fields is still uncommon (Boscolo & Hidi, 2007; Troia et al., 2013).

Previous studies empirically demonstrated that motivational variables of attitude and self-efficacy influence writing achievement (Bruning, Dempsey, Kauffman, McKim, & Zumbrunn, 2013; Graham et al., 2007; Graham, Daley, Aitken, Harris, & Robinson, 2018; Graham, Kiuvara, Harris, & Fishman, 2017; Klassen, 2002; Knudson, 1995; Pajares, 2003; Pajares, Miller, & Johnson, 1999; Saddler & Graham, 2007; Shell et al., 1995). In the current study, the motivational variable of mindset and the motivational variable of attitude toward writing were examined for a specific at-risk population. There is little empirical evidence from the research literature that mindset's relationship to literacy constructs has been examined for this population, and mindset's relationship to writing achievement has not been directly examined (Andersen & Nielsen, 2016; Tate & Warschauer, 2018). The motivational construct of mindset was developed by examining general problem-solving and has been examined with mathematics in numerous studies (Blackwell, Trzesniewski, & Dweck, 2007; Dweck & Leggett, 1988; Good, Aronson, & Inzlicht, 2003).

In the current study, motivation and writing achievement were examined with elementary at-risk students. Few studies have been conducted empirically examining the ability of mindset and attitude towards writing to influence writing achievement with elementary-aged students; many of the studies including these constructs involved older students (Graham et al., 2007; Knudson, 1995; Pajares et al., 1999). In addition, few studies relating motivation and writing achievement include at-risk students as participants (Shell et al., 1995; Troia et al., 2013).

**Significance.** Lack of motivation to write in schools has been a perennial problem for elementary students and teachers (Boscolo & Gelati, 2018). This study is designed to further determine the relationships between two types of motivation (mindset and attitude towards writing) and writing achievement. Boscolo and Gelati stated that students' motivation to write is

not simply a power of “will”, but developed over time by family and school contexts. Mindset and attitude towards writing have the potential to predict or mediate writing achievement for at-risk elementary-aged students so educational supports (cognitive and non-cognitive) may be put into place. Teachers may promote writing achievement with interventions that utilize motivation (Boscolo & Gelati, 2018).

### **Role of the Researcher**

I served as the principal investigator and researcher for this study, which complies with Institutional Review Board (IRB) regulations for research involving human subjects. I developed the research design, then worked with a team of researchers (doctoral students in education and school psychology) and the staff of the Boys and Girls Clubs of the Tennessee Valley (BGCTNV) organization. BGCTNV staff provided access to participants. The research team implemented the study and scored the data. Finally, I analyzed the data and determined conclusions.

### **Researcher Assumptions**

The assumptions underlying the study align with post-positivism. I accept that an objective reality (ontology) exists, but is known only through human limitations of probability (Mertens, 2009; Ponterotto, 2005). For knowledge (epistemology), I assumed facts can be tested empirically, confirmed or disconfirmed, and can be generalized (Eichelberger, 1989). For values (axiology), I assumed the theories, hypotheses, and background knowledge I held as the researcher influenced what was observed, how it was observed, and the outcome of the observations (Chilisa & Kawulich, 2012), although the data were collected using standardized instruments and did not rely on observation. For methodology, I assumed the purpose of research was to find the strength of relationships between variables using psychometric

operationalizations (Chilisa & Kawulich, 2012). The psychometric assumptions for this study align with Classical Test Theory. According to *The Standards of the Educational and Psychological Testing* (American Educational Research Association, 2014), “Classical Test Theory is a psychometric theory based on the view that an individual’s observed score on a test is the sum of a true score component for the test taker and an independent random error component” (p. 216).

### **Definition of Key Terminology**

- *At-risk students* (sometimes referred to as high needs students) are “[s]tudents at risk of educational failure or otherwise in need of special assistance and support, such as students who are living in poverty, who attend high-minority schools..., who are far below grade level, who have left school before receiving a regular high school diploma, who are at risk of not graduating with a diploma on time, who are homeless, who are in foster care, who have been incarcerated, who have disabilities, or who are English learners” (U. S. Department of Education, 2012)
- *Attitude* is “a learned predisposition to respond in a consistently favorable or unfavorable manner with respect to a given object” (Fishbein & Ajzen, 1975, p. 6).
- *Writing Attitude* is “an affective disposition involving how the act of writing makes the author feel, ranging from happy to unhappy” (Graham et al., 2007, p. 518).
- *Mindset* is a self-perception of ability or self-theory of intelligence (Dweck, 2006).
- *Growth mindset* is a self-perception that views ability as able to develop or incremental (Dweck, 2006)
- *Fixed mindset* is a self-perception that views ability as unable to develop or fixed (Dweck, 2006)

- *Motivation* is broadly defined as a requisite in the model of domain learning that includes but is not limited to the components of interest, goals, and self-determinism (Alexander, 1998).

### **Organization of the Dissertation**

This dissertation is organized into five chapters. The Problem, Purpose, Research Questions, Methodology, Rationale, and Terminology of the study are established in Chapter 1, Introduction. How the study adds to relevant literature is framed in Chapter 02, Literature Review. The study design and details of the procedures are described in Chapter 03, Methodology. The study's main findings are organized and reported in Chapter 04, Findings. The study's results are synthesized and discussed in Chapter, 05, Discussion.

## **Chapter Two: Literature Review**

The contents of Chapter Two are organized into three sections: Review of Literature, Conceptual Framework, and Summary. The scope of Chapter Two includes bodies of literature from the fields of education, educational psychology, and psychology. The literature was obtained from education databases, reviewing articles that appeared relevant from the searches by reviewing the references from those articles, and consulting with a reference librarian.

Initially, this literature review contains a description of the bodies of literature to be covered and why. The organization of the literature review section is by theme from broad to narrow content. Synthesis of findings is provided in summaries of each sub-section. First, a definition and description of writing are presented. Next, a description of the writing process is provided with an explanation of how the model of domain learning applied to writing is utilized as a framework. Then, a framework for writing motivation is described. After, writing motivation differences between males and females are described. Reviews of mindset and attitude towards writing follow. The bodies of literature are presented as a critical synthesis of empirical literature with relevant themes of the study. A conceptual framework is provided to theoretically underpin the synthesis of literature. A summary is also provided. The reviewed literature included mostly recent empirical studies from scholarly sources. The scholarly sources were collected from the databases Education Source and Education Resource Information Center (ERIC). The date range of the scholarly material ranges from the 1970's to 2018, with older material serving as seminal works. A reference librarian was consulted to ensure accuracy of the search and content.

## **Writing Definition and Description**

**Writing definition.** As an educational research construct, Bereiter and Scardamalia (2013) defined writing as the composition of text or texts for the purpose of being read by someone else. Writing is also referred to as writing composition and written expression (Bereiter & Scardamalia, 2013; Penner-Williams, Smith, & Gartin, 2009). The term writing achievement is used in educational research as the outcome variable for writing (White, 1994). Writing achievement is the authentication (or proof) of the ability (or skill) to compose text by individuals or groups (White, 1994). Writing achievement may encompass both types of writing, style and grammatical conventions (White, 1994).

**Writing description.** Writing may be described as a complex language art skill. The language art skills are viewing, representing, listening, speaking, reading, and writing (International Reading Association (IRA/NCTE, 2010). Writing and reading are reciprocal language art strands- they are both processes of meaning construction with analogous skills and cognitive processes (Fitzgerald & Shanahan, 2000). However, writing is the most complex language art skill, and as such it is the last to develop. Writing requires the complex physical skills of visual perception for reading with the hand-eye coordination, spatial perception, and the graphic coordination of writing. Writing also requires the complex mental skills of ideation involving conceptualization and linguistics. Research findings on writing in school settings evidence involvement of complex processes (Bereiter & Scardamalia, 2013).

## **Writing Process Models**

Five theoretical models of the writing process have been developed and utilized since 1980 (MacArthur & Graham, 2016). All five theories offer different perspectives about the effective coordination of activities that constitute the writing process (van den Bergh &

Rijlaarsdam, 1996). van den Bergh and Rijlaarsdam asserted that the writing process as a field of study was still in the explorative phase and based mostly on correlational insights. The models are presented chronologically by development.

**Hayes and Flower model.** Hayes and Flower's (1980) seminal model operationalizes the writing process as a problem-solving process. This model includes three components: task environment, cognitive processes, and the writer's long-term memory. Task environment encompasses everything external to the writer that influences performance. Cognitive processes describe the mental operations the writer uses while composing. The writer's long-term memory incorporates topical knowledge, audience, and schemas for accomplishing the purpose of the composing. The model's three components present composing as a goal-directed process.

**Bereiter and Scardamalia model.** One limitation of Hayes and Flower's (1980) model was that it did not account for writing process development. Bereiter and Scardamalia (1987) proposed a model of writing that contrasts the processes of novice writers and proficient writers. This model contrasts a knowledge-telling model for novice writers and a knowledge-transforming model for proficient writers, both with differing components. Knowledge-telling includes mentally representing the assignment, activating topical knowledge, and utilizing discourse knowledge. Knowledge-transforming involves utilizing rhetorical, communicative, and pragmatic limitations.

**Hayes model.** Hayes and Nash's (1996) model, referred to in the literature as Hayes' model, expanded Hayes and Flower's (1980) seminal model. Hayes's model expands the task environment component and modifies the cognitive processes component. This model changes the previous iteration of the long-term memory component to include working memory. This

model also adds a motivation/affect component recognizing that cognitive and affective factors such as goals, beliefs, predispositions, and attitudes impact the writing process.

**Zimmerman and Risemberg model.** Zimmerman and Risemberg (1997) proposed a writing model focused on writing development through self-regulation procedures. This model operationalizes how writers learn and grow through three classes of self-regulatory behaviors: controlling actions, the writing environment, and internal thoughts and internal processes. The perceived success of the self-regulatory strategies may enhance a writer's sense of efficacy.

**Model of domain learning applied to writing.** Alexander (1998) proposed a model of domain learning applied to writing. This model operationalizes development within the domain of writing by the influence of the continual interplay of strategic/self-regulatory behaviors, knowledge, and motivation. This model presents progress toward competence in writing as driven by the force of any one or more of these components (Alexander, 2003).

**Conclusion.** Collectively, all five models of the writing process recognize writing is a complex cognitive problem-solving process (MacArthur & Graham, 2016). These five models of the writing process provide a sophisticated description of cognitive factors at play during composition (MacArthur & Graham, 2016). However, each of these models is recognized as incomplete by MacArthur and Graham. These five models do not take full advantage of the increasingly refined body of motivational theory and research in their explanations of motivational factors (Pintrich, 2000). However, the model of domain learning applied to writing allows exploration of motivational factors within its framework. The model of domain learning applied to writing features the fundamental idea that changes in motivation stimulate writing development (Graham et al., 2017).

## **Model of Domain Learning**

Alexander (1998) described learning in any discipline or domain as a continual process and long-term journey towards competence or expertise. Two assumptions underlie the perspective of domain learning. One, knowledge is in the process of becoming. Therefore, domains are in perpetual formation. Two, there is a distinction between disciplines and domains based on how they are taught and learned. Disciplines are subject-specific and domains have broader applications and may be applied to disciplines. The development of disciplinary or domain learning has three requisites: subject-matter knowledge, motivation, and strategic abilities. The continual interplay of knowledge, motivation, and strategic behaviors allows for a positive change in one component to have positive impact in the other components (Alexander, 2003).

**Subject-matter knowledge.** Subject-matter knowledge, a critical component of domain learning, requires foundational knowledge of the subject at hand, e.g., writing topic knowledge. Without a foundational knowledge, little learning may occur. After foundational knowledge of the subject is acquired, knowledge builds upon itself (Alexander, 1998).

**Motivation.** Motivation, another component of domain learning, is comprised of the three linked components of interest, goals, and self-determinism that affect engagement. One, individual or personal interest is characterized as enduring or absorbing involvement typically associated with one's vocations and avocations. Two, goals may be from three clusters: task-mastery goals, ego-social goals, and work-avoidance goals. Task-mastery goals are individual's desire to master the task before themselves. Ego-social goals are an individual's desire to demonstrate high ability or please others. Work-avoidance goals are an individual's desire to

avoid tasks or perform them with minimal effort. Three, self-determinism (autonomy) characterizes activities individuals undertake by choice (Alexander, 1998).

**Strategic behaviors.** Strategic abilities, a third component of domain learning, are comprised of two sets of components. One, strategic abilities are the abilities to acquire, remember, organize, and transform information. Two, strategic abilities are self-monitoring and self-regulating strategies (Alexander, 1998).

### **Model of Domain Learning Applied to Writing**

Literacy may be classified as a domain of knowledge. Literacy's constituents of viewing, representing, listening, speaking, reading, and writing may also be classified as individual domains of knowledge. Subject-matter knowledge, motivation, and strategic abilities are widely agreed upon requisites for literacy learning by literacy researchers. Therefore, the model of domain learning may be applied to writing (Alexander, 1998).

Graham's (2006) foundational review of literature supports the underlying propositions of Alexander's (1998) model. Graham's review of literature confirms that writing knowledge, motivation, and strategies contribute to writing development. Graham's review shows that learning to write occurs by the continual interplay between the model of domain learning's three components (subject-matter knowledge, motivation, and strategic behaviors) and that any one of the components may propel learning forward. Graham showed that knowledge about writing shapes overall writing development by synthesizing writing research with three tenets. One, "skilled writers are more knowledgeable about writing than less skilled writers" (p. 466). Two, "developing writers become increasingly knowledgeable about writing with age" (p. 466). Three, "the level of knowledge that writers bring to the composing task is related to their writing performance" (p. 466). According to Graham, strategic behaviors shape overall writing

development by synthesizing writing research with one tenet. Graham stated that writing teachers should explicitly teach writing strategies and skills; skills beget skills and shape overall writing. Finally, Graham presented a less generalizable, but important, role of motivation in writing development due to the complex nature of motivation. As experts in the field, Graham et al. (2017) claim Alexander's (1998) model of domain learning as their theoretical model for studying the constructs of writing motivation writing achievement. Graham et al. (2017) stated that the model of domain learning "proposes that movement from acclimation to competence arises, at least in part, from changes in students' strategic writing behaviors and their motivation for writing" (p. 84).

Motivation and writing have been studied from multiple theoretical perspectives (Murphy & Alexander, 2000). Researchers have studied motivation and writing with the four broad mechanisms of achievement motivation: self-efficacy, goal orientations, interest, and attributions (Troia et al., 2012). Self-efficacy, goal orientations, and attributions are cognitive components, while interest is a cognitive component and an affective component (Troia et al., 2012).

### **Writing Motivation Framework from Research Reviews**

Troia et al. (2012) reviewed empirical and theoretical considerations for motivation research in writing. Their review considered research on motivation and writing within the paradigm of a social cognitive perspective. This review summarized writing research into four broad components of achievement motivation: self-efficacy, goal orientations, interest, and attributions. MacArthur and Graham (2016) also reviewed and summarized writing research from a cognitive perspective. Their review summarized three motivational constructs that have been applied to understand writing motivation: self-efficacy, achievement goals, and interest. Authors of the two research reviews agreed upon three of the underlying tenets of achievement

motivation: self-efficacy, goal orientations, and interest. MacArthur and Graham (2016) did not include attributions in their review, theoretically or empirically. Troia et al. (2012) did include empirical findings for attributions, but did not include theoretical implications for attributions. There is less empirical research about attributions and their relationship to writing achievement than self-efficacy, goal orientations, and interest. Attributions are included in this review of literature as they relate to one of the study's constructs, mindset. Figure 1 below displays the relationship of the four broad components of achievement motivation in the domain of writing.

**Self-efficacy.** Self-efficacy has been studied the most of the four motivational components (MacArthur & Graham, 2016). The construct of self-efficacy was developed within Bandura's (1986) Social Cognitive Theory of learning (see Conceptual Framework below). Self-efficacy is commonly defined as a person's judgments of their "capabilities to organize and execute the courses of action required to attain designated types of performances" (Bandura, 1986, p. 391). Findings from studies across research fields evidence that individuals tend to organize and execute action if it makes them feel competent, and individuals tend to avoid organizing and executing action if they think it is beyond their capabilities (MacArthur & Graham, 2016). Further, findings from studies across various populations demonstrate that individual measures of self-efficacy are connected to amount of effort, persistence, and performance (Troia et al., 2012). Study results also indicate that self-efficacy can predict effort, persistence, and performance across populations (MacArthur & Graham, 2016).

Multon, Brown, and Lent (1991) conducted a meta-analysis of self-efficacy and general academic outcomes. The researchers presented a mean effect size of .38 for self-efficacy for 36 studies, which indicates self-efficacy has a medium effect on academic outcomes (Cohen, 1992). Self-efficacy has been examined in studies with writing. In MacArthur and Graham's (2016)

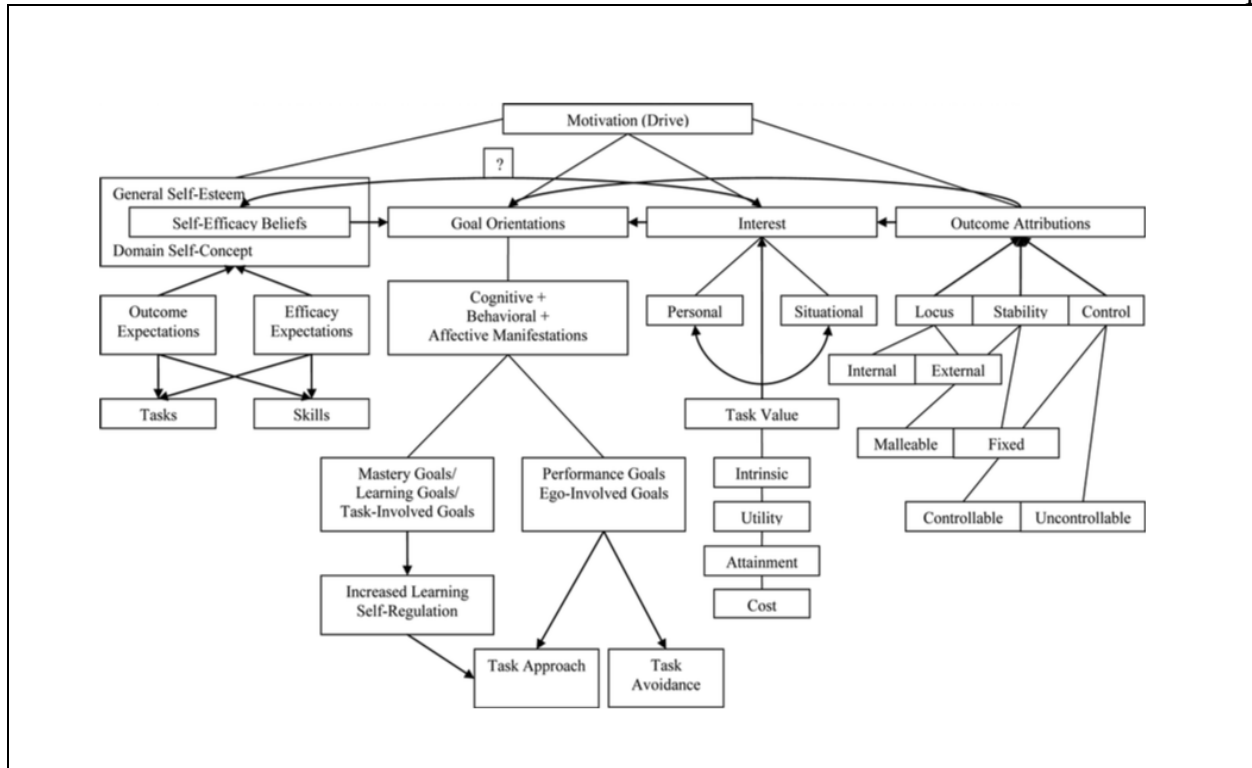


Figure 1. Components of Motivation in Writing Research

*Note.* The relationships between the four components in research of achievement motivation and the academic domain of writing. From Troia, G. A., Shankland, R. K., & Wolbers, K. A. (2012). Motivation research in writing: Theoretical and empirical considerations. *Reading and Writing Quarterly*, 28, 5-28.

review of self-efficacy and writing research, they generalized that self-efficacy consistently contributes to variance in writing outcomes. Further, self-efficacy consistently predicts writing performance, even after controlling for past writing achievement (Bruning & Kauffman, 2016; Graham & Harris, 1989; Pajares et al., 1999; Pajares & Valiante, 1997, 2006); Zimmerman & Bandura, 1994).

In addition, self-efficacy has been distinguished according to two different aspects of writing, skill and task. Self-efficacy about writing skills is referred to as skill efficacy and self-efficacy about writing tasks is referred to as task efficacy. Study findings indicate that skill efficacy has a stronger relationship with writing performance than task efficacy. This may be because skills apply across separate writing tasks (Karaglan, 2003; Pajares & Johnson, 1996). Study findings show task efficacy increases over time, while skill efficacy stabilizes or declines over time (Bruning, et al., 2013; Pajares & Johnson, 1994; Pajares & Valiante, 1997, 2006; Shell et al., 1995).

**Goal orientation.** Goal orientation refers to a broad motivational construct that has been substantially examined with writing research. Troia et al. (2012) define goal orientation as “mental representations of desired outcomes, often embedded in a serially and hierarchically organized framework of proximal and distal sub-goals” (p. 9). MacArthur and Graham (2016) refer to goal orientation as the application of Achievement Goal Theory (see Conceptual Framework below). Achievement Goal Theory postulates achievement goals are a reason people choose to engage tasks (Anderman & Wolters, 2006). Pintrich (2000) defined goals in achievement goal theory as “cognitive representations that they are potentially accessible and conscious” (p. 103). Both MacArthur and Graham and Troia et al. agreed that goal representations are comprised of three main contrasting goal orientations: mastery, performance,

and performance-avoidant. An individual who seeks to develop competence is said to have a mastery goal orientation (MacArthur & Graham, 2016; Troia et al., 2012). Mastery goals are also referred to as learning goals or task-involved goals (Troia et al., 2012). Performance goal orientation is commonly defined as the orientation adopted by an individual who seeks to demonstrate competence relative to others (MacArthur & Graham, 2016; Troia et al., 2012). Performance goal orientation is also referred to as ego-involved goals (Troia et al., 2012). Performance-avoidant goal orientation is commonly defined as the orientation adopted by an individual who seeks to avoid unfavorable judgment by others (MacArthur & Graham, 2016; Troia et al., 2012).

Much research on goal orientations and general academic achievement has been conducted (MacArthur & Graham, 2016). Results indicate a relationship exists between goal orientations and academic achievement (MacArthur & Graham, 2016). Findings from studies across research fields evidence that mastery goals are related positively to achievement and that performance goals are related positively to achievement, while performance-avoidant goals are related to low achievement (MacArthur & Graham, 2016). Research on goal orientations also shows that goal orientations are related to many learning attributes (MacArthur & Graham, 2016; Troia et al., 2012). Mastery goals are related to the attributes of interest, persistence, deep learning strategies, and positive affect (MacArthur & Graham, 2016; Troia et al., 2012). Performance goals are also related to the attributes of demonstrating relative ability, receiving public recognition, and surpassing others (Troia et al., 2012). Performance-avoidant goals are related to the attributes of low interest, poor study habits, and anxiety (MacArthur & Graham, 2016).

Research on goal orientations and writing achievement demonstrates a relationship between goal orientations and writing achievement (MacArthur & Graham, 2016). Many of the studies with goal orientations and writing achievement have been conducted in combination with the variable of self-efficacy (MacArthur & Graham, 2016). Findings from four studies show mastery goals and self-efficacy are positively correlated and performance-avoidant goals and self-efficacy are negatively correlated (MacArthur & Graham, 2016).

**Interest.** The motivational construct of interest has been examined numerous times with writing. Interest may be conceptualized as an affective motivational state and is how a task makes a person feel, ranging from happy to unhappy (see Conceptual Framework below) (Graham et al., 2007). Interest is defined as an affective reaction integrated with cognition (MacArthur & Graham, 2016). Interest's incorporation of both affect and cognition differs from the motivational constructs of self-efficacy, goal orientations, and attributions that are operationalized only with cognition. The construct of interest is comprised of situational interest and individual interest. Hidi and Boscolo (2006) defined situational interest as "an affective reaction that may or may not have a long-term effect on individual's knowledge and value systems" (p. 146) and they defined individual interest as "a relatively enduring predisposition to attend to events and objects, as well as to reengage in activities" (Hidi & Boscolo, 2006, p. 146).

Research findings evidence both situational interest and individual interest to be related to general academic achievement as well as the attribute of attention (Hidi & Renninger, 2006). Research findings also evidence both situational interest and individual interest to be related to writing achievement. Broadly summarized, interest influences quality of writing (Hidi & Boscolo, 2006). Specifically, interest may facilitate writing performance (Albin, Benton, & Khramtsova, 1996; Benton, Corkill, Sharp, Downey, & Khramtsova, 1995). Interest has been

described as a necessary but insufficient element of writing achievement (Hidi & Anderson, 1992; Hidi & McLaren, 1991).

Interest is related to other motivational constructs. Interest may impact the selection of goals and goal orientation. Interest may reflect the value an individual attaches to a task. Value may be broadly defined as personal significance or personal importance. Research indicates that value is related to general academic achievement and to student engagement (Troia et al., 2012).

Interest is related to the motivational construct of attitude. Some researchers use the terms interest and attitude synonymously while other researchers distinguish the two terms with differing characteristics (Potvin & Hasni, 2014). Researchers agree (Potvin & Hasni, 2014) with Krapp and Prenzel (2011) that the two terms may be described as “neighboring motivational concepts” (p. 30). For this literature review, interest and attitude are both included and recognized as similar motivational constructs (Potvin & Hasni, 2014). Attitude is included in this review of literature and its distinction from interest will be detailed below in the section Writing Motivation with Attitude.

**Attribution.** A fourth motivational construct is causal attributions. Though extensively studied in other contexts, attributions have been examined less than the other three motivational constructs in the context of writing achievement (MacArthur & Graham, 2016). The construct of causal attributions was developed within Weiner’s (1986) Attributional Theory that postulates task engagement is influenced by cognitively perceived causes of success and failure (see Conceptual Framework below). Attributions are commonly defined as the cognitively perceived causes of success and failure (Weiner, 1986). Attributions are influenced by an individual’s perceived amount of control, the locus of that control, and the stability of that control (Troia et al., 2012). When an individual attributes the perceived cause of success or failure to personal

factors within their control, that individual is more likely to demonstrate an adaptive motivational pattern. Inversely, when an individual attributes the perceived cause of success or failure to factors outside of their control, that individual is more likely to demonstrate a helpless motivational pattern. Effort and ability may be used to demonstrate. When an individual attributes the perceived cause of success or failure to effort, that individual is more likely to be motivated to perform well. When an individual attributes the perceived cause of success to luck (or ease of task) and failure to ability, that individual is less likely to be motivated to perform well (Troia et al., 2012).

Schunk et al. (2014) reviewed a substantial number of research study findings and concluded that attributions are related to academic achievement. In general, the findings support that high achieving students tend to attribute success to effort, and low achieving students do not attribute success to effort. A small number of research study findings have demonstrated attributions' relationship to writing achievement. For example, Shell et al. (1995) examined the relationship between writing achievement and causal attributions with students ( $N = 364$ ) from fourth, seventh, and tenth grades. Causal attribution data were collected by students self-reporting on a researcher-developed scale of importance of success. Writing achievement data were collected with state standardized writing assessments. Results indicate that higher writing achievement is associated with lower attribution to external cues. In general, writing success is positively correlated to attributing success or failure to effort.

In sum, causal attributions are related to self-efficacy beliefs and have been studied together as constructs. Attributions of success or failure have an impact on persistence, choice, goals, and strategic behavior. Therefore, attributions also impact goal orientations and interest (Troia et al., 2012).

**Conclusion.** Research has connected four broad motivational factors (self-efficacy, goal orientation, interest, and causal attributions) to cognitive engagement, and cognitive engagement impacts school writing performance (Graham et al., 2007; Graham et al., 1993; Knudson, 1995; Shell et al., 1995; Troia et al., 2013; Vrugt et al., 2002). Researchers agree motivation is a catalyst for writing achievement (Graham et al., 2007; Graham et al., 1993; Knudson, 1995; Shell et al., 1995; Troia et al., 2013; Vrugt et al., 2002). In general, skilled writers scored higher on measures of motivation than less skilled writers (Graham et al., 1993; Knudson, 1995; Shell et al., 1995; Vrugt et al., 2002).

### **Differences in Writing Motivation by Sex**

Differences between males and females have been examined throughout the writing motivation literature (Pajares & Valiante, 2006). Differences in students' writing achievement and self-beliefs have been observed (Pajares & Valiante, 2006; Pajares, Valiante, & Cheong, 2006). Differences between males and females according to academic achievement in the areas of reading and math have also been examined (Scheiber, Reynolds, Hajovsky, & Kaufman, 2015).

**Differences in writing achievement and self-beliefs by sex.** Pajares et al. (1999) examined differences in writing achievement and self-beliefs about writing of third, fourth, and fifth graders. Participants were 189 males and 174 females. Students completed a writing essay and five writing self-belief scales. Researchers examined differences based on sex with multivariate analysis of covariance. Results indicate female students scored significantly more favorably on the writing essay, and on measures of apprehension, self-concept, and self-regulation, while male and female students did not differ on perceived usefulness or self-efficacy scores. Pajares and Valiante (1999) replicated the examination of sex differences in writing

achievement and self-beliefs with sixth, seventh, and eighth graders. Participants were 366 males and 376 females. Results indicate female students scored significantly more favorably on the writing essay and perceived usefulness, while male and female students did not differ on scores of apprehension, self-concept, or self-regulation. In general, both elementary-aged and middle grades-aged females scored higher on measures of writing achievement than males. Elementary-aged females scored more favorably than males on most writing self-belief scales, but middle grades-aged differences between females and males on scores of self-beliefs were reversed (Pajares et al., 1999; Pajares & Valiante, 1999).

Pajares and Valiante (2001) examined differences between male and female students in writing achievement, self-beliefs, and gender orientation. Participants were 247 male and 250 female students in sixth, seventh, and eighth grades. A writing essay and self-belief scales were utilized. An adapted Children's Sex Role Inventory (Boldizar, 1991) was utilized to examine how strongly the students associated with stereotypical characteristics of males and females in American society. Researchers examined differences between gender orientations with the entire sample of males and females with multiple regression. Results indicate the gender orientation of feminine correlated with self-efficacy, self-concept, self-regulation, perceived usefulness, task goal orientation, and was not correlated with performance-avoidant goal orientation and apprehension. Results also indicate the gender orientation of masculine correlated with only performance-approach goal orientation. The researchers noted that writing achievement and writing motivation differences between males and females may be a function of gender orientation. Pajares et al. (2006) further examined writing motivation differences between males and females according to gender orientation. The researchers replicated the previous study (Pajares & Valiante, 2001) with a writing achievement measure, self-belief instruments, and a

gender orientation instrument. Participants were 1,266 students in fourth through eleventh grades. Results indicate writing achievement and writing motivation differences between males and females were rendered nonsignificant when beliefs about gender-orientation were controlled. In summary, writing achievement and writing motivation differences between males and females may be a function of gender orientation for upper elementary-aged to high school-aged students (Pajares & Valiante, 2001; Pajares et al., 2006).

Pajares and Valiante (2006) summarized differences between male and female students according to writing motivation and writing achievement in a review of research. Pajares and Valiante stated that “[a]lthough girls typically score better than do boys on writing performance indexes and are rated better writers by their teachers, they do not display the corresponding stronger confidence in their writing capabilities” (p.164). The nature of how males and females self-report their self-beliefs may explain this phenomenon. Pajares and Valiante contended that researchers contend that males are inclined to be more self-congratulatory on self-reports of self-beliefs, while females are inclined to be more modest. Furthermore, writing motivation differences between males and females may be a function of gender-orientation beliefs.

**Differences in academic achievement by sex.** Scheiber et al. (2015) summarized the literature about differences in academic achievement between males and females. There is much empirical evidence that females demonstrate higher scores than males on writing achievement tests such as NAEP. There is also a trend in the literature that the female advantage in writing achievement appears to increase with age. The empirical evidence with math and reading is too inconsistent to draw conclusions about differences between elementary-aged males and females. There is a trend in the literature that males begin to outperform females in math by high school or beyond. The researchers confirmed the findings by examining achievement differences

between males and females with a nationally representative sample of students from ages six to 21 ( $N = 1574$ ). Participants completed the Kaufman Test of Educational Achievement- Second Edition, Brief Form to measure reading, writing, and math achievement. Male and female participants were defined by sex, not by gender orientation. According to univariate analysis, results indicate females scored higher than males on writing with a moderate effect size and scored higher on reading with a small effect size. Furthermore, the magnitude of the difference in writing scores between males and females increased with age, with female writing scores remaining stable while male scores decline. Results also indicate that males age 22 and beyond scored higher on math than females of the same age.

**Conclusion.** Results from examination of writing achievement differences between males and females indicate elementary-aged females tend to score higher on measures of writing achievement than males (Pajares & Valiante, 2006; Scheiber et al., 2015). This trend may increase with age and may be a function of gender-orientation beliefs (Pajares & Valiante, 2006). Results from examination of writing self-belief differences between males and females are inconsistent for elementary-aged students (Pajares & Valiante, 2006).

### **Writing Motivation with Mindset**

Mindset is a motivational factor interrelated to the cognitive motivational factors of self-efficacy, goal orientation, and attribution. Mindset is a self-perception or self-theory (Dweck, 2006). There are two distinguishable mindsets: growth mindset and fixed mindset. Growth mindset is a self-perception that views intelligence as fluid and able to improve. An individual with a growth mindset views intelligence as able to develop, leading to desire for learning (Dweck, 2006). Fixed mindset is a self-perception that views intelligence as stable or set. An individual with a fixed mindset views intelligence as unable to develop, leading to a desire to

appear smart (Dweck, 2006). The review of mindset literature below details the relationship between the cognitive motivational constructs of self-efficacy, goal orientation, and attribution.

**Mindset's psychological processes.** Dweck developed the motivational construct of mindset by identifying patterns of behavior and linking the underlying psychological processes (Dweck & Leggett, 1988). Initially, Dweck and colleagues explored and examined helpless patterns of behavior and mastery-oriented patterns of behavior (Diener & Dweck, 1978; Dweck, 1975; Dweck & Reppucci, 1973). Results led to research linking the underlying psychological processes of goal-orientation and implicit self-theories (Dweck & Elliott, 1983; Dweck & Leggett, 1988).

Dweck and Reppucci (1973) wondered if the maladaptive pattern of animal behavior known as learned helplessness applied to humans. Seligman, Maier, and Greer (1968) defined learned helplessness in animals as “the learning or perception of independence between the emitted response of the organism and the presentation and/or withdrawal of aversive events” (p. 258). First, Dweck and Reppucci (1973) explored helpless and mastery-oriented human behavior by exploring personal responsibility. The term helpless was used to describe and categorize maladaptive human behavior of giving up in the face of failure in achievement situations. The term mastery-oriented was used to describe and categorize adaptive human behavior of not giving up in the face of failure in achievement situations, also referred to as non-helpless behavior. Results determined that learned helplessness may be a conceptualization for understanding behavior of children in achievement situations. Next, Dweck (1975) explored changing helpless behavior by changing individuals' causal attributions for failure. Weiner's (1972) definition of the term attribution was used, i.e., subconscious casual explanation for results after events. Specifically, Dweck (1975) explored changing the attribution of ability or

effort for results after an event by trial with a treatment of telling students to try harder upon failure and giving students a reward upon success. Results indicate that changing a student's attribution for failure in training situations may change a student's attribution for failure in other situations. Dweck added expectation of failure to the definition of the term helpless. Then, Diener and Dweck (1978) explored helpless and mastery-oriented behaviors' relationship to attributions for success and failure during an event and after an event with students. The research was aimed at exploring problem-solving strategies during failure and attributions after failure. Results indicate the differences between helpless and mastery-oriented while experiencing failure and following failure are striking for students. Helpless students verbalized failure and attributed failure to uncontrollable factors such as ability and luck while mastery-oriented students' verbalizations and attributions were solution-directed about effort. Finally, results indicate that helpless behavior and mastery-oriented behavior have salient differences for achievement situations. Results indicate that attribution for failure due to ability and attribution for success due to effort accounted for the salient differences (Diener & Dweck, 1978; Dweck, 1975; Dweck & Reppucci, 1973). Results led to the exploration and examination of the underlying psychological processes of the behaviors (Dweck & Elliott, 1983; Dweck & Leggett, 1988).

Dweck and colleagues explored and examined goal orientation as an underlying psychological process for helpless and mastery-oriented behaviors (Dweck & Elliott, 1983). Findings about goal orientation led to the exploration and examination of implicit self-theories (Dweck & Leggett, 1988). First, Dweck and Elliott (1983) examined goal orientation. Goal orientation was conceptualized as the goals individuals pursue to create the structure within which they interpret and react to events (Dweck & Leggett, 1988). Dweck and Elliott examined goal

orientation by elaborating on previous theories about achievement goals. The underlying processes of achievement goals involving learning goals and performance goals were connected to helpless and mastery-oriented behavior. Next, Dweck and Leggett (1988) explored implicit self-theories as the impetus for goal orientation. Implicit self-theories were conceptualized as implicit conceptions about the nature of ability. Dweck and Leggett stated that learning goals and performance goals may be predicted by an individuals' implicit self-theories. Then, Henderson and Dweck (1990) further demonstrated the predictability of students' theories of intelligence for helpless versus mastery-oriented behaviors. Students who exhibited an incremental theory (ability is controllable) evidenced mastery-oriented behavior while students who exhibited an entity theory (ability is uncontrollable) evidenced helpless behavior. Later, Cain and Dweck (1995) further demonstrated the impact of implicit theories on behavior by exploring the relationship with younger students; the earlier studies were conducted with middle school or high school students.

**Mindset as a motivational factor.** Mindset is a motivational factor interrelated to the three cognitive motivational factors examined with writing: attribution, goal orientation, and self-efficacy. Mindset is interrelated to attribution because attributions for failure due to ability and attributions for success due to effort accounted for salient differences in students' behavior (helpless versus mastery-oriented) in achievement situations (Diener & Dweck, 1978; Dweck, 1975; Dweck & Reppucci, 1973). Mindset is interrelated to goal-orientation because the underlying processes of achievement goals (learning goals and performance goals) are related to helpless and mastery-oriented behavior (Dweck & Elliott, 1983). Mindset is interrelated to self-efficacy because implicit self-theories (implicit conceptions about the nature of ability) serve as

an impetus for goal orientation (Cain & Dweck, 1995; Dweck & Leggett, 1988; Henderson & Dweck, 1990).

**Growth mindset & fixed mindset.** Growth mindset and fixed mindset are self-perceptions that view intelligence differently (Dweck, 2006). An individual with a growth mindset views intelligence as able to develop, leading to desire for learning (Dweck, 2006). An individual with a fixed mindset views intelligence as unable to develop, leading to a desire to appear smart (Dweck, 2006).

**Growth mindset.** As noted, someone with a growth mindset views intelligence as able to develop. This mindset promotes a mastery-oriented reaction to failure (Dweck, 2006). This orientation is referred to as an achievement-orientation by some researchers (Diener & Dweck, 1980). People with this orientation set learning goals (concerned with mastery), which aid success in learning new and difficult things. Growth mindset aligns with an incremental theory of intelligence in which intelligence may be increased by effort (Dweck, 2000). This incremental theory of intelligence leads to a desire to learn. This desire to learn has many general tendencies: embracing challenges, persisting through setbacks, viewing effort as a path to mastery, learning from criticism, and learning lessons from others' success. A growth mindset makes ever-higher levels of achievement possible (Dweck, 2006).

**Fixed mindset.** As noted, someone with a fixed mindset views intelligence as unable to develop. This mindset promotes a helpless reaction to failure, which means once failure occurs the situation is perceived to be out of the person's control. This orientation is referred to as a performance-orientation by some researchers (Diener & Dweck, 1980). People with this orientation blame lack of ability (or intelligence) when failure occurs. People with this orientation set performance goals (concerned with looking smart and doing well), which does not

facilitate learning new and difficult things. A fixed mindset follows the entity theory of intelligence, where intelligence is viewed as being from within and cannot be changed (Dweck, 2000). This entity theory of intelligence leads to a desire to look and appear smart. This desire can have many general tendencies: avoiding challenges, giving up easily, getting defensive with criticism, viewing effort as worthless, feeling threatened by the success of others. A fixed mindset perpetuates early plateauing of achievement (Dweck, 2006).

**Mindset with academic achievement.** Mindset has been used in empirical studies for potentially helping students and teachers succeed academically (Andersen & Nielsen, 2016; Blackwell et al., 2007; Claro, Paunesku, & Dweck, 2016; Davis & Sumara, 2012). In a message to the Canadian Education Association, Dweck (2007) stated growth mindset programs in schools boosted achievement with increased motivation, better grades, and higher test scores. Mindset has been explored in empirical studies with the goal of potentially helping students and teachers achieve. Identifying and shaping students' mindsets may have multiple benefits in helping improve achievement (Blackwell et al., 2007). Teachers, therefore, may have a responsibility to aid in this process (Davis & Sumara, 2012).

**Students.** Empirical evidence supports that students' motivation can benefit in many ways by forming a growth mindset or changing to one with improvement of academic achievement ensuing. Blackwell et al., (2007) conducted two studies highlighting the benefits of growth mindset; results of both studies presented findings suggesting growth mindset aids students to overcome challenges more easily and experience gains in mathematics. These studies tracked typical seventh graders over two years. In one study, students in the experimental group experienced a mediational model including strategies for growth mindset while students in the group control group did not. In the other study, an experimental group of students were exposed

to a growth mindset intervention conducted by teachers while students in a group control group were not. For both studies, teachers reported an increase in students' motivation and an increase in mathematics achievement for students in the experimental groups, while the control group students displayed no change in motivation and mathematics achievement declined.

Students in various populations may benefit from developing a growth mindset. For example, Good et al. (2003) studied high school female math students due to the achievement gap associated with sex and mathematics performance. A group of female students received an intervention in which college students mentored and taught the participants to view intelligence as malleable. The female students (experimental group) produced higher scores on standardized tests of mathematics than projected based on past performance than male students (control group). Results indicate that female students may narrow the achievement gap associated with gender and mathematics performance. A definition of female was not provided based on gender or sex. In another example, Whiting (2006) conducted a study in which Black males were selected as the population because they are underrepresented in gifted education and overrepresented in school disengagement. The study used an intervention, with positive results, to help Black males develop a scholarly identity, which mirrored growth mindset, to increase educational outcomes. Yeager and Dweck (2012) conducted a study with results indicating growth mindset can help instill resilience, defined as producing a good outcome despite threats. Resilience is commonly cited as a component needed for at-risk populations to succeed academically. In general, students (with the same observable characteristics) who exhibit a growth mindset academically achieve higher (Claro et al., 2016; Good et al., 2003; Whiting, 2006; Yeager & Dweck, 2012). Further, results of a study with a national sampling of Chilean

students ( $N = 168, 553$ ) show growth mindset positively tempers the effects of poverty on academic achievement (Claro et al., 2016).

***Teachers & Parents.*** Davis and Sumara (2012) identified Dweck's work with mindset as a potential game changer for teachers. They stated: "teachers play a big role in creating learners' attitudes" (p.35). They explained by giving examples of phrases teachers use to praise students, which perpetuate fixed or growth mindsets. Examples include saying things like "You gave effort" for promoting growth mindset and "You're smart" for promoting fixed mindset. They went on to explain how teachers generally play out or act out their own mindsets. Teachers acting out their mindsets impacts how new material is presented, how tasks are designed, and how feedback is given. In other words, teachers' mindsets impact essentially all aspects of learning for students.

Rowe (2018) summarized literature about socioeconomic differences in parents of students. Rowe stated that the relationships between parents' educational factors and parents' mindsets are inconsistent. However, parents' mindsets impact student achievement. Andersen and Nielsen (2016) conducted a large-scale study ( $N = 1,587$ ) with a parental intervention to promote growth mindset and reading with second grade students in Denmark. The study employed a controlled trial. The treatment group utilized a parental intervention at home. Parents that employed the intervention received children's books along with information about the malleability of reading abilities and information for how to promote reading growth by praising effort rather than ability. The participating children in both treatment and control groups completed a pre-test and post-test of reading (comprehension and decoding) and writing (narrative story writing from prompts). Results indicated all participating children increased achievement in reading and writing after the five-month testing period. The participating

children in the treatment group scored higher on both reading and writing post-tests by an average of three additional months of gains in achievement based on projected average achievement gain. In addition, students made more rapid gains in achievement if their parent's mindset also experienced change towards growth mindset because of conducting the intervention.

**Conclusion.** Mindset is interrelated to the motivational factors of attribution, goal orientation, and self-efficacy (Dweck, 2000). Growth mindset is a self-perception that views intelligence as able to develop, while fixed mindset is a self-perception that views intelligence as unable to develop (Dweck, 2006). Mindset is a motivational variable with utility in examining literacy with at-risk populations (Andersen & Nielsen, 2016; Claro et al., 2016; Good et al., 2003; Whiting, 2006; Yeager & Dweck, 2012).

### **Writing Motivation with Attitude**

Attitude is a motivational factor connected to cognitive engagement that impacts school writing performance (Graham et al., 2007; Graham et al., 1993; Knudson, 1995; Shell et al., 1995; Troia et al., 2013; Vrugt et al., 2002). Attitude may be conceptualized as an affective motivational state (see Conceptual Framework below). Attitude is defined as “a learned predisposition to respond in a consistently favorable or unfavorable manner with respect to a given object” (Fishbein & Ajzen, 1975, p. 6). Seminal literacy research conducted with the construct of attitude has used this generally accepted definition (Graham et al., 2007; Kear et al., 2000). This definition has three features: attitudes are predispositions to action, that action shows consistency, and attitudes are learned. One, attitudes are predispositions which guide or influence behavior. Two, this behavior is consistently favorable or unfavorable toward an object. Three, attitudes are also considered to be learned because the predispositions which guide consistent

favorability are assumed to be from experience (Fishbein & Ajzen, 1975). Attitude may be conceptualized as how a task makes a person feel, ranging from happy to unhappy (Graham et al., 2007).

Attitude and interest are recognized as “neighboring motivational constructs” (Krapp, & Prenzel, 2011, p.30). Some researchers recognize attitude as a superior concept and interpret interest as a particular form of attitude (Krapp, & Prenzel, 2011). Attitude and interest are generally defined differently. The dictionary definitions of interest describe it as affection which increases attention. This differs from general definitions of attitude, which are described by settled ways of thinking and feeling leading to increased attention. The two main differences in these definitions are that interest does not encompass experience or predisposition and that interest does not include thinking. In these general definitions interest is associated with feelings in the present, while attitude is associated with thinking and feelings in the present based on the past. However, attitude and interest are similar when they are defined for psychosocial research, both involve affect. Hidi and Renninger (2006) defined interest as an exclusive motivational variable and psychological state occurring during interactions between persons and objects, events, tasks, or ideas of interest, which increase attention, concentration, affect, and re-engagement. In this definition attitude and interest are very similar, both involve past and present feelings which increase attention. In conclusion, attitude is used as the construct for this literature review because attitude has been used in seminal studies of reading and writing and attitude generally encompasses past and present affection.

**Attitude with reading.** Fishbein and Ajzen (1975) formed the commonly accepted and utilized definition of attitude for psychosocial research. They also suggested its importance as a construct for examining literacy. Alexander and Filler (1976) reviewed the initial research on

attitude towards reading and reading achievement. They presented the evidence of a relationship between attitude and achievement from nine studies with generalizations: more favorable attitudes may result in increased achievement and a positive attitude towards reading in the lower grades may lessen as students get older. However, Alexander and Filler cautioned against the validity of the generalizations due to small number of studies and small sample sizes in the studies.

Walberg and Tsai (1985) explored the relationship between reading achievement and attitude with a stratified national sample of nine-year-old students. The students completed a reading achievement test and an attitude survey. Data for many other variables were collected: dictionary use, spare time reading, and television watched. The strongest correlate of reading achievement was attitude towards reading ( $r = .32$ ), which means attitude has a medium effect on reading achievement (Cohen, 1992).

McKenna and Kear (1990) developed an easily accessible instrument to collect data about students' attitude towards reading, the Elementary Reading Attitude Survey (ERAS). The instrument was developed with desirable psychometric attributes. A sufficient number of students participated in development to create norms for grades one through six, to produce evidence of reliability (estimates ranging from  $r = .74$  to  $r = .89$ ) and validity, and to develop format attractiveness with appropriate group administration features. The ERAS was designed to gather data on students' attitudes' towards reading in two categories, academic reading and recreational reading.

McKenna, Kear, and Ellsworth (1995) explored the relationship between attitude and reading achievement with a stratified national sample of students in grades one through six with the ERAS. The large sample warrants generalizations; 18,185 students participated. General

attitude towards reading (determined by the total score of recreational reading attitude and academic reading attitude) begins at a positive point in grade one and ends in indifference by grade six, suggesting attitude about reading declines with the increase in age in elementary school. A negative general attitude about reading (both academic and recreational combined) is clearly related to ability; students with negative attitudes were lower achievers. Attitude about recreational reading declines for high achieving students at a slower rate than for average and lower achieving students. Attitude about academic reading declines steadily for high, average, and lower achieving students. As a group, females possess more positive attitudes about reading than males across grades while differences in ability were unrelated.

Conradi, Jang, and McKenna (2014) conducted a research review to identify problems with motivation-related constructs in reading research. They acknowledged the importance of motivation in understanding the development and practice of reading. Recent research findings suggest measures of reading motivation account for unique variance in reading achievement measures (Anmarkrud & Bråten, 2009; Conlon, Zimmer-Gembeck, Creed, & Tucker, 2006; Katzir, Lcsaux, & Kim, 2009; Retelsdorf, Koller, & Moller, 2011; Taboada, Tonks, Wigfield, & Guthrie, 2009; Unrau & Schlackman, 2006; Wang & Guthrie, 2004). These studies reinforce the contention that motivation-related constructs help extend understanding of reading development and student practice of reading. However, the Conradi et al. review identified problems in the field of framing underlying constructs and appropriate measurement, which may stem from not defining motivation-related terminology adequately or in ways that can be assessed objectively.

**Attitude with writing.** Research findings about attitude and writing achievement appear consistent with previous research about attitude and reading achievement. Knudson (1991, 1992, 1993, & 1995) explored the relationship between attitude towards writing and writing

achievement with various groups of students between first and eighth grade. Several studies showed that attitude accounted for variance in writing achievement; students with higher writing achievement tend to exhibit more positive attitudes, and attitudes decline across grades. However, the instrument used to measure attitude, a survey developed by Knudson, did not exhibit strong validity or have norms (Graham et al., 2007; Kear et al., 2000).

Kear et al. (2000) developed an easily accessible instrument to learn about students' attitude towards writing, the Writing Attitude Survey. The instrument was developed similarly to the researchers' Elementary Reading Attitude Survey (1990). To allow for generalizations, students from three NAEP regions ( $N = 974$ ) participated in development to create norms for students in grades one through 12 with reliability, validity, format attractiveness, and appropriate group administration considerations. The 28-item survey was designed to gather data on students attitudes towards writing in two categories, academic writing and recreational writing.

Graham et al. (2007) used structural equation modeling to explore the relationship between attitude towards writing and writing achievement with first and third grade students using the Writing Attitude Survey (2000). A composite of multiple measures (holistic essay quality with vocabulary scores, word sequence scores, and score on a standardized test of written expression) was used to measure writing. Graham and colleagues found a linear model with a direct path from writing attitudes to writing achievement fit the data more conclusively than a path from writing achievement to writing attitudes or a reciprocal path. This model suggests attitude leads to achievement but achievement does not lead to attitude. The direct path from attitude to achievement model was based on the premise established by McKenna et al. (1995), which postulated attitude towards reading impacts reading achievement. As a group, females

scored more positively on the measure of attitude towards writing than males, while differences in writing achievement were not detected.

Graham, Berninger, and Abbott (2012) examined if attitude towards writing and attitude towards reading are unique or separable constructs in first and third grade students. An adaptation of the Elementary Reading Attitude Survey and Writing Attitude Survey measured attitudes while a reading and writing were measured in several ways. Findings support the contention that writing attitude and reading attitude are separable constructs. A factor analysis of the attitude measures yielded three factors; a writing factor, a reading factor, and a literacy factor. Attitude towards writing made a unique and significant contribution in predicting writing achievement regarding word count length, correct sequencing, and overall quality.

Attitude towards writing has been examined in various populations. Ismail, Elias, Albakri, Perumal, and Muthusamy (2010) and Sarkhoush (2013) investigated adult English as a foreign language (EFL) students to determine the relationship between writing achievement and multiple motivational constructs including attitude. Ismail et al. used qualitative analysis and determined a relationship between students' attitudes and writing achievement. Similarly, Sarkhoush's findings support writing attitudes' correlation with writing achievement ( $r = .623$ ).

Graham et al. (2017) examined fourth-grade students ( $N = 227$ ) writing motivation and writing achievement with the variables of attitude towards writing and self-efficacy to test predictability of writing achievement. The Test of Written Language, fourth edition (Hammill & Larsen, 2009), was used to measure writing achievement and researcher-developed scales for attitude towards writing and writing self-efficacy were used. Results indicate that together the constructs of attitude towards writing and self-efficacy uniquely and statistically significantly ( $p = .018$ ) contributed to the prediction of writing achievement. Further, Graham et al. (2018)

replicated the above study with seventh-grade students ( $N = 185$ ). Results indicate that together the constructs of attitude towards writing and self-efficacy may account for 7% of the variability in students' writing achievement. As a group, females reported more positive attitudes towards writing, more self-efficaciousness about writing, and higher writing achievement scores than males for both studies (Graham et al., 2018; Graham et al., 2017).

**Conclusion.** Attitude is a motivational construct with utility in examining literacy (Fishbein & Ajzen, 1975). Attitude is associated with predispositions to act favorably or unfavorably based on experiences, which may differ from interest depending on how it is defined (Graham et al., 2007). Findings about attitude towards reading and reading achievement confirmed a postulated model of attitude leading to achievement (McKenna et al., 1995). Similar findings about attitude towards writing and writing achievement were confirmed (Graham et al., 2007). Findings suggest the constructs of reading attitude and writing attitude are separable and unique (Graham et al., 2012). Similar findings about attitudes' relationship to writing achievement have been found in different populations (Ismail et al., 2010; Sarkhoush, 2013). In general, findings about attitude towards writing and writing achievement (Graham et al., 2007; Graham et al., 2018; Graham et al., 2017) support the claim that "girls tend to be better writers than boys" (Troia et al., 2012, p. 645) and are consistent with previous literature about writing achievement with elementary-aged students (Pajares & Valiante, 2006; Scheiber et al., 2015). In addition, findings that females tend to score higher on measures of attitude towards writing than males (Graham et al., 2007; Graham et al., 2018; Graham et al., 2017) are consistent with the previous literature about writing motivation with elementary-aged students (Pajares & Valiante, 2006). The research studies did not provide definitions for how male and female were defined by sex or gender. The terms sex and gender appear to be used synonymously in the research studies.

Using sex and gender synonymously is a problem in educational research as the terms should be clearly defined when possible to clarify the influence of male or female as a group difference (Glasser & Smith, 2008). The participants in the reviewed research about attitude towards writing ranged in age from first grade to adult learner. While there are several studies including participants from lower elementary school grades, few studies about motivation and writing with elementary students exist compared to students older than elementary school age. In addition, findings suggest that together attitude toward writing and self-efficacy collectively predict writing achievement (Graham et al., 2018; Graham et al., 2017).

### **Conceptual Framework**

The theoretical framework for the current study is the model of domain learning applied to writing. Of the model of domain learning applied to writing's three components (knowledge, motivation, and strategies), four conceptual frameworks for the components of motivation were considered: social cognitive theory, achievement goal orientation, attribution theory and affective motivational states (Alexander, 2003). Social cognitive theory, achievement goal orientation, and attribution theory were considered as the underpinnings for the variable of mindset. Affective motivational state was considered as an underpinning for the variable of attitude towards writing.

**Social cognitive theory.** Social Cognitive Theory (SCT) postulates learning is a continuous interaction of individuals, behavior, and the environment (Bandura, 1986). In SCT the interplay of personal, behavioral, and environmental factors may be described by its reciprocal nature, i.e., reciprocal determinism. These factors' reciprocal interaction shapes behavior (Crothers, Hughes, & Morine, 2008). Personal, behavioral, and environmental factors do not occur simultaneously and do not possess equal strength. Behavioral factors may be influenced by personal factors, which may be influenced by environmental factors (Wood &

Bandura, 1989). Personal, behavioral, and environmental factors do not occur simultaneously and do not possess equal strength (Wood & Bandura, 1989). The powerful role of cognition in motivation is emphasized in personal factors (Redmond, 2010). Personal factors are comprised of self-belief of efficacy, goal representations, and anticipated outcomes (Bandura, 1989).

**Achievement goal theory.** Achievement Goal Theory postulates achievement goals are a reason people choose to engage in tasks (Anderman & Wolters, 2006). Pintrich (2000) defined goals in achievement goal theory as “cognitive representations that they are potentially accessible and conscious” (p. 103). Researchers have defined specific goal orientations in various ways (Anderman & Wolters, 2006). Mastery goals, performance goals, and performance-avoidant goals are the types of goal orientations associated with the constructs of this study.

**Attributional theory.** Attributional theory postulates task engagement is influenced by cognitively perceived causes of success and failure (Weiner, 1986). Weiner advanced that people desire to determine why events occur. Causal determinants may be effort, ability, luck, and task difficulty. Attributions are influenced by an individual’s perceived amount of control, the locus of that control, and the stability of that control (Weiner, 1986).

**Affective motivational states.** An affective motivational state is how a task makes a person feel, ranging from happy to unhappy (Graham et al., 2007). Affective motivational states are conceptualized as mood of the three levels of affect: personality traits, moods, and emotions (Anderman & Wolters, 2006). Affective states may occur before, during, or after a task (Perkun, Goetz, Titz, & Perry, 2002).

## Summary

Researchers agree motivation is a catalyst for writing achievement (Graham et al., 2007; Graham et al., 1993; Knudson, 1995; Shell et al., 1995; Troia et al., 2013; Vrugt et al., 2002).

Four broad motivational factors that impact school writing performance have been researched: self-efficacy, goal orientations, interest, and attribution (MacArthur & Graham, 2016; Troia et al., 2012). In this study, I aimed to study the constructs of mindset and attitude towards writing. The construct of mindset was chosen due to its burgeoning potential in the field. The construct of attitude was chosen rather than interest due to attitude's use in seminal works with writing achievement and its inclusion of past and present affect for individuals. Both constructs (mindset and attitude towards writing) are interrelated to self-efficacy, goal orientation, interest, and attribution and are underpinned by known motivational theories.

### **Chapter Three: Methodology**

The purpose of this study is to examine the relationship between two motivational constructs (mindset and attitude toward writing) and writing achievement of at-risk, upper elementary-aged students. This chapter is divided into the following sections: Rationale for Research Approach, Research Setting and Context, Research Sample and Data Sources, Data Collection Methods (Instruments and Procedures), Data Analysis Methods, Issues of Trustworthiness, and Summary.

#### **Rationale for Research Approach**

This study was conducted using a quantitative psychometric paradigm. A non-experimental statistical design using correlational calculations and mean difference calculations was employed to examine two motivational constructs and writing achievement of at-risk, upper elementary students. A non-experimental design was suitable for the study because participants were not assigned to groups randomly and there was no intervention (Thompson, Diamond, McWilliam, Snyder, & Snyder, 2005).

A non-experimental statistical design using correlational calculations and mean difference calculations was suitable for the research questions because relationships between variables were of interest (Gall, Gall, & Borg, 2007; Thompson et al., 2005). Correlational design permits researchers to clarify relationships among several variables, so inferences may be made (Gall et al., 2007; Schunk et al., 2014). The motivational variables examined are inter-related, further justifying correlational design (MacArthur & Graham, 2016; Troia et al., 2012). Moreover, the available sample size of the study also justifies correlational design; Gall et al., suggest a minimum of 30 participants is desirable (15 participants per group for causal-comparative research). Prior sample size calculations confirmed the recommended minimum

number of participants. To predict a significant positive correlation of .33, a sample size of 55 is needed according to power analysis calculations using PASS (2019). To predict a significant positive correlation of .52, a sample size of 21 is needed according to power analysis calculations using PASS (2019). Post hoc power analysis calculations were conducted for the subgroups of males and females. Cohen (1992) proposed specification for power of .80 for general use. Cohen (1992) stated, “a materially smaller value than .80 would incur too great a risk of a Type II error” (p.156). Post hoc power analysis calculations are presented in Chapter 5 for the subgroups of males and females.

### **Research Setting and Context**

The research setting was Boys and Girls Clubs of the Tennessee Valley (BGCTNV), affiliated with Boys and Girls Clubs of America, which has numerous locations around the state and nation. BGCTNV contains 20 local clubs in three counties in East Tennessee. Some of the local clubs in BGCTNV meet in school buildings and others have their own facilities. BGCTNV serves youth and teens in grades K-12, and all local clubs are licensed day care facilities through the state of Tennessee (BGCTNV, 2019). BGCTNV aims to carry out the mission of the national organization, i. e., to enable young people to become responsible citizens in a safe and caring environment (Boys and Girls Clubs of America, 2019). BGCTNV carries out this mission by providing opportunities to enhance healthy lifestyles, success in academics, and good character and citizenship (BGCTNV, 2019).

The research setting was suitable for the study because part of the mission of the BGCTNV is to provide opportunities for academic success. Moreover, Boys and Girls Clubs of America strives to provide opportunities to at-risk students (Boys & Girls Clubs of the Central Savannah River Area [CSRA], 2019). The Boys and Girls Clubs of America “[i]s the only

nationwide, facility-based youth agency with a primary mission of service to girls and boys from disadvantaged circumstances (CSRA, para.1).” In addition, the University affiliated with this study has an established community engagement collaboration with the BGCTNV that has included academic literacy and tutoring programs.

### **Research Sample and Data Sources**

A targeted sampling method was employed. Clubs in the local BGCTNV area were targeted if they served at-risk students, attending Title 1 schools. The sample was recruited based on recommendations from BGCTNV staff members, and data were collected by the university research team. Six BGCTNV clubs that served Title 1 schools were targeted to recruit students that had completed third, fourth, and fifth grades during the 2014-2015 school year.

The targeted sampling procedure was appropriate because Title 1 aspires to meet “the educational needs of low-achieving children in our Nation's highest-poverty schools, limited English proficient children, migratory children, children with disabilities, Indian children, neglected or delinquent children, and young children in need of reading assistance” (U.S. Department of Education, 2004, para. 2). Students considered at-risk might live near and be attending schools in areas where the poverty rate is high, as was the case for students targeted for this study (Kominski, Jamieson, & Martinez, 2011).

The six participating clubs were in one county in East Tennessee. One club provided participants for the pilot phase of the study; the other five clubs provided participants for the final data collection. The six participating clubs served students from 15 Title 1 schools in the county. The percentages of poverty for these schools during 2014-2015 ranged from 61.4% to 96.4% with a mean percentage of 83.4%.

Participants completed third, fourth, or fifth grades during the 2014-2015 school year.

The pilot study included students ( $n = 40$ ) that met the inclusion criteria. The final study included students ( $N = 58$ ) that met the inclusion criteria. Thirty-six males (61.2%) and 22 females (37.9%) participated. All participants were nine, 10, or 11 years old when they completed the instruments. Twenty-eight students were White (48.3%), 22 were Black (37.9%), four were Hispanic (6.9%), and four were Multiracial (6.9%). More than half the participants (67.2%) received free lunch for the 2014-2015 school year. In addition, eight students had diagnosed disabilities. See Table 1 below for demographic information for all, male, and female participants.

The study was conducted in adherence to the “University’s Institutional Review Board (IRB)” guidelines for research ethics, and the study was approved by the IRB. Ethical considerations were made pertaining to participants. The research team collaborated with the education director of the BGCTNV. The potential research sample and data sources were presented to the education director to set data collection schedules. The education director provided the research team access to information about the schools each club served. Staff members at the nine clubs that met the criteria were contacted for recruitment. Eight clubs agreed to participate and help recruit students to participate (one club did not respond to any communication). Staff members at these Eight clubs expressed the opinion that students and their parents would be willing to volunteer to participate. Two clubs were not able to secure participants.

### **Data Collection Methods**

**Instruments.** Two motivational scales, Theories of Intelligence Scale (Dweck, 2000) and Writing Attitude Survey (Kear et al., 2000), were administered in the pilot study ( $n = 40$ ) and

Table 1.

Demographic Information (Age, Race/Ethnicity, and Lunch Status) about All (N=58), Male (n=36), and Female (n=22) Participants

| Characteristic | All <i>N</i> | All % | Male <i>n</i> | Male % | Female <i>n</i> | Female % |
|----------------|--------------|-------|---------------|--------|-----------------|----------|
| Age            |              |       |               |        |                 |          |
| 9              | 27           | 46.6  | 18            | 50.0   | 9               | 40.9     |
| 10             | 22           | 37.9  | 13            | 36.1   | 9               | 40.9     |
| 11             | 9            | 15.5  | 5             | 13.9   | 4               | 18.2     |
| Race/Ethnicity |              |       |               |        |                 |          |
| White          | 28           | 48.3  | 20            | 55.6   | 8               | 36.4     |
| Black          | 22           | 37.9  | 13            | 36.1   | 9               | 40.9     |
| Hispanic       | 4            | 6.9   | 1             | 2.8    | 3               | 13.6     |
| Multi-racial   | 4            | 6.9   | 2             | 5.6    | 2               | 9.1      |
| Lunch Status   |              |       |               |        |                 |          |
| Full Price     | 7            | 12.1  | 5             | 13.9   | 2               | 9.1      |
| Free           | 39           | 67.2  | 22            | 61.1   | 17              | 77.3     |
| Reduced        | 2            | 3.4   | 2             | 5.6    | 0               | 0.0      |
| Missing        | 10           | 17.2  | 7             | 19.4   | 3               | 13.6     |

during the final study ( $N = 58$ ). The Test of Written Language-IV (Hammill & Larsen, 2009) Form A was administered only during the final phase of the study. The two motivational scales were administered in a folder with a cover page designed to elicit demographic information created by the research team (Appendix A). The Test of Written Language-IV (Hammill & Larsen, 2009) materials were utilized. The scales and tests were administered with a pencil and paper. The motivational scales and writing achievement test are described and justified below.

***Theories of intelligence scale.*** To assess participants' mindset, the "Implicit Theories of Intelligence Scale for Children- Self Form" (TOI) (Dweck, 2000) was administered. This scale was designed to measure a child's ideas about intelligence. The "self" form was used rather than the "other" form so participants could report theories of intelligence, and not theories about people in general. The scale has six items. Items 1, 2, and 3 are worded negatively and items 4,

5, and 6 are worded positively (Appendix B). Participants are asked to agree or disagree with statements about change in intelligence. Dweck (2000) noted that items 1, 2, and 3 might be used alone, without items 4, 5, and 6.

The developers of the TOI scale reported construct validity in the form of discriminant validity (Dweck, Chiu, & Hong, 1995). Dweck et al. (1995) determined the TOI scale is unrelated to measures of cognitive ability ( $r = -.12$ ), confidence in intellectual ability ( $r = .02$ ), or self-esteem ( $r = -.01$ ). Use of the Implicit Theories of Intelligence Scale for Children- Self Form (Dweck, 2000) is justified because the pilot data provided an opportunity for evidence of the scale's reliability and the decision to shorten the scale for the final study aligns with the agreed upon desire of the education director of the BGCTNV to obtain reliable results in the least amount of time for the participants. The TOI scale is also justified because the scale validity was reported and this measure is a standard tool in the research literature (Blackwell et al., 2007; Claro et al., 2016).

The TOI during the pilot phase contained items 1-6 (Dweck, 2000). Reliability statistics using a calculation of coefficient alpha to measure internal consistency and item-scale correlations were conducted. The overall coefficient alpha ( $r = .69$ ) is below the commonly accepted standard of  $r \geq .80$ . Therefore, to increase internal consistency, three items were deleted from the piloted scale (items 4, 5, and 6) due to low item-scale correlations. The correlation between item 4 and the first three items collectively was ( $r = .10$ ); the correlation with item 5 and the first three items collectively was ( $r = .05$ ), and the correlation with item 6 and the first three items collectively was ( $r = .22$ ). Consequently, items 4-5 were deleted. All other items met the minimum correlation requirement of .3 or higher ( $r \geq .43$ ) to at least one additional item. The TOI scale during the final study phase consisted of three items with an overall coefficient alpha

of .81 based on data from the pilot sample ( $n = 40$ ). The final TOI scale contained three items. See Appendix B for the TOI scale utilized in the pilot study, item numbers utilized in the final study have an asterisk.

Mean scores were computed for each student's responses for the TOI to examine possible relationships between variables. A mean score of 3.00 and higher indicates the degree of growth mindset, and a mean score of 2.99 and lower indicates the degree of fixed mindset.

During the pilot phase, participants asked for clarification of the directions on the TOI scale. The research team responded to the participants by stating the questions are about views of intelligence. The research team also responded by stating "Intelligence can be thought of as how smart a person is. We are not asking about how smart you think you are, but your views of becoming or staying smart". The research team added clarification with these statements to the directions of the TOI scale for the final study on the administration script (Appendix G).

***Writing attitudes survey.*** To assess participants' attitude towards writing, the Writing Attitude Survey (WAS) (Kear et al., 2000) was administered. This survey was designed to measure a child's attitude towards writing and modeled after the Elementary Reading Attitude Survey (McKenna & Kear, 1990). The scale has 28 items. Items 1-27 are worded positively and item 28 is worded negatively. Participants are asked to report how they feel about writing scenarios on a Likert-like scale of happiness from 1-4 (Kear et al., 2000).

Kear et al. (2000) stated results from the WAS demonstrate validity because the WAS was developed by examining writing attitude instruments used by Knudson (1991, 1992, 1993). Utilizing the adapted WAS survey (Kear et al., 2000) is justified because the pilot data provided an opportunity to evidence the survey's reliability. The WAS survey is also justified because the measure is a standard tool in the research literature (Graham et al., 2012; Graham et al., 2007).

The WAS survey during the pilot phase (Kear et al., 2000) contained items 1-27. Item 28 from the original survey was deleted because the item was the only item written with negative phrasing, which was determined to have provide potential confusion to participants. Reliability statistics using a calculation of coefficient alpha to measure internal consistency and item-scale correlations were conducted. The overall coefficient alpha ( $r = .82$ ) is above the commonly accepted standard of  $r \geq .80$  (Gall et al., 2007). Five items were deleted (items 6, 11, 12, 16, and 23) from the original scale because they failed to correlate at .3 or higher with the total scale score. An additional seven items were deleted in order to minimize the overall time for participants to complete the scale and because items exhibited redundancy with other higher item-scale reliability items. After recalculating the overall coefficient alpha, all remaining items met the minimum requirement ( $r \geq .3$  with the total scale score). The final WAS scale consisted of 16 questions and had an overall coefficient alpha of .87 based on data from the pilot sample ( $n = 40$ ). The decision to shorten the scale aligns with the agreed upon desire of the education director of the BGCTNV to obtain reliable result in the least amount of time for the participants. Mean scores were computed for each student's responses for the WAS to examine possible relationships between variables. A mean score of 0.00 to 2.00 indicates the degree of negativity with 0.00 being the most negative, and a mean score of 2.01 to 4.00 indicates the degree of positivity with 4.00 being the most positive. See Appendix C for the WAS survey utilized in the pilot study, item numbers utilized in the final study have an asterisk.

***Test of Written Language- IV.*** To assess writing achievement, the Test of Written Language- IV (TOWL-4) (Hammill & Larsen, 2009) was administered to the final study participants. The TOWL-4 is a norm-referenced assessment for measuring attainment of writing achievement. It was designed for administration to individuals or small groups of people from

Table 2.

## Reliability and Validity Estimates of the Test of Written Language –IV (TOWL-4) Age-based Norms and Grade-based Norms

|                                  | Internal<br>Consistency | Alternate<br>Form | Test-retest     | Interrater      | Construct<br>Validity |
|----------------------------------|-------------------------|-------------------|-----------------|-----------------|-----------------------|
| Reliability/Validity<br>Estimate | $\alpha = .71 - .97$    | $r = .55 - .96$   | $r = .70 - .99$ | $r = .72 - .99$ | $r = .19 - .60$       |

*Note.* Reliability/validity estimates are presented in the examiner's manual. From Hammill, D. D., & Larsen, S. C. (2009). Test of Written Language (4th ed.). Pearson.

ages 9-0 to 17-11 with an average administration time of 90 minutes. Generally, there is evidence that the TOWL-4 has acceptable reliability (coefficient alphas) and validity (correlation coefficients) for the purposes of research. The TOWL-4 manual contains information about the psychometric properties of the test, reliability and validity estimates are reported in ranges due to the availability of age-based norms or grade-based norms. See Table 2 above. The TOWL-4 is comprised of seven subtests. See Table 3 below. The seven subtests combine to create two composites: Contrived Writing and Spontaneous Writing. Contrived Writing and Spontaneous Writing are combined to form an Overall Writing score. Contrived Writing measures more discrete aspects of writing: vocabulary, spelling, punctuation, logical sentences, and sentence combining. Spontaneous Writing measures more functional writing ability or quality: contextual conventions and story composition. The sections of Spontaneous and Contrived can be measured separately or together. The test has two forms: A and B (Hammill & Larsen, 2009). The Spontaneous Writing section is scored with developed criteria for contextual conventions and story composition using quantifiable data. The Contrived Writing section is scored with criteria for each subtest of vocabulary, spelling, punctuation, logical sentences, and sentence combining. The raw scores may be altered into percentiles and standard scores for each subtest, Spontaneous

Table 3.

## Test of Written Language –IV (TOWL-4) Subtests

| Subtest                                        | Measures                                                                                                                                                                                                                                            |
|------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Vocabulary<br>(33 items)                       | Write a sentence that incorporates a stimulus word.                                                                                                                                                                                                 |
| Spelling<br>(26 items)                         | Write sentences from dictation, taking particular care to make proper use of spelling rules                                                                                                                                                         |
| Punctuation<br>(26 items)                      | Write sentences from dictation, taking particular care to make proper use of punctuation and capitalization rules                                                                                                                                   |
| Logical Sentences<br>(22 items)                | Edit an illogical sentence so that it makes better sense.                                                                                                                                                                                           |
| Sentence Combining<br>(23 items)               | Integrate the meaning of several short sentences into one grammatically correct written sentence.                                                                                                                                                   |
| Contextual<br>Conventions<br>(21 items/rubric) | Write a story in response to a stimulus picture. Points are earned for satisfying specific arbitrary requirements relative to orthographic (e.g. punctuation, spelling) and grammatic (e.g. sentence construction, noun-verb agreement) conventions |
| Story Composition<br>(11 items/rubric)         | Write a story that is evaluated on the quality of its composition (e.g. vocabulary, plot, prose, development of characters, interest to reader)                                                                                                     |

*Note.* From Hammill, D. D., & Larsen, S. C. (2009). Test of Written Language (4th ed.). Pearson.

Writing, Contrived Writing, and Overall Writing. Use of the TOWL-4 is justified because the assessment is designed to identify a writer's current level of performance, determining a writer's strengths and weaknesses, and document progress (Hammill & Larsen, 2009). Overall Writing scores were utilized for measuring participants' writing achievement.

**Procedures.** The study was conducted at six local clubs of BGCTNV in late-May and early-June 2015. Participants were recruited two to three weeks prior to implementation. The education director of each local club helped facilitate recruitment of students who met eligibility criteria. Participants received free age-appropriate children's literature for participation, donated from a professor of literacy. The education directors sent flyers home with targeted participants and posted a flyer at the entrance of each local club to promote participation (Appendix D). The flyers that were sent home contained the required Parental Consent Form (Appendix E). Students' Demographic information was provided by the local clubs by participants' parents. Local club Education Directors provided access to participants' membership applications that included sex, race, birthdate, zip code, school, and lunch status. Additional demographic information (child's native language, parents' native languages, and disability status) was elicited by attaching a Parent Questionnaire to the Parental Consent Form (Appendix F).

The research team administered three measures included in this study (TOI, WAS, and TOWL-4). In addition, three other measures that were included as part of a larger data gathering effort ("Narrative Efficacy Scale (NES), Skills Efficacy Scale (SES), and Attributions Scale (AS)" (Martin, 2016). The research team included me (a doctoral student in Elementary Education), a doctoral candidate in Special Education, and a doctoral student in School Psychology. The research team administered the measures in small groups with participants, and a script was developed to ensure standardized administration (Appendix G). The groups of

participants ranged in size from two to 25. Most sessions were conducted with two research team members, with at least one at every session, based on the estimated number of participants in each session. Sessions did not include more than 25 participants per session, with at least one research team administrator for every 12 participants. At least one week after the original assessment date at each participating club, the research team administered make-up assessments in small groups to participants who were absent for the initial assessment session.

Order of administration of measures was consistent across sessions, including the pilot phase. The total administration time was around 120 minutes per session with a break after 45-60 minutes. First, participants self-reported name, date, sex (male or female), school, grade, birthday, age, and club name on a Cover Page (Appendix A) to confirm the information provided by BGCTNV and provided by the Parental Consent Form (Appendix E). Next, participants completed the Student Assent forms (Appendix H). Then, motivational scales were administered aloud to students. Students were given the option to complete the scales at their own pace if desired without moving to the next scale until directions were read aloud. Motivational scales were color-coded to aid administration. Students completed the scales in order (based on scale content) from more general perceptions to more specific perceptions. The TOI scale and WAS survey were administered before the AB, SES, and NES scales. After, The TOWL-4 was administered. The administration decision for TOWL-4 completion after the motivational scales was in order to increase reliability of the motivational scales due to potential participant fatigue and/or bias after taking a writing test. Later, measures were scored after data were collected. Raw scores were used for the motivational scales. Two research team members conducted a test of scoring fidelity with TOWL-4 Form A. The two members scored all participant TOWL Form-A attempts. Team members scored the entire Form-A tests of half the participants. Protocols

were swapped and team members scored the other half. Scoring disagreements were noted based on the TOWL-4 scoring manual before swapping protocols and rescored. The team reached 100% interrater agreement based on agreed upon understandings of TOWL-4 scoring manual determined in consensus meetings. Finally, participants' demographic information and all dependent variables were placed into databases using Microsoft Excel and SPSS. Motivational scale data were entered by two team members simultaneously and checked to ensure accuracy; TOWL-4 data were entered by one team member and checked by another. All participant data were coded to protect confidentiality. Hardcopy data were kept in a locked cabinet on campus per IRB guidelines.

### **Data Analysis Methods**

Data analysis methods for this study began with data cleaning; then multiple methods were employed based on the purpose of the study. A 12-step data cleaning method was utilized (Morrow & Skolits, 2011). Data analyses were conducted with correlational analyses and independent samples t-tests to determine group differences between the participant characteristic of sex. Correlational analyses were conducted to examine the relationships between motivational variables and writing achievement (Gravetter & Wallnau, 2011). The data analysis methods are described below and justification is provided.

Multiple methods for data analysis address the research questions. The data analysis method for Research Questions 1 and 2 are grouped together. Data analysis methods for Research Questions 3 and 4 are also grouped together.

For Research Questions 1-2, correlational analyses (Pearson correlation) were conducted to examine the relationships between motivational variables and writing achievement for all participants, males, and females. (Gravetter & Wallnau, 2011). Pearson correlation measures the

linear relationship between variables yielding the relationship's degree and direction (Gravetter & Wallnau, 2011). For Research Questions 3-4, independent samples t-tests were conducted to examine the relationship between variables regarding differences in participants (Tabachnick & Fidell, 2013). T-tests are used to compare two means to see if there are reliable differences between groups of participants. T-tests were calculated to examine the differences in the mean scores for TOI and WAS based on sex (Tabachnick & Fidell, 2013). T-tests were also calculated to examine the differences in the mean scores for the TOWL-4 based on sex (Tabachnick & Fidell, 2013).

### **Issues of Trustworthiness**

Measures were taken to assure trustworthiness of the study. The motivational measures were piloted before use in the final study to determine internal consistency. Items were deleted to maximize reliability. Results from both motivational scales evidence reliability based on their prior use in the literature. The research team strived for standardization of administration of the scales by developing a script. The script was rehearsed before the pilot phase and adhered to throughout the study.

Evidence of the integrity of the writing achievement measures is presented in the test manual (Hammill & Larsen, 2009). The research team strived for standardization of administration and scoring of the TOWL-4. The team followed the TOWL-4 administration guide throughout the study. Notes were also taken during each session for the purposes of data analysis. For example, one student declined the motivational scales and was excluded from analysis. Measures of interrater agreement were calculated based on the TOWL-4 scoring guide before proceeding with data analysis.

**Summary**

A non-experimental statistical design using correlational calculations and independent samples t-test calculations was employed to examine relationships between two motivational constructs and writing achievement of at-risk upper elementary students. The research study was examined through a quantitative psychometric paradigm adhering to research standards from the literature. The research setting and context were six local Boys and Girls Clubs in the summer of 2015. The research sample consisted of participants from Title 1 schools using the TOI and WAS scales and the TOWL-4. Procedures followed university faculty recommendation, university IRB approval, and BGCTNV Education Direction recommendations. The data analysis methods followed research standards from the literature. Issues of trustworthiness were considered through the utilization of a pilot and adherence research guidelines.

## **Chapter Four: Results**

The purpose of this study was to examine relationships between two aspects of writing motivation (mindset and attitude towards writing) and writing achievement. The study was also designed to examine relationships between writing motivation and writing achievement as a function of sex. Data were cleaned prior to conducting analyses. Results are presented in the order of the posed research questions. The chapter is organized into these sections: Data Cleaning, Descriptive Statistics, an Overview of Research Questions, Relationships between constructs, Conclusions, and Summary.

### **Data Cleaning**

Data for the final study were cleaned prior to conducting analyses using the 12-step data cleaning process suggested by Morrow and Skolits (2011). Consistent with Step One, a data codebook was created for all variables: Theories of Intelligence scale (TOI) (Dweck, 2000), Writing Attitude Survey (WAS) (Kear et al., 2000), and Test of Written Language-IV (TOWL-4) (Hammill & Larsen, 2009). For Step Two, a data analysis plan was created to assure clean data and opportunities for analyses. For Step Three, initial frequencies were generated for all variables safeguarding against data entry error. For Step Four, potential coding mistakes were checked, and missing values were compared to the raw data. For Step Five, variables were created by generating mean scores for the motivational variables of TOI and WAS to allow examination among variables. For Step Six, frequencies and descriptive statistics were generated for all variables. For Step Seven, a search for outliers yielded no extreme scores based on the new frequencies and descriptive statistics. For Step Eight, normality was assessed. For TOI & WAS, the skewness values all fall within  $\pm 1$  and kurtosis values all fall within  $\pm 1$ , which is considered normal by Tabachnick and Fidell (2013). Tabachnick and Fidell consider data to be

normally distributed if the values are within the range of  $\pm 2$ . The Shapiro-Wilk test was conducted to evaluate the normality of the distribution of the overall composite scores of the TOWL-4. The significance value is .46,  $p > .05$ . Therefore, the data do not significantly deviate from a normal distribution (Gall et al., 2007). For Step Nine, cells were analyzed for missing data. Nine participants lacked information about lunch status, but all nine students attended Title I schools so they remained eligible. Four participants reported differing data for grade level than the grade level data provided by BGCTNV. After a failed attempt to clarify the grade levels with the local clubs, the grade level the participant designated was used in the database. Participants with no missing scores for the two motivational scales and TOWL-4 were retained in the database. For Step Ten, cell sample size was checked for adequacy, and the largest sample size compared to the smallest sample size yielded a ratio of less than 4 to 1. Sample sizes for each attribute are adequate for conducted analyses by sex. For Step Eleven, final frequencies and descriptive statistics were generated and are reflected in the research sample section ( $N = 58$ ). For Step Twelve, assumption testing, data distribution assumptions were met for correlational analyses and independent samples t-tests by examining internal consistency of the instruments. The reliability of the TOI and WAS variables was examined with two internal consistency analyses and by checking the restriction of range phenomenon for TOWL-4 scores. See Table 4 below. The overall Cronbach's alpha for the three-item TOI used in the study was .69. and the Spearman-Brown coefficient (for split halves) was .75. The overall Cronbach's alpha for the modified WAS used in the study was .86 and the Spearman-Brown coefficient was .85. All coefficients except Cronbach's alpha for the TOI were greater than .70, which evidences acceptability for evidence of internal consistency (Salvia, Ysseldyke, & Witmer, 2016).

The restriction of range phenomenon was checked for the TOWL-4 composites because

Table 4.

## Internal Consistency Coefficients of Motivational Scales

|                                        | TOI | WAS |
|----------------------------------------|-----|-----|
| Cronbach's Alpha                       | .69 | .86 |
| Spearman-Brown split half coefficients | .75 | .85 |

*Note.* TOI = Theories of Intelligence Scale; WAS = Writing Attitude Survey. The items were split (evens and odds) for the Spearman-Brown coefficient calculations.

the participants were from Title 1 schools and at risk for underachievement. The means of these composites scores do not evidence restriction of range as they are near the population standard score mean and the sample deviations approximate the normal sample standard deviations. The examiner's manual reports that the composite indexes (standard scores) have a population mean set to 100 and a standard deviation of 15. Scores within 90 to 110 are considered "average" (Hammill & Larsen, 2009). See Table 5 below.

### Descriptive Statistics from Instruments

Means, standard deviations, and ranges of scores were calculated for the TOI scale and WAS survey responses. These descriptive statistics were also calculated for the TOWL-4 overall writing composite scores. Calculations were made for all study participants and for males and females. See Table 6 below.

### Overview of Research Questions

Research questions related to mindset, attitude towards writing, and writing achievement of at-risk, elementary-aged students guided this study. For Research Question 1, the relationship between mindset and writing achievement for all participants and for male and female participants was examined. For Research Question 2, the relationship between attitude toward writing and writing achievement for all participants and for male and female participants was

Table 5.

## Descriptive Statistics for the Composites of the Test of Written Language-IV (TOWL-4)

| <i>M</i>              | <i>SD</i> | Min   | Max  |       |
|-----------------------|-----------|-------|------|-------|
| Contrived Composite   | 97.97     | 16.61 | 73.0 | 144.0 |
| Spontaneous Composite | 104.97    | 16.84 | 58.0 | 150.0 |
| Overall Composite     | 99.82     | 16.17 | 68.0 | 145.0 |

*Note.* *M* = mean; *SD* = standard deviation; Min = minimum score; Max = maximum score

Table 6.

## Descriptive Statistics for the Theories of Intelligence Scale, the Writing Attitude Survey, and the Test of Written Language-IV for All Participants (N=58), Males (n=36), and Females (n=22)

|               | <i>M</i> | <i>SD</i> | Min   | Max    |
|---------------|----------|-----------|-------|--------|
| TOI All       | 3.72     | 1.30      | 1.67  | 6.00   |
| TOI Male      | 3.93     | 1.31      | 1.67  | 6.00   |
| TOI Female    | 3.38     | 1.24      | 2.00  | 6.00   |
| WAS All       | 2.74     | 0.53      | 1.25  | 3.94   |
| WAS Male      | 2.68     | 0.54      | 1.25  | 3.75   |
| WAS Female    | 2.85     | 0.51      | 2.06  | 3.94   |
| TOWL-4 All    | 99.83    | 17.43     | 62.00 | 145.00 |
| TOWL-4 Male   | 97.86    | 18.20     | 62.00 | 145.00 |
| TOWL-4 Female | 103.05   | 15.97     | 75.00 | 134.00 |

*Note.* *M* = mean; *SD* = standard deviation; Min = minimum score; Max = maximum score; TOI = Theories of Intelligence Scale; WAS = Writing Attitude Survey; TOWL-4 = Test of Written Language-IV.

examined. Research Questions 3 and 4 required examination of the mean differences in mindset, attitude towards writing and writing achievement for male participants and female participants.

The results of analyses are described below by order of research question. For Research Questions 1 and 2, the relationships between the motivational variables and the writing achievement variable are presented for all participants, males, and females. The reported *p* values for the correlational analyses with all participants are one-tailed (because previous literature suggests that motivation and writing are positively correlated). The reported *p* values for the correlational analyses with males and females are two-tailed (because the literature on motivational differences between males and females is inconclusive). Guidelines by Cohen (1992) and Hopkins (2002) were used to aid in interpreting the magnitude of correlations. Cohen (1992) stated correlational coefficients of .10 are small, .30 are medium, and .50 are large. Hopkins (2002) reinterpreted Cohen's work and developed a new scale suggesting correlational coefficients of .10 are small, .30 are moderate, .50 are large, .70 are very large, and .90 and above are nearly perfect. Hopkins' (2002) interpretation is used throughout this study to characterize results obtained from correlational analyses. For Research Questions 3 and 4, the mean differences between sex are compared and effect sizes were calculated Cohen's *d*. The benchmarks suggested by Cohen (1992) are used to interpret effect sizes: small ( $d = 0.2$ ), medium ( $d = 0.5$ ), and large ( $d = 0.8$ ).

### **Relationship Between Mindset and Writing Achievement**

Research Question 1 addresses the relationship between the mindset of students and writing achievement: Is there a significant positive relationship between mindset (as measured by the Theories of Intelligence Scale for Children) and writing achievement (as measured by the Test of Written Language-IV) of at-risk upper elementary-aged students? A Pearson Product

Moment Correlation Coefficient provided evidence of the strength of association between the TOI scores and TOWL-4 writing composite scores for all participants. Results indicate a significant moderate positive correlation between these two variables,  $r(58) = .33, p < .01; r^2 = .11$ . Figure 2 below provides a visual representation of the correlation for all participants. Table 7 provides a correlation matrix for mindset, attitude towards writing, and writing achievement for all participants.

Research Question 1A addresses the relationship between the mindset of students and writing achievement for males: Is there a significant positive relationship between mindset (as measured by the Theories of Intelligence Scale for Children) and writing achievement (as measured by the Test of Written Language-IV) for male participants? A Pearson Product Moment Correlation Coefficient provided evidence of the strength of association between the TOI scores and TOWL-4 writing composite scores for males. Results are not statistically significant,  $r(36) = .27, p > .05; r^2 = .07$ . Table 8 provides a correlation matrix for mindset, attitude towards writing, and writing achievement for male participants.

Research Question 1B addresses the relationship between the mindset of students and writing achievement for females: Is there a significant positive relationship between mindset (as measured by the Theories of Intelligence Scale for Children) and writing achievement (as measured by the Test of Written Language-IV) for female participants? A Pearson Product Moment Correlation Coefficient provided evidence of the strength of association between the TOI scores and TOWL-4 writing composite scores for females. Results indicate a significant large positive correlation between these two variables,  $r(22) = .58, p < .01; r^2 = .34$ . Table 9 provides a correlation matrix for mindset, attitude towards writing, and writing achievement for female participants.



Figure 2. Scatterplot of Correlations Between the Theories of Intelligence Scale (TOI) and the Test of Written Language-IV (TOWL) for All Participants (N=58)

*Note.* X = Male and Y = Female.

Table 7.

Correlation Matrix for the Theories of Intelligence Scale, the Writing Attitude Survey, and the Test of Written Language-IV for All Participants (N=58)

|        | TOI    | WAS    |
|--------|--------|--------|
| TOI    | 1      |        |
| WAS    | .169   | 1      |
| TOWL-4 | .331** | .519** |

*Note.* TOI = Theories of Intelligence Scale; WAS = Writing Attitude Survey; TOWL-4 = Test of Written Language-IV.

\*\*Correlation is significant at the 0.01 level (1-tailed)

Table 8.

Correlation Matrix for the Theories of Intelligence Scale, the Writing Attitude Survey, and the Test of Written Language-IV for Male Participants (n=36)

|             | TOI Male | WAS Male |
|-------------|----------|----------|
| TOI Male    | 1        |          |
| WAS Male    | .295     | 1        |
| TOWL-4 Male | .271     | .641**   |

*Note.* TOI = Theories of Intelligence Scale; WAS = Writing Attitude Survey; TOWL-4 = Test of Written Language-IV.

\*\*Correlation is significant at the 0.01 level (2-tailed)

Table 9.

Correlation Matrix for the Theories of Intelligence Scale, the Writing Attitude Survey, and the Test of Written Language-IV for Female Participants (n=22)

|               | TOI Female | WAS Female |
|---------------|------------|------------|
| TOI Female    | 1          |            |
| WAS Female    | .051       | 1          |
| TOWL-4 Female | .577**     | .239       |

*Note.* TOI = Theories of Intelligence Scale; WAS = Writing Attitude Survey; TOWL-4 = Test of Written Language-IV.

\*\*Correlation is significant at the 0.01 level (2-tailed)

### **Relationship Between Attitude and Writing Achievement**

Research Question 2 addresses the relationship between the attitude of students about writing and writing achievement: Is there a significant positive relationship between attitude toward writing (as measured by the Writing Attitude Survey) and writing achievement (as measured by the Test of Written Language-IV) of at-risk upper elementary-aged students? A Pearson Product Moment Correlation Coefficient provided evidence of the strength of association between the WAS scores and TOWL-4 writing composite scores for all participants. Results indicate a significant large positive correlation between these two variables,  $r(58) = .52$ ,  $p < .01$ ;  $r^2 = .27$ . Figure 3 below provides a visual representation of the correlation for all participants. See Table 7 for a correlation matrix for mindset, attitude towards writing, and writing achievement for all participants.

Research Question 2A addresses the relationship between the attitude of students and writing achievement for males: Is there a significant positive relationship between attitude (as measured by the Writing Attitude Survey) and writing achievement (as measured by the Test of Written Language-IV) for male participants? A Pearson Product Moment Correlation Coefficient provided evidence of the strength of association between the WAS scores and TOWL-4 writing composite scores for males. Results indicate a significant large positive correlation between these two variables,  $r(36) = .64$ ,  $p < .01$ ;  $r^2 = .41$ . See Table 8 for a correlation matrix for mindset, attitude towards writing, and writing achievement for male participants.

Research Question 2B addresses the relationship between the attitude of students and writing achievement for females: Is there a significant positive relationship between attitude (as measured by the Writing Attitude Survey) and writing achievement (as measured by the Test of Written Language-IV) for female participants? A Pearson Product Moment Correlation



Figure 3. Scatterplot of Correlations Between the Writing Attitude Survey (WAS) and the Test of Written Language-IV (TOWL) for All Participants (N=58)

*Note.* X = Male and Y = Female.

Coefficient provided evidence of the strength of association between the WAS scores and TOWL-4 writing composite scores for females. Results are not statistically significant,  $r(22) = .24, p > .05; r^2 = .06$ . See Table 9 for a correlation matrix for mindset, attitude towards writing, and writing achievement for female participants.

### **Conclusions About Relationships Among Variables**

The relationship between mindset and writing achievement is statistically significant for the total sample of participants. The relationships between mindset and writing achievement for male and female participants are mixed. Mindset and writing achievement are significantly related for female participants, but not for male participants.

The relationship between attitude and writing achievement is statistically significant for the total sample of participants. The relationships between attitude and writing achievement for male and female participants are mixed. Attitude and writing achievement are significantly related for male participants, but not for female participants.

### **Mean Differences in Mindset, Attitude, and Writing Achievement for Males and Females**

Research Question 3 addresses mean differences between male and female participants: Is there a significant mean difference in mindset (as measured by the Theories of Intelligence Scale for Children) for male participants and female participants? Research Question 4 addresses mean differences between male and female participants: Is there a significant mean difference in attitude (as measured by the Writing Attitude Survey) for male participants and female participants? A t-test was utilized to examine the mean differences for sex (male and female) in mindset and attitude. Results indicate there is no statistically significant difference between the means of male and female participants in mindset and attitude. See Table 8. There is no statistically significant difference in mindset between males and females  $t(56) = -1.58, p > .05; d$

= .43. The mean difference between scores was -.55 (range = 1.67 – 6.00). There is no significant difference in mean attitude scores between males and females  $t(56) = 1.25, p > .05; d = .32$ . The mean difference between scores was .18 (range = 1.25 – 3.94). In addition, results indicate there is no statistically significant difference for male and female participants in writing achievement. There is no statistically significant difference in overall mean writing scores between males and females  $t(56) = 1.10, p > .05; d = .30$ . The mean difference between scores was 5.18 (range = 62.00 – 145.00).

### **Conclusions About Mean Differences Among Variables**

The mean differences between male and female participants for mindset, attitude, and writing achievement are not significant. On average, males scored higher, but not significantly so, on the mindset scale. On average, females scored higher, but not significantly so, on the attitude survey and writing achievement test.

### **Summary**

Both mindset and attitude are significantly related to writing achievement for all participants. Further, mindset is significantly related to writing achievement for females and attitude towards writing is significantly related to writing achievement for males. Despite a different pattern of relationships (between mindset and writing achievement and between attitude towards writing and writing achievement) their mean scores on the mindset scale, attitude survey, and writing achievement test did not differ significantly. Results are discussed further in Chapter Five. A summary of results is provided as Appendix I.

## **Chapter Five: Discussion**

The goal of this study was to examine two types of writing motivation and writing achievement of third through fifth-grade students who attended Title 1 schools during the 2014-2015 school year. Specifically, the purpose of this study was to examine: (1) the relationship between mindset and writing achievement, for the total sample and for students whose identified sex was male or female, (2) the relationship between attitude towards writing and writing achievement, for the total sample and for students whose identified sex was male or female, and (3-4) the mean differences between the motivational variables and writing achievement as a function of sex. Broadly, a significant relationship exists between mindset and writing achievement and a significant relationship exists between attitude towards writing and writing achievement, though these relationship patterns are different for males versus females. Mean differences as a function of sex are not significantly different. See Appendix I for a summary of all statistical results.

On average, writing achievement of fourth, eighth, and 12<sup>th</sup> grade students in the U.S. was reported as below average by NAEP data from 2002-2012 (NCES, 2012). On average, writing achievement was lower than reading achievement for that same period (1998-2010) according to NCES. These data display a trend of a lack of proficiency among writers across grade levels. A goal of this study was to examine some possible contributors to this nationwide problem in the form of motivational factors (Muenks & Miele, 2017; Tough, 2016).

According to the evidence, motivational factors impact cognitive engagement which in turn influences academic performance either positively or negatively. Greater motivation increases cognitive engagement which increases academic performance (Corno & Mandinach, 1983; Corno & Rohrkemper, 1985; Pintrich & De Groot, 1990; Schunk & Zimmerman, 1994).

Researchers agree motivation is a catalyst for writing achievement (Graham et al., 2007; Graham et al., 1993; Knudson, 1995; Shell et al., 1995; Troia et al., 2013; Vrugt et al., 2002). Yet, scant research exists about the inter-connectedness of these motivational constructs in relation to writing.

Fifty-eight at-risk students (based on Title 1 school enrollment) participated in this study. The students completed two motivational scales (TOI and WAS) and a writing achievement test (TOWL-4) to examine the constructs of mindset and attitude towards writing, i.e., to examine research questions aligned with the goals of the study.

Results of the study are synthesized and placed in the context of the relevant literature in this chapter. Patterns and themes of the results are presented by research question. Limitations and Delimitations are stated to address internal and external validity. Practical and theoretical implications are presented as Implications for Practice and Future Research. Reflections of the study's findings are also presented as the Significance of the Study and Conclusion.

### **Mindset and Writing Achievement**

The relationship between mindset and writing achievement was examined through analyses that address Research Question 1. In general, the significant positive relationship between mindset and writing achievement was as predicted. This finding corresponds with literature showing mindset is inter-related to the motivational constructs of self-efficacy, goal-orientation, and attribution (Cain & Dweck, 1995; Diener & Dweck, 1978; Dweck, 1975; Dweck & Elliott, 1983; Dweck & Leggett, 1988; Dweck & Reppucci, 1973; Henderson & Dweck, 1990). Self-efficacy, goal-orientation, and attribution empirically demonstrate significant positive relationships to writing achievement (MacArthur & Graham, 2016; Troia et al., 2012). This finding also corresponds with limited literature that empirically demonstrates that mindset

influences writing achievement (Andersen & Nielsen, 2016). Results from a controlled trial with a parental intervention to promote growth mindset and reading with second grade students show participating children increased achievement in reading and writing after the five-month intervention period (Andersen & Nielsen, 2016).

Though the relationship between mindset and writing achievement was significant and positive for the total sample, the relationship holds up for females and not for males. That is, mindset and writing achievement are significantly correlated for females and not significantly correlated for males in this sample. The difference in the effect of mindset on writing achievement between males and females corresponds with the literature that many cognitive self-belief differences between males and females are inconsistent for elementary-aged students (Pajares & Valiante, 2006).

The positive significant relationship between mindset and writing achievement for females is as predicted. This finding adds to the literature about growth mindset for females because a sample of elementary-aged females is not common in the literature. For high-school-aged females, there is empirical evidence that intervening to improve growth mindset can positively affect academic achievement in mathematics (Good et al., 2003). The finding that mindset and writing achievement are not significantly correlated for males in this sample conflicts with the theoretical notion that improving growth mindset for black males by intervention improves academic achievement (Whiting, 2006).

Interestingly, the constructs of mindset and attitude towards writing are not significantly correlated for this sample. However, this finding is consistent with literature showing that growth mindset (as measured by the Theories of Intelligence Scale) demonstrates independence from other motivational constructs such as cognitive ability, confidence in intellectual ability, and self-

esteem (Dweck et al., 1995). Also, the lack of a significant relationship is consistent with the interpretation that attitude towards writing, while empirically demonstrating a positive significant relationship to writing achievement (Graham et al., 2007; Graham et al., 2018; Graham et al., 2017), differs from the cognitive motivational variables of self-efficacy, goal-orientation, and attribution because attitude towards writing includes both cognition and affect (Graham et al., 2007). The difference in effect on writing achievement between mindset and attitude towards writing may exist because the constructs are independent of each other with mindset measuring cognitive aspects of motivation while attitude towards writing measures both cognitive and affective aspects of motivation.

### **Attitude and Writing Achievement**

The relationship between attitude towards writing and writing achievement was examined in Research Question 2. In general, the significant positive relationship between attitude towards writing and writing achievement is as predicted. This finding is consistent with empirical evidence demonstrating attitude towards writing is predictive of writing achievement (Graham et al., 2007; Graham et al., 2018; Graham et al., 2017).

Though the relationship between attitude towards writing and writing achievement for the total sample is positive and significant, the relationship between attitude towards writing and writing achievement for females in this sample is not. However, attitude towards writing and writing achievement is significantly correlated for males in this sample. The difference in the effect of attitude towards writing on writing achievement between males and females corresponds with the literature that many cognitive self-belief differences between males and females are inconsistent for elementary-aged students (Pajares & Valiante, 2006).

### **Mean Differences in Mindset, Attitude, and Writing Achievement for Males and Females**

The mean differences between the motivational variables and writing achievement for males and females were examined in Research Questions 3-4. In general, mean differences between the motivational variables and writing achievement for males and females in these samples are not statistically significant. However, given the small sample size and the fact that the correlations between each of the motivational variables and writing achievement differ as a function of sex, the average scores for each variable are noteworthy as a function of sex.

On average, male students in this sample reported a higher degree (though not statistically significant) of growth mindset than females. This finding is consistent with literature that contends males are inclined to be more self-congratulatory than females on self-reports of self-beliefs, while females tend to be more modest (Pajares & Valiante, 2006). This finding adds to the mindset literature because mindset differences by sex for elementary-aged groups are not common in the literature.

On average, female students in this sample reported more positive (though not statistically significant) attitudes towards writing than males. This finding is consistent with empirical evidence demonstrating female students tend to score higher on measures of attitude toward writing than males (Graham et al., 2007; Graham et al., 2018; Graham et al., 2017); that is the case in this study.

Though not statistically significant, females' writing achievement score is a little more than 1/3 standard deviation above the males' writing achievement score in this sample. This finding is consistent with empirical evidence demonstrating females tend to score higher on measures of writing achievement than males (Pajares & Valiante, 2006; Scheiber et al., 2015; Troia et al., 2012). This trend may be a function of gender-orientation beliefs; higher writing

achievement scores are associated with the gender orientation of feminine (Pajares & Valiante, 2006).

On average, the writing achievement test scores for both males and females in this sample are near the population standard mean scores on the TOWL-4 (Hammill & Larsen, 2009). This contradicts the literature because writing achievement scores were lower for at-risk students across the country from 1998-2012 (NCES, 2012). The average scores on the writing achievement test for both males and females may alternatively be explained by the threat of selection that the student sample may not represent a sample of at-risk students, presented as a Delimitation.

### **Limitations and Delimitations**

Limitations and delimitations relating to internal validity and external validity apply to this study. Limitations include the correlational study design, sample, size, order of administration, and instruments. Delimitations include the sampling method.

**Limitations.** The correlational research design is a limitation because grand generalizations may not be made due to the lack of experimentation. Cause and effect may not be determined. However, the results from this correlational design may provide inferences about relationships between variables. Inferences from the results may provide actionable information to educators and provide direction for future research.

The relatively small sample size is a limitation, particularly on analyses conducted on subgroups of the sample (i.e., males and females). However, the sample size meets the minimum number of participants suggested for correlational design in educational research (Gall et al., 2007). Gall et al., suggest a minimum of 30 participants is desirable (15 participants per group for causal-comparative research). Also, 58 participants are more than the minimum requirements

according to prospective power calculations using PASS (2019); a sample size of 21 is needed to predict a significant positive correlation of .33 while a sample size of 55 is needed to predict a significant positive correlation of .52 for Research Questions 1 and 2. For the subgroup of females ( $n = 36$ ), observed power was .91 for the significant positive correlation of .58 for Research Questions 1B. For the subgroup of males ( $n = 36$ ), observed power was .99 for the significant positive correlation of .64 for Research Questions 2A. Cohen (1992) proposed specification for power of .80 for general use. Cohen (1992) stated, “a materially smaller value than .80 would incur too great a risk of a Type II error” (p.156).

The order of administration of instruments may be considered a limitation because a counter-balanced administration was not utilized. Motivational scales were administered from general to specific. The TOWL-4 was administered following the motivational scales to potentially curb participants’ potential biases about writing motivation after completing a somewhat lengthy writing achievement test.

The self-report nature of the instruments (TOI and WAS) may be considered a limitation because participants had to accurately understand two scales for ranking their motivation, and the ranking on the two scales differed. Administration notes were added to the TOI scale based on the pilot study. However, self-reporting is commonly used in educational research with motivational constructs (Pajares et al., 1999; Pajares & Valiante, 2006).

**Delimitations.** The sampling method of this study is a delimitation because participants considered at-risk were recruited from specific clubs of Boys and Girls Clubs of the Tennessee Valley (BGCTNV). However, the entire sample of at-risk students from BGCTNV was not selected. Though all members of participating clubs were invited to participate, only those who

agreed to do so were in the sampling thus introducing the threat of selection. The threat of selection is that the sample may not represent an at-risk student sample.

### **Implications for Practice**

Inferences from the results provide implications for practice for educators. Implications may be made for educators with at-risk, elementary-aged students because students writing improves when efforts are made to enhance their motivation (Graham, Harris, & Santangelo, 2015). Implications may include understanding motivation as a developmental process and incorporating motivation during writing instruction. Educators may benefit from understanding that the motivational constructs of mindset and attitude towards writing are developmental processes that evolve in school contexts over time. The motivational constructs of mindset and attitude towards writing are not simply a power of “will” students utilize during writing assessment, rather they are motivational constructs developed by family and school contexts. Educators may promote students’ motivation to write to improve writing achievement many ways (Boscolo & Gelati, 2018).

Careful and scaffolded development of students’ writing skills inherently provides an opportunity to foster a growth mindset and to instill more positive attitudes towards writing. Educators may promote students’ motivation to write to improve writing achievement in six ways according to Boscolo and Gelati (2018, p.72). Educators may promote both students’ mindset and attitude towards writing by (1) checking students’ motivation to write and by (2) balancing collaborative and individual writing by (3) evaluating students’ writing and by (4) facilitating the management of writing skills in the form of revision. Evaluating students’ writing with a portfolio-style through which students are aware of advances in writing achievement over time help promote growth mindset. Revision exercises and revision strategies may help students

pay attention to the correctness of their writing over time and promote growth mindset.

Educators may promote students' attitude towards writing by (5) proposing meaningful opportunities to write based on students' perceived importance in the form of authentic writing tasks and by (6) distinguishing the characteristics of in school writing and out of school writing with authentic writing tasks in which students are involved in the decisions of the purpose of the writing task may help students develop positive attitudes towards writing. Distinguishing the characteristics of in-school writing and out-of-school writing may help students develop positive attitudes towards writing because students' affect towards writing is often impacted by their demonstration of correct writing ability to teachers. The results of this study provide implications for practice for educators with at-risk elementary-aged students. Implications for practice for researchers are provided as the Significance of the Study and Future Research.

### **Significance of Study**

Broadly, the results of this study add to the current literature on motivation and writing achievement. The current literature examining the intersection of motivation and writing achievement is uncommon, but has grown in the last 20 years (Boscolo & Hidi, 2007; Graham et al., 2007; Troia et al., 2013). The results of this study add to the current literature related to motivation and writing achievement because of the sample- elementary-aged, at-risk students. The results of this study expand the limited literature that empirically demonstrates the impact of mindset on writing achievement (Andersen & Nielsen, 2016) and demonstrates that attitude towards writing influences writing achievement. That is, students with more positive attitudes tend to exhibit higher writing achievement (Graham et al., 2007; Troia et al., 2013). In addition, the results offer cautious support for the notion that on average females tend to score higher on measures of attitude toward writing than males (Graham et al., 2007; Graham et al., 2018;

Graham et al., 2017) and on average females tend to score higher than males on scores of writing achievement (Troia et al., 2012). In addition, establishing psychometric adequacy of a modified (shortened) WAS has positive implications for both classroom use and future research because it shortens administration time; time is a precious commodity in both classroom and research contexts.

### **Future Research**

The results of this study provide implications for future research. Replication of the study with different and larger samples is needed to validate these findings, particularly the unexpected correlations based on sex. Mindset needs to be examined with males and females because on average females reported lower growth mindset than males, yet females averaged higher scores on writing achievement than males. Attitude towards writing needs to be examined with males and females because females reported a more positive attitude towards writing and averaged higher scores on writing achievement than males, yet attitude towards writing was not correlated with writing achievement for females.

The results of this study provide direction for future research with mindset based on the literature. Gender-orientation needs to be examined in studies of mindset and literacy constructs because gender-orientation may moderate male and female differences. (Pajares & Valiante, 2006). Resiliency needs to be examined because people with growth mindset tend to be more resilient when engaged in problem-solving tasks (Dweck, 2006), and writing is a complex cognitive problem-solving process (MacArthur & Graham, 2016). Covariates of parents need to be examined in studies of mindset and literacy constructs because parental intervention with growth mindset improves literacy outcomes for children (Andersen & Nielsen, 2016) and relationships between parents' educational factors and mindset are inconsistent (Rowe, 2018).

Covariates of teachers also need to be examined in studies of mindset and literacy constructs because teachers play a large role in shaping students' mindset, but specific teacher characteristics are not common in the writing motivation literature (Davis & Sumara, 2012). Experimental research utilizing growth mindset interventions needs to be conducted with mindset and literacy constructs because students benefit academically from increases in growth mindset (Andersen & Nielsen, 2016; Good et al., 2003; Yeager & Dweck, 2012), and females' tendency to score higher on measures of writing achievement increases with age (Pajares & Valiante, 2006).

The results of this study also provide implications for future research with attitude towards writing based on the literature. More research needs to be conducted with attitude towards writing longitudinally because students' attitudes towards writing change over time (Graham et al., 2007; Graham et al., 2018; Graham et al., 2017), and females' tendency to score higher on measures of writing achievement increases with age (Pajares & Valiante, 2006). Further refinement and/or validation of the modified Writing Attitude Survey (Kear et al., 2000) with a larger, more representative sample is also an area for future researchers to consider.

## **Conclusions**

The results of this study indicate mindset and writing achievement and attitude towards writing and writing achievement are positively related, as determined by statistically significant positive correlation coefficients. While the mean differences between the motivational variables and writing achievement for males and females are not statistically significant, the mean scores for males and females for each variable are noteworthy in that males scored higher on the measure of mindset than females, and females scored higher on the measures of attitude towards writing and the measure of writing achievement. Yet, only males' writing attitude scores

correlated with writing achievement, and only females' mindset scores correlated with writing achievement. Limitations and delimitations apply to the generalizability of this study's findings with at-risk elementary aged students because of the relatively small sample size and the threat of selection. Educators may benefit from understanding that the motivational constructs of mindset and attitude towards writing and acting to promote motivation. Results provide opportunities for further study to validate this study's claims for different population characteristics and settings.

## References

- Albin, M. L., Benton, S. L., & Khramtsova, I. (1996). Individual differences in interest and narrative writing. *Contemporary Educational Psychology, 21*, 305–324.
- Alexander, J., & Filler, R. (1976). *Attitudes and Reading*. Newark, DE: International Reading Association.
- Alexander, P. (1998). The nature of disciplinary and domain learning: The knowledge, interest, and strategic dimensions of learning from subject-matter text. In C. Hynd (Ed.), *Learning from text across conceptual domains* (pp. 55–76). Mahwah, NJ: Erlbaum.
- Alexander, P. (2003). The development of expertise: The journey from acclimation to proficiency. *Educational Researcher, 32*(8), 10–14.
- Alexander, K. L., Entwisle, D. R., & Olson, L. S. (2007). Lasting consequences of the summer learning gap. *American Sociological Review, 72*(2), 167–180.
- American Educational Research Association. (2014). *Standards of the educational and psychological testing*. Washington, DC: Author.
- Anderman, E., & Wolters, C. (2006). Goals, values, and affect: influences on student motivation. In P. Alexander & P. Winne (Eds.), *Handbook of educational psychology* (2nd ed., pp. 369–389). Mahwah, NJ: Lawrence Erlbaum.
- Andersen, S. C., & Nielsen, H. S. (2016). Reading intervention with a growth mindset approach improves children's skills. *Proceedings of the National Academy of Sciences, 113*(43), 12111–12113.
- Anmarkrud, O., & Bråten, I. (2009). Motivation for reading comprehension. *Learning and Individual Differences, 19*, 252–256.
- Bandura, A. (1986) *Social Foundations of Thought and Action: A Social Cognitive Theory*. Englewood Cliffs: Prentice-Hall.

- Bandura, A. (1989). Regulation of cognitive processes through perceived self-efficacy. *Developmental Psychology*, 25, 729-735.
- Behizadeh, N., & Pang, M. E. (2016). Awaiting a new wave: The status of state writing assessment in the United States. *Assessing Writing*, 29, 25-41.
- Benton, S. L., Corkill, A. J., Sharp, J., Downey, R., & Khramtsova, I. (1995). Knowledge, interest, and narrative writing. *Journal of Educational Psychology*, 87, 6-79.
- Bereiter, C., & Scardamalia, M. (1987). *The psychology of written composition*. Hillsdale, NJ: Erlbaum.
- Bereiter, C., & Scardamalia, M. (2013). *The psychology of written composition*. New York: Routledge.
- Blackwell, L. S., Trzesniewski, K., & Dweck, C. (2007). Implicit theories of intelligence predict achievement across an adolescent transition: A longitudinal study and an Intervention. *Child Development*, 78, 246-263.
- Boldizar, J. (1991). Assessing sex typing and androgyny in children: The children's sex role inventory. *Developmental Psychology*, 27, 505-515.
- Boscolo, P., & Gelati, C. (2018). Motivating writers. In S. Graham, C.A. MacArthur, & M. Herbert (Eds.), *Best practices in writing instruction* (3rd ed., pp. 51-78). New York, NY: Guilford.
- Boscolo, P., & Hidi, S. (2007). The multiple meanings of motivation to write. *Writing and Motivation*, 19(1).
- Boys & Girls Clubs of America (2019). Our mission & story. Retrieved from: <https://www.bgca.org/about-us/our-mission-story>
- Boys & Girls Clubs of the Central Savannah River Area (2019). Home. Retrieved from: <https://>

[www.bgccsra.org/home.html](http://www.bgccsra.org/home.html)

Boys & Girls Clubs of the Tennessee Valley (2019). General information. Retrieved from: <https://bgctnv.org/general-info/>

[//bgctnv.org/general-info/](https://bgctnv.org/general-info/)

Bruning, R., Dempsey, M., Kauffman, D. F., McKim, C., & Zumbrunn, S. (2013). Examining dimensions of self-efficacy for writing. *Journal of Educational Psychology, 105*(1), 25-38.

Bruning, R. H., & Kauffman, D. F. (2016). Self-efficacy beliefs and motivation in writing development. In C.A. MacArthur, S. Graham, & J. Fitzgerald (Eds.), *Handbook of writing research* (2nd ed., pp. 24–40). New York, NY: Guilford.

Cain, K. M., & Dweck, C. S. (1995). The relation between motivational patterns and achievement cognitions through the elementary school years. *Merrill–Palmer Quarterly, 41*, 25–54.

Calkins, L., Ehrenworth, M., & Lehman, C. (2012). *Pathways to the common core: Accelerating achievement*. Portsmouth, NH: Heinemann.

Chilisa, B., & Kawulich, B. B. (2012). Selecting a research approach: paradigm, methodology and methods. *Doing Social Research, A Global Context*. London: McGraw Hill.

Claro, S., Paunesku, D., & Dweck, C. S. (2016). Growth mindset tempers the effects of poverty on academic achievement. *Proceedings of the National Academy of Sciences of the United States of America, 113*, 8664–8668.

Cohen, J. (1992). A power primer. *Psychological bulletin, 112*(1), 155.

Conlon, E. G., Zimmer-Gembeck, M. J., Creed, P. A., & Tucker, M. (2006). Family history, self-perceptions, attitudes and cognitive abilities are associated with early adolescent reading skills. *Journal of Research in Reading, 29*(1), 1-32.

- Conradi, K., Jang, B. G., & McKenna, M. (2014). Motivation terminology in reading research: A conceptual review. *Educational Psychology Review*, 26(1), 127–164.
- Corno, L., & Mandinach, E. (1983). The role of cognitive engagement in classroom learning and motivation. *Educational Psychologist*, 18, 88-100.
- Corno, L., & Rohrkemper, M. (1985). The intrinsic motivation to learn in classrooms. In C. Ames & R. Ames (Eds.), *Research on motivation: Vol. 2. The classroom milieu* (pp. 53-90). New York: Academic Press.
- Crothers, L. M., Hughes, T. L., & Morine, K. A. (2008). *Theory and cases in school-based consultation: A resource for school psychologists, school counselors, special educators, and other mental health professionals*, New York: Routledge.
- Davis, B., & Sumara, D. (2012). Fitting teacher education in/to/for an increasingly complex world. *Complicity: An International Journal of Complexity and Education*, 9(1), 30-34.
- Diener, C. I., & Dweck, C. S. (1978). An analysis of learned helplessness: Continuous changes in performance, strategy, and achievement cognitions following failure. *Journal of Personality and Social Psychology*, 36, 451-462.
- Diener, C. I., & Dweck, C. S. (1980). An analysis of learned helplessness: II. The processing of success. *Journal of Personality and Social Psychology*, 39, 940-952.
- Domina, T., Pharris-Ciurej, N., Penner, A. M., Penner, E. K., Brummet, Q., Porter, S. R., & Sanabria, T. (2018). *Is free and reduced-price lunch a valid measure of educational disadvantage?* *Educational Researcher*, 47, 539–555.
- Dweck, C. S. (1975). The role of expectation and attributions in the alleviation of learned helplessness. *Journal of Personality and Social Psychology*, 31, 674-685.

- Dweck, C. S. (2000). *Self-theories: Their role in motivation, personality, and development*. Philadelphia: Psychology Press.
- Dweck, C. S. (2006). *Mindset: The new psychology of success*. New York, NY: Random House.
- Dweck, C. S. (2007). Boosting achievement with messages that motivate. *Education Canada*, 47(2), 6-10.
- Dweck, C. S., Chiu, C. Y., & Hong, Y. Y. (1995). Implicit theories and their role in judgments and reactions: A word from two perspectives. *Psychological inquiry*, 6(4), 267-285.
- Dweck, C. S., & Elliott, E. S. (1983). Achievement motivation. In P. Mussen E. M. Hetherington (Eds.), *Handbook of Child Psychology* (pp. 643-692). New York: Wiley.
- Dweck, C. S., & Leggett, E. L. (1988). A social-cognitive approach to motivation and personality. *Psychological Review*, 95, 256-273.
- Dweck, C. S., & Reppucci, N. D. (1973). Learned helplessness and reinforcement responsibility in children. *Journal of Personality and Social Psychology*, 25, 109-116.
- Eichelberger, R. T. (1989). *Disciplined inquiry: Understanding and doing educational research*. New York: Longman.
- Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention, and behavior: An introduction to theory and research*. Reading, MA: Addison-Wesley.
- Fitzgerald, J., & Shanahan, T. (2000). Reading and writing relations and their development. *Educational Psychologist*, 35(1), 39-50.
- Gall, M. D., Gall, J. P., & Borg, W. R. (2007). *Educational research: An introduction* (8th ed.). Boston, MA: Pearson.
- Glasser, H. M., & Smith, J. P., III. (2008). On the vague meaning of “gender” in education

- research: The problem, its sources, and recommendations for practice. *Educational researcher*, 37(6), 343-350.
- Good, C., Aronson, J., & Inzlicht, M. (2003). Improving adolescents' standardized test performance: An intervention to reduce the effects of stereotype threat. *Journal of Applied Developmental Psychology*, 24(6), 645-662.
- Graham, S. (2006). Writing. In P. Alexander & P. Winne (Eds.), *Handbook of educational psychology* (pp. 457-477). Mahway, NJ: Erlbaum.
- Graham, S., Berninger, V., & Abbott, R. (2012). Are attitudes toward writing and reading separable constructs? A study with primary grade children. *Reading & Writing Quarterly: Overcoming Learning Difficulties*, 28(1), 51-69.
- Graham, S., Berninger, V., & Fan, W. (2007). The structural relationship between writing attitude and writing achievement in first and third grade students. *Contemporary educational psychology*, 32(3), 516-536.
- Graham, S., Daley, S. G., Aitken, A. A., Harris, K. R., & Robinson, K. H. (2018). Do writing motivational beliefs predict middle school students' writing performance?. *Journal of Research in Reading*. 41(4). 642-656.
- Graham, S., & Harris, K. R. (1989). Components analysis of cognitive strategy instruction: Effects on learning disabled students' compositions and self-efficacy. *Journal of Educational Psychology*, 81(3), 353-361.
- Graham, S., Harris, K. R., & Santangelo, T. (2015). based writing practices and the common core: Meta-analysis and meta-synthesis. *The Elementary School Journal*, 115(4), 498-522.
- Graham, S., Kiuahara, S., Harris, K. R., & Fishman, E. (2017). The relationship between strategic

behavior, motivation, and writing performance with young, developing writers.

*Elementary School Journal*, 118, 82–104.

- Graham, S., Schwartz, S. S., & MacArthur, C. A. (1993). Knowledge of writing and the composing process, attitude toward writing, and self-efficacy for students with and without learning disabilities. *Journal of Learning Disabilities*, 26(4), 237-249.
- Gravetter, F. J., & Wallnau, L. B. (2011). *Essentials of statistics for the behavioral sciences* (7th ed.). Belmont, CA: Wadsworth, Cengage Learning.
- Greenwald, E. A., Persky, H. R., Campbell, J. R., & Mazzeo, J. (1999). *NAEP 1998 writing report card for the nation and the states*. Washington, DC: National Center for Education Statistics, U. S. Department of Education.
- Hammill, D. D., & Larsen, S. C. (2009). *Test of written language* (4<sup>th</sup> ed.). Austin, TX: PRO-ED.
- Hayes, J. R., & Berninger, V. (2014). Cognitive processes in writing: A framework. In B. Arfé, J. Dockrell, & V. Berninger (Eds.), *Writing development in children with hearing loss, dyslexia, or oral language problems*. New York: Oxford University Press.
- Hayes, J. R., & Flower, L. (1980). Identifying the organization of writing processes. In L. Gregg & E. Steinberg (Eds.), *Cognitive processes in writing* (pp. 3–30). Hillsdale, NJ: Erlbaum.
- Hayes, J. R., & Nash, J. (1996). On the nature of planning in writing. In M. Levy & S. Ransdell (Eds.), *The science of writing: Theories, methods, individual differences, and applications* (pp. 29–55). Mahwah, NJ: Erlbaum.
- Henderson, V. L., & Dweck, C. S. (1990). Motivation and achievement. In S. S. Feldman & G. R. Elliott (Eds.), *At the threshold: The developing adolescent* (pp. 308-329). Cambridge, MA, US: Harvard University Press.

- Hidi, S., & Anderson, V. (1992). Situational interest and its impact on reading and expository writing. In K. A. Renninger, S. Hidi, & A. Krapp (Eds.), *The role of interest in learning and development* (pp. 215-238). Hillsdale, NJ: Erlbaum.
- Hidi, S., & Boscolo, P. (2006). Motivation and writing. In C. A. MacArthur, S. Graham & J. Fitzgerald (Eds.), *Handbook of writing research* (pp. 144–157). New York, NY: Guilford.
- Hidi, S., & McLaren, J. A. (1991). Motivational factors and writing: The role of topic interestingness. *European Journal of Psychology of Education*, 6, 187-197.
- Hidi, S., & Renninger, K. A. (2006). The four-phase model of interest development. *Educational Psychologist*, 41, 111–127.
- Hill, C. J., Bloom, H. S., Black, A. R., & Lipsey, M. W. (2008). Empirical benchmarks for interpreting effect sizes in research. *Child Development Perspectives*, 2(3), 172–177.
- Hopkins, W. (2002). A new view of statistics: A scale of magnitudes for effect sizes. Retrieved from <http://www.sportsci.org/resource/stats/effectmag.html>.
- IRA/NCTE Joint Task Force on Assessment. (2010). *Standards for the assessment of reading and writing* (Revised edition). Newark, DE: International Reading Association and National Council of Teachers of English.
- Ismail, N., Elias, S., Albakri, I. S. M. A., Perumal, P. D., & Muthusamy, I. (2010). Exploring ESL students' apprehension level and attitude towards academic writing. *The International Journal of Learning*, 17(6), 475-783.
- Katzir, T., Lcsaux, N. K., & Kim, Y. (2009). The role of reading self-concept and home literacy practices in fourth grade reading comprehension. *Reading and Writing*, 22, 261-276.
- Karaglanı, A. H. (2003). Examining the relationship between writing self-efficacy, writing

- performance and general achievement for third graders. *Dissertation Abstracts International: Section A. The Humanities and Social Sciences*, 63, 3107.
- Kear, D., Coffman, G., McKenna, M., & Ambrosio, A. (2000). Measuring attitude toward writing: a new tool for teachers. *The Reading Teacher*, 54, 10–23.
- Klassen, R. (2002). Writing in early adolescence: A review of the role of self-efficacy beliefs. *Educational Psychology Review*, 14, 173–203.
- Klassen, R. M., & Welton, C. (2009). Self-efficacy and procrastination in the writing of students with learning disabilities. In G.A. Troia (Ed.), *Instruction and assessment for struggling writers* (pp. 51-74). New York, NY: The Guilford Press.
- Knudson, R. E. (1991). Development and use of a writing attitude survey in grades 4 to 8. *Psychological Reports*, 68, 807–816.
- Knudson, R. E. (1992). Development and application of a writing attitude survey for grades 1 to 3. *Psychological Reports*, 70, 711–720.
- Knudson, R. E. (1993). Development of a writing attitude survey for grades 9 to 12: Effects of gender, grade, and ethnicity. *Psychological Reports*, 73, 587–594.
- Knudson, R. E. (1995). Writing experiences, attitudes, and achievement of first to sixth graders. *Journal of Educational Research*, 89, 90–97.
- Kominski, R., Jamieson, A., & Martinez, G. (2011). At-risk conditions of U.S. school-age children. Retrieved from: [www.census.gov/population/www/documentation/twps0052/twps0052.htm](http://www.census.gov/population/www/documentation/twps0052/twps0052.htm).
- Krapp, A., & Prenzel, M. (2011). Research on interest in science: Theories, methods, and findings. *International Journal of Science Education*, 33, 27–50.
- MacArthur, C. A., & Graham, S. (2016). Writing research from a cognitive perspective. In C.A.

- MacArthur, S. Graham, & J. Fitzgerald (Eds.), *Handbook of writing research* (2nd ed., pp. 24–40). New York, NY: Guilford.
- Martin, M. S. (2016). Examining the Writing Motivation and Achievement of At-Risk Elementary-Aged Students. (Doctoral dissertation). Retrieved from [https://trace.tennessee.edu/utk\\_graddiss/3723](https://trace.tennessee.edu/utk_graddiss/3723)
- McKenna, M. C., & Kear, D. J. (1990). Measuring attitude toward reading: A new tool for teachers. *The Reading Teacher*, 43(8), 626–639.
- McKenna, M. C., Kear, D. J., & Ellsworth, R. A. (1995). Children's attitudes toward reading: A national survey. *Reading Research Quarterly*, 30(4), 934–956.
- Mertens, D. (2009). *Transformative research and evaluation*. New York: The Guilford Press.
- Morrow, J. A., & Skolits, G. (2011). Twelve steps of data cleaning: Strategies for dealing with dirty evaluation data. Paper presented at the annual meeting of the American Evaluation Association, Washington, DC.
- Muenks, K., & Miele, D. B. (2017). Students' thinking about effort and ability. *Review of Educational Research*, 87(4), 707–735.
- Multon, K. D., Brown, S. D., & Lent, R. W. (1991). Relation of self-efficacy beliefs to academic outcomes: A meta-analytic investigation. *Journal of Counseling Psychology*, 38(1), 30–38.
- Murphy, P. K., & Alexander, P. A. (2000). A motivated exploration of motivation terminology. *Contemporary Educational Psychology*, 25, 3–53.
- National Center for Education Statistics (2012). The Nation's Report Card: Writing 2011 (NCES 2012–470). Institute of Education Sciences, U. S. Department of Education, Washington, D.C.

- Nicholls, J. G. (1978). The development of the concepts of effort and ability, perception of academic attainment, and the understanding that difficult tasks require more ability. *Child Development, 49*(3), 800-814.
- Pajares, F. (2003). Self-efficacy beliefs, motivation, and achievement in writing: a review of the literature. *Reading & Writing Quarterly, 19*(2), 139–158.
- Pajares, F., & Johnson, M. J. (1994). Confidence and competence in writing: The role of self-efficacy, outcome expectancy, and apprehension. *Research in the Teaching of English, 28*, 313-329.
- Pajares, F., & Johnson, M. J. (1996). Self-efficacy beliefs and the writing performance of entering high school students. *Psychology in the Schools, 33*(2), 163-175.
- Pajares, F., Miller, M. D., & Johnson, M. J. (1999). Gender differences in writing self-beliefs of elementary school students. *Journal of Educational Psychology, 91*(9), 50– 61.
- Pajares, F., & Valiante, G. (1997). Influence of self-efficacy on elementary students' writing. *The Journal of Educational Research, 90*, 353–360.
- Pajares, F., & Valiante, G. (1999). Grade level and gender differences in the writing self-beliefs of middle school students. *Contemporary educational psychology, 24*(4), 390-405.
- Pajares, F., & Valiante, G. (2001). Gender differences in writing motivation and achievement of middle school students: A function of gender orientation?. *Contemporary educational psychology, 26*(3), 366-381.
- Pajares, F., & Valiante, G. (2006). Self-efficacy beliefs and motivation in writing development. In C. A. MacArthur, S. Graham, & J. Fitzgerald (Eds.), *Handbook of writing research* (pp. 158 170). New York: Guilford Press.
- Pajares, F., Valiante, G., & Cheong, Y. F. (2006). Writing self-efficacy and its relation to

- gender, writing motivation, and writing competence: a developmental perspective  
In G. Rijlaarsdam (Series Ed.) and P. Boscolo & S. Hidi (Volume Eds.), *Studies in Writing*, Volume 19, Writing and Motivation (pp. 141–159). Oxford: Elsevier
- PASS 2019 Power Analysis and Sample Size Software (2019). NCSS, LLC. Kaysville, Utah, USE, [ncss.com/software/pass](http://ncss.com/software/pass)
- Penner-Williams, J., Smith, T. E. C., & Gartin, B. C. (2009). Written language expression: Assessment instruments and teacher tools. *Assessment for Effective Intervention*, 34(3), 162-169.
- Perkun, R., Goetz, T., Titz, W., & Perry, R. (2002). Academic emotions in students' self-regulated learning and achievement: a program of qualitative and quantitative research. *Educational Psychologist*, 37(2), 91–105.
- Pintrich, P. R. (2000). An achievement goal theory perspective on issues in motivation terminology, theory, and research. *Contemporary Educational Psychology*, 25, 92–104.
- Pintrich, P. R., & De Groot, E. (1990). Motivated and self-regulated learning components of academic performance. *Journal of Educational Psychology*, 82(1), 33–40.
- Ponterotto, J. G. (2005). Qualitative research in counseling psychology: A primer on research paradigms and philosophy of science. *Journal of Counseling Psychology*, 52(2), 126-136.
- Potvin, P., & Hasni, A. (2014). Interest, motivation and attitude towards science and technology at K-12 levels: a systematic review of 12 years of educational research. *Studies in science education*, 50(1), 85-129.
- Reardon, S. F., Kalogrides, D., & Shores, K. (2017). *The geography of racial/ethnic test score*

- gaps* (CEPA Working Paper No. 16-10). Stanford, CA: Stanford Center for Education Policy Analysis.
- Redmond, B. F. (2010). *Self-Efficacy Theory: Do I think that I can succeed in my work? Work Attitudes and Motivation*, The Pennsylvania State University; World Campus.
- Retelsdorf, J., Koller, O., & Moller, J. (2011). On the effects of motivation on reading performance growth in secondary school. *Learning and Instruction*, 21(4), 550-559.
- Rowe, M. L. (2018). Understanding socioeconomic differences in parents' speech to children. *Child Development Perspectives*, 12(2), 122-127.
- Saddler, B., & Graham, S. (2007). The relationship between writing knowledge and writing performance among more and less skilled writers. *Reading & Writing Quarterly*, 23(3), 231–247.
- Salvia, J., Ysseldyke, J. E., & Witmer, S. (2016). *Assessment in special and inclusive education* (13th ed.). Boston, MA: Cenagage.
- Sarkhoush, H. (2013). Relationship among iranian efl learners' self-efficacy in writing, attitude towards writing, writing apprehension and writing performance. *Journal of Language Teaching and Research*, 4(5), 1126– 1132.
- Scheiber, C., Reynolds, M. R., Hajovsky, D. B., & Kaufman, A. S. (2015). Gender differences in achievement in a large, nationally representative sample of children and adolescents. *Psychology in the Schools*, 52(4), 335-348.
- Schunk, D. H., Meece, J. L., & Pintrich, P. R. (2014). *Motivation in education: Theory, research, and applications* (4th ed.). Boston, MA: Pearson.
- Schunk, D. H., & Zimmerman, B. J. (Eds.). (1994). *Self-regulation of learning and performance: Issues and educational applications*. Hillsdale, NJ: Lawrence Erlbaum Associates.

- Seligman, M. E. P., Maier, S. F., & Greer, J. H. (1968). Alleviation of learned helplessness in the dog. *Journal of Abnormal Psychology*, 73(3), 5, 1-20.
- Shell, D., Colvin, C., & Bruning, R. (1995). Self-efficacy, attribution, and outcome expectancy mechanisms in reading and writing achievement: grade-level and achievement-level differences. *Journal of Educational Psychology*, 87(3), 386–398.
- Stipek, D. J. (1981). Children's perceptions of their own and their classmates' ability. *Journal of Educational Psychology*, 73(3), 404-410.
- Tabachnick, B., & Fidell, S. (2013). *Using Multivariate Statistics*, 6th ed. Boston: Pearson.
- Taboada, A., Tonks, S. M., Wigfield, A., & Guthrie, J. T. (2009). Effects of motivational and cognitive variables on reading comprehension. *Reading and Writing*, 22, 85-106.
- Tate, T. P., & Warschauer, M. (2018). Going Beyond “That was fun”: Measuring Writing Motivation. *Journal of Writing Analytics*, 2, 257-279.
- Thompson, B., Diamond, K. E., Snyder, P., & Snyder, S. W. (2005). Evaluating the quality of evidence from correlational research for evidenced-based practice. *Exceptional Children*, 71(2), 181-194.
- Tough, P. (2016). *Helping Children Succeed: What Works and Why*. Boston, MA: Houghton Mifflin Harcourt.
- Troia, G. A., Harbaugh, A. G., Shankland, R. K., Wolbers, K. A., & Lawrence, A. M. (2013). Relationships between writing motivation, writing activity, and writing performance: Effects of grade, sex, and ability. *Reading and Writing*, 26(1), 17-44.
- Troia, G. A., Shankland, R. K., & Wolbers, K. A. (2012). Motivation research in writing: Theoretical and empirical considerations. *Reading and Writing Quarterly*, 28, 5-28.
- Unrau, N., & Schlackman, J. (2006). Motivation and its relationship with reading achievement in

- an urban middle school. *Journal of Educational Research*, 100, 81-101.
- U. S. Department of Education (2012). Race to the top district competition draft: Definitions. Retrieved from: <https://www.ed.gov/race-top/district-competition/definitions>.
- U.S. Department of Education (2004). Title 1 - Improving the academic achievement of the disadvantaged. Retrieved from <http://www2.ed.gov/policy/elsec/leg/esea02/pg1.html>.
- van den Bergh, H., & Rijlaarsdam, G. (1996). The dynamics of composing: Modeling writing process data. In C. Levy & S. Ransdell (Eds.), *The science of writing* (pp. 207–232). Mahwah, NJ: Erlbaum.
- Vrugt, A., Oort, F., & Zeeberg, C. (2002). Goal orientations, perceived self-efficacy and study results among beginner and advanced students. *British Journal of Educational Psychology*, 72, 385–397.
- Walberg, H. J., & Tsai, S. L. (1985). Correlates of reading achievement and attitude: A national assessment study. *Journal of Educational Research*, 78, 159-67.
- Wang, J. H., & Guthrie, J. T. (2004). Modeling the effects of intrinsic motivation, extrinsic motivation, amount of reading, and past reading achievement on text comprehension between U.S. and Chinese students. *Reading Research Quarterly*, 39, 162-186.
- Weiner, B. (1972). *Theories of motivation*. Chicago: Markham, 1972.
- Weiner, B. (1986). Attribution, emotion, and action. In R. M. Sorrentino & E. T. Higgins (Eds.), *Handbook of motivation and cognition: Foundations of social behavior* (pp. 281–312). New York, NY: Guilford.
- White, E. (1994). *Teaching and assessing writing: Recent advances in understanding*,

*evaluating, and improving student performance* (2nd ed.). Portland, M E Calendar Islands.

Whiting, G. W. (2006). From at risk to at promise: Developing scholar identities among black males. *The Journal of Secondary Gifted Education*, 17(4), 222-229.

Wood, R. E., & Bandura, A. (1989). Social cognitive theory of organizational management. *Academy of Management Review*, 14(3), 361-384.

Yeager, D. S., & Dweck, C. S. (2012). Mindsets that promote resilience: When students believe that personal characteristics can be developed. *Educational Psychologist*, 47(4), 302-314.

Zimmerman, B. J., & Bandura, A. (1994). Impact of self-regulatory influences on writing course attainment. *American Educational Research Journal*, 31(4), 845-862.

Zimmerman, B., & Risemberg, R. (1997). Becoming a self-regulated writer: a social cognitive perspective. *Contemporary Educational Psychology*, 22(1), 73-101.



Appendix A: Cover Page

Study

Student ID

Today's Date

First Name

Last Name

Male

Female

School

Grade

Birthday

Age

Name of Boys and Girls Club



## Appendix B: Theories of Intelligence Scale

### THEORIES OF INTELLIGENCE SCALE

**Read each sentence below and then circle the one number that shows how much you agree with it. There are no right or wrong answers.**

|     |                                                                                       |            |                      |                         |               |                           |
|-----|---------------------------------------------------------------------------------------|------------|----------------------|-------------------------|---------------|---------------------------|
| *1. | You have a certain amount of intelligence, and you really can't do much to change it. |            |                      |                         |               |                           |
|     | 1<br>Strongly<br>Agree                                                                | 2<br>Agree | 3<br>Mostly<br>Agree | 4<br>Mostly<br>Disagree | 5<br>Disagree | 6<br>Strongly<br>Disagree |

|     |                                                                           |            |                      |                         |               |                           |
|-----|---------------------------------------------------------------------------|------------|----------------------|-------------------------|---------------|---------------------------|
| *2. | Your intelligence is something about you that you can't change very much. |            |                      |                         |               |                           |
|     | 1<br>Strongly<br>Agree                                                    | 2<br>Agree | 3<br>Mostly<br>Agree | 4<br>Mostly<br>Disagree | 5<br>Disagree | 6<br>Strongly<br>Disagree |

|     |                                                                                |            |                      |                         |               |                           |
|-----|--------------------------------------------------------------------------------|------------|----------------------|-------------------------|---------------|---------------------------|
| *3. | You can learn new things, but you can't really change your basic intelligence. |            |                      |                         |               |                           |
|     | 1<br>Strongly<br>Agree                                                         | 2<br>Agree | 3<br>Mostly<br>Agree | 4<br>Mostly<br>Disagree | 5<br>Disagree | 6<br>Strongly<br>Disagree |

|    |                                                                |            |                      |                         |               |                           |
|----|----------------------------------------------------------------|------------|----------------------|-------------------------|---------------|---------------------------|
| 4. | No matter who you are, you can change your intelligence a lot. |            |                      |                         |               |                           |
|    | 1<br>Strongly<br>Agree                                         | 2<br>Agree | 3<br>Mostly<br>Agree | 4<br>Mostly<br>Disagree | 5<br>Disagree | 6<br>Strongly<br>Disagree |

|    |                                                        |            |                      |                         |               |                           |
|----|--------------------------------------------------------|------------|----------------------|-------------------------|---------------|---------------------------|
| 5. | You can always greatly change how intelligent you are. |            |                      |                         |               |                           |
|    | 1<br>Strongly<br>Agree                                 | 2<br>Agree | 3<br>Mostly<br>Agree | 4<br>Mostly<br>Disagree | 5<br>Disagree | 6<br>Strongly<br>Disagree |

|    |                                                                                 |            |                      |                         |               |                           |
|----|---------------------------------------------------------------------------------|------------|----------------------|-------------------------|---------------|---------------------------|
| 6. | No matter how much intelligence you have, you can always change it quite a bit. |            |                      |                         |               |                           |
|    | 1<br>Strongly<br>Agree                                                          | 2<br>Agree | 3<br>Mostly<br>Agree | 4<br>Mostly<br>Disagree | 5<br>Disagree | 6<br>Strongly<br>Disagree |

## Appendix C: Writing Attitude Survey

### WRITING ATTITUDES SURVEY

*Circle the smiley face that best describes how you feel about each situation.*

|     |                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| *1. | How would you feel writing a letter to the author of a book you read?                                                                                                                                                                                                                                                                                                                                                               |
|     | <div>Very Unhappy</div>  <div>Unhappy</div>  <div>Happy</div>  <div>Very Happy</div>          |
| *2. | How would you feel if you wrote about something you have heard or seen?                                                                                                                                                                                                                                                                                                                                                             |
|     | <div>Very Unhappy</div>  <div>Unhappy</div>  <div>Happy</div>  <div>Very Happy</div>      |
| *3. | How would you feel writing a letter to a store asking about something you might buy there?                                                                                                                                                                                                                                                                                                                                          |
|     | <div>Very Unhappy</div>  <div>Unhappy</div>  <div>Happy</div>  <div>Very Happy</div>  |
| *4. | How would you feel telling in writing why something happened?                                                                                                                                                                                                                                                                                                                                                                       |
|     | <div>Very Unhappy</div>  <div>Unhappy</div>  <div>Happy</div>  <div>Very Happy</div>  |
| *5. | How would you feel writing to someone to change his/her opinion?                                                                                                                                                                                                                                                                                                                                                                    |
|     | <div>Very Unhappy</div>  <div>Unhappy</div>  <div>Happy</div>  <div>Very Happy</div>  |
| 6.  | How would you feel keeping a journal?                                                                                                                                                                                                                                                                                                                                                                                               |

|     | Very Unhappy                                                                        | Unhappy                                                                             | Happy                                                                               | Very Happy                                                                            |
|-----|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|     |    |    |    |    |
| 7.  | How would you feel writing poetry for fun?                                          |                                                                                     |                                                                                     |                                                                                       |
|     | Very Unhappy                                                                        | Unhappy                                                                             | Happy                                                                               | Very Happy                                                                            |
|     |    |    |    |    |
| *8. | How would you feel writing a letter stating your opinion about a topic?             |                                                                                     |                                                                                     |                                                                                       |
|     | Very Unhappy                                                                        | Unhappy                                                                             | Happy                                                                               | Very Happy                                                                            |
|     |    |    |    |    |
| 9.  | How would you feel if you were an author who writes books?                          |                                                                                     |                                                                                     |                                                                                       |
|     | Very Unhappy                                                                        | Unhappy                                                                             | Happy                                                                               | Very Happy                                                                            |
|     |  |  |  |  |
| 10. | How would you feel if you had a job as a writer for a newspaper or magazine?        |                                                                                     |                                                                                     |                                                                                       |
|     | Very Unhappy                                                                        | Unhappy                                                                             | Happy                                                                               | Very Happy                                                                            |
|     |  |  |  |  |
| 11. | How would you feel about becoming an even better writer than you already are?       |                                                                                     |                                                                                     |                                                                                       |
|     | Very Unhappy                                                                        | Unhappy                                                                             | Happy                                                                               | Very Happy                                                                            |
|     |  |  |  |  |
| 12. | How would you feel about writing a story instead of doing homework?                 |                                                                                     |                                                                                     |                                                                                       |
|     | Very Unhappy                                                                        | Unhappy                                                                             | Happy                                                                               | Very Happy                                                                            |
|     |  |  |  |  |

|      |                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 13.  | How would you feel about writing a story instead of watching TV?                                                                                                                                                                                                                                                                                                                                                                    |
|      | <div>Very Unhappy</div>  <div>Unhappy</div>  <div>Happy</div>  <div>Very Happy</div>          |
| *14. | How would you feel writing about something you did in science?                                                                                                                                                                                                                                                                                                                                                                      |
|      | <div>Very Unhappy</div>  <div>Unhappy</div>  <div>Happy</div>  <div>Very Happy</div>          |
| *15. | How would you feel writing about something you did in social studies?                                                                                                                                                                                                                                                                                                                                                               |
|      | <div>Very Unhappy</div>  <div>Unhappy</div>  <div>Happy</div>  <div>Very Happy</div>      |
| 16.  | How would you feel if you could write more in school?                                                                                                                                                                                                                                                                                                                                                                               |
|      | <div>Very Unhappy</div>  <div>Unhappy</div>  <div>Happy</div>  <div>Very Happy</div>  |
| *17. | How would you feel about writing down the important things your teacher says about a new topic?                                                                                                                                                                                                                                                                                                                                     |
|      | <div>Very Unhappy</div>  <div>Unhappy</div>  <div>Happy</div>  <div>Very Happy</div>  |
| *18. | How would you feel writing a long story or report at school?                                                                                                                                                                                                                                                                                                                                                                        |
|      | <div>Very Unhappy</div>  <div>Unhappy</div>  <div>Happy</div>  <div>Very Happy</div>  |
| *19. | How would you feel writing answers to questions in science or social studies?                                                                                                                                                                                                                                                                                                                                                       |

|      | Very Unhappy                                                                             | Unhappy                                                                             | Happy                                                                               | Very Happy                                                                            |
|------|------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|      |         |    |    |    |
| 20.  | How would you feel if your teacher asked you to go back and change some of your writing? |                                                                                     |                                                                                     |                                                                                       |
|      | Very Unhappy                                                                             | Unhappy                                                                             | Happy                                                                               | Very Happy                                                                            |
|      |         |    |    |    |
| *21. | How would you feel if your classmates talked to you about making your writing better?    |                                                                                     |                                                                                     |                                                                                       |
|      | Very Unhappy                                                                             | Unhappy                                                                             | Happy                                                                               | Very Happy                                                                            |
|      |         |    |    |    |
| *22. | How would you feel writing an advertisement for something people can buy?                |                                                                                     |                                                                                     |                                                                                       |
|      | Very Unhappy                                                                             | Unhappy                                                                             | Happy                                                                               | Very Happy                                                                            |
|      |       |  |  |  |
| 23.  | How would you feel keeping a journal for class?                                          |                                                                                     |                                                                                     |                                                                                       |
|      | Very Unhappy                                                                             | Unhappy                                                                             | Happy                                                                               | Very Happy                                                                            |
|      |       |  |  |  |
| *24. | How would you feel writing about things that have happened in your life?                 |                                                                                     |                                                                                     |                                                                                       |
|      | Very Unhappy                                                                             | Unhappy                                                                             | Happy                                                                               | Very Happy                                                                            |
|      |       |  |  |  |
| *25. | How would you feel writing about something from another person's point of view?          |                                                                                     |                                                                                     |                                                                                       |
|      | Very Unhappy                                                                             | Unhappy                                                                             | Happy                                                                               | Very Happy                                                                            |
|      |       |  |  |  |

\*26. How would you feel about checking your writing to make sure the words you have written are spelled correctly?

Very Unhappy



Unhappy



Happy



Very Happy



27. How would you feel if your classmates read something you wrote?

Very Unhappy



Unhappy



Happy



Very Happy





# UTK Writing Project!



The Boys & Girls Club of the Tennessee Valley has partnered with the University of Tennessee to study the writing skills and motivation of students who were in the 3<sup>rd</sup>, 4<sup>th</sup>, or 5<sup>th</sup> grades for the 2014-2015 school year.

Your child can earn free books if you sign-up to participate! In order to receive free books, your child just needs to complete about 2 hours of testing in late May or early June and about an hour of testing in late July or early August at your local Boys & Girls Club.

If interested, please complete the attached parental consent and return it to your Club!



BOYS & GIRLS CLUBS  
OF THE TENNESSEE VALLEY



## Appendix E: Parental Consent

### Parental Consent Form for Participation in a Research Study Phase II

Title: Examining the Writing Achievement and Motivation of Upper Elementary-Aged Students

Researchers: [REDACTED] and Beau Whitsett

In this research project, we will study the relation between motivation and writing achievement for students in third, fourth, and fifth grades. The purpose of this project is to examine the relationship between various aspects of writing motivation and writing achievement.

We will collect information about your child's writing achievement and motivation to write in a variety of ways at the beginning and end of the summer. At the beginning of the summer (for approximately 2 hours), we will ask your child to complete the Test of Written Language-4, a writing attitude survey, two writing self-efficacy scales, a theories of intelligence scale, and an attribution scale. At the end of the summer (for approximately 1.5 hours) we will ask your child to complete the Test of Written Language-4 and a questionnaire related to how often your child reads and writes. We will also collect demographic information from the Boys & Girls Clubs of the TN Valley (e.g. gender, grade). Your student's name, school, class, or school district will not be shared with anyone. We will share group results with other people when we report the results of the study in an education publication or presentation. We will report the results from all the students in your child's Club to the Boys & Girls Club of the TN Valley, but they will **not** receive information specific to your child. That is, only a group summary of performance will be shared with the Club. Private information that could identify your student will be maintained under the participant's number in a locked cabinet and office.

We are asking that you give permission for your child to participate in this project. Your participation in this study is voluntary. Your child can discontinue participation at any time and that is okay.

If you have any questions you can contact:

- The researchers can be contacted for any further questions about the research, now or during the course of the project at:
  - [REDACTED]
  - Mr. Beau Whitsett, University of Tennessee, A204 Bailey Education Complex, Knoxville, TN 37996-3442; Phone: (865) 974-6228; Email: bwhit1@vols.utk.edu
  - Dr. Sherry Bell, faculty advisor, University of Tennessee, A204 Bailey Education Complex, Knoxville, TN 37996-3442; Phone: (865) 974-6228; Email: sbell1@vols.utk.edu
- If you have any questions about your rights as a research participant, you may contact the UT Office of Research Compliance Officer at (865) 974-7697.

If you are willing for your child to participate in this study, please sign below. If you agree, you may stop participating at anytime. We will give you a copy of this consent form to keep.

Student's Name

Parent's Signature

Date

## Appendix F: Parent Questionnaire

### **Parent Questionnaire** **UTK/Boys & Girls Club Summer Projects**

Dear Parents/Guardians,

We are pleased that your child is part of the UT Project this summer. If selecting to participate, please return this form with your signed parental consent.

|                                               |                |                                                                      |           |                              |
|-----------------------------------------------|----------------|----------------------------------------------------------------------|-----------|------------------------------|
| What are some of your child's favorite books? |                |                                                                      |           |                              |
| How often does your child read at home?       |                |                                                                      |           |                              |
| What does your child like to write about?     |                |                                                                      |           |                              |
| How often does your child write at home?      |                |                                                                      |           |                              |
| List 2 or 3 things your child likes to do.    |                |                                                                      |           |                              |
| <b>Child</b>                                  | Full Name:     | <b>Language</b>                                                      |           |                              |
|                                               |                | <b>Child Language (Circle in the box below)</b>                      |           |                              |
|                                               | Date of Birth: | English Only                                                         | Bilingual | Primary Language not English |
| <b>Mother/<br/>Female<br/>Guardian</b>        | Full Name:     | <b>Mother/Female Guardian Language<br/>(Circle in the box below)</b> |           |                              |
|                                               | Phone:         | English Only                                                         | Bilingual | Primary Language not English |
|                                               | Email:         |                                                                      |           |                              |
| <b>Father/Male<br/>Guardian</b>               | Full Name:     | <b>Father/Male Guardian Language<br/>(Circle in the box below)</b>   |           |                              |
|                                               | Phone:         | English Only                                                         | Bilingual | Primary Language not English |
|                                               | Email:         |                                                                      |           |                              |

**Does your child receive special education services at school?      YES      NO**  
**If YES, please circle the term(s) that best describes the category your child receives services.**

|                       |                               |
|-----------------------|-------------------------------|
| Deaf-Blindness        | Orthopedic impairment         |
| Deafness              | Other health impairment       |
| Emotional Disturbance | Specific learning disability  |
| Hearing impairment    | Speech or language disability |

|                              |                                         |
|------------------------------|-----------------------------------------|
| Intellectual disability      | Visual impairment (including blindness) |
| Multiple disabilities        | Autism                                  |
| Traumatic brain injury       |                                         |
| Other: Please describe _____ |                                         |

## Appendix G: Study Script

### Script for Administration of Scales & TOWL-4

#### **Hand out folders.**

*You have a folder. This folder will ask you questions about how you feel about writing and how well you write. But, first, we need some information from you.*

#### **Hold up a sample folder.**

*Look at the front page of your folder.*

*Please write today's date on the line labeled as "Today's Date."*

#### **Point to the line.**

*Today's date is {Say the date}.*

*Now, write your first name. Then, write your last name.*

*Mark whether you are male or female. Male means boy. Female means girl.*

*Next, write the name of the school you go to and the grade you were just in for the 2014-15 school year. This is the grade you just finished.*

*Then, write your birthday and your age. Age is how old you are.*

*Finally, write the name of this Club. This Club is {say the name of the Club}. Put your pencil down when you are finished to let us know we can move on.*

*Thank you for helping us get this information. Now open your folder.*

#### **Hold up the folder with the Student Assent form visible.**

*I am going to read this form aloud to you. Follow along as I read. After, I have finished reading, I want you to write and sign your first and last name to the bottom of the paper. Put your pencil down when you are finished to let us know we can move on.*

**Point to the location where students should write and sign their names on the assent form and say:** *You'll sign your name here when I am finished reading.*

#### **Read the Assent Form aloud.**

### **Student Assent Form for Participation in a Research Study Phase II**

Title: Examining the Writing Achievement and Motivation of Upper Elementary-Aged Students Researchers: [REDACTED] and Beau Whitsett

You are invited to participate in helping teachers learn about writing and your motivation to write. We want to find out if there is a relationship between the way you feel about writing and how you perform on different writing tasks.

We will collect information about your grade level, age, and other important information. We will also collect information about how well you write, how often you like to write, and your beliefs about how well you write. We will ask you to work with us for about 1 ½ to 2 hours at the beginning of the summer and about 1 hour at the end of the summer. We will share how you do with other people when we find out if your motivation to write impacts the way you write. However, no one will know your name, class, or school. We will give you a student number.

We are asking that you be a member of this group of students. Your participation in this study is voluntary. If you agree, you can also stop at any time and that is okay too.

If you have any questions you can contact:

| The researchers can be contacted for any further questions about the research, now or during the course of the project at:

- Mr. Beau Whitsett, University of Tennessee, A204 Bailey Education Complex, Knoxville, TN 37996-3442; Phone: (865) 974-6228; Email: [bwhitset1@vols.utk.edu](mailto:bwhitset1@vols.utk.edu)
- Dr. Sherry Bell, faculty advisor, University of Tennessee, A204 Bailey Education Complex, Knoxville, TN 37996-3442; Phone: (865) 974-6228; Email: [sbell1@vols.utk.edu](mailto:sbell1@vols.utk.edu)
- | If you have any questions about your rights as a research participant, you may contact the UT Office of Research Compliance Officer at (865) 974-7697.

If you are willing to participate in this study, please sign below. If you agree, you may stop participating at any time. We will give you a copy of this assent form to keep.

Student's Name

Student's Signature

Date

**Walk around to be sure students are signing their names in the correct locations.**

*Thank you for signing your name.*

*Today we are going to be completing several activities to look at how you feel about writing and how well you write. We want you to be honest and to do your own work. We are here to help if you have any questions. All of the items in your folder will be read aloud to you. If reading ahead and answering by yourself works better for you, then move at your own pace. If you move at your own pace, please be sure to wait until you hear and understand all of the directions.*

*Also, be sure not to jump to another activity. Stay on the same color as everyone else. Do you have any questions?*

**Respond to any questions. Turn to page 01, the grey paper. Hold up Page 01.**

*Now we are going to ask questions about your view of intelligence. Intelligence can be thought of how smart a person is. We are not asking about how smart you think you are, but your views of becoming or staying smart. I am going to read each sentence below. I want you to circle the one number that shows how much you agree with it. There are no right or wrong answers.*

**Hold up the Theory of Intelligence Scale.**

*Remember, I want you to circle the number that shows how much you agree or disagree with it. Remember, I will read each item out loud. You can move ahead, but stay on this activity. Put your pencil down when you are finished to let us know we can move on.*

**Begin reading item 1.**

**Read it a second time while the children are thinking about their answers.**

**Be sure to read the item number and to remind students of where they should be as to not let anyone fall behind in the process.**

**After reading the final item say:** *Put your pencil down when you are finished to let us know we can move on.*

*I appreciate how hard you are working. Now, we are going to ask some questions about how you feel about writing. Flip to the next page in your folder.*

**Hold up the Writing Attitudes Scale.**

*This survey is about how you truly feel about writing. So while you read the questions, do your best to pick the answer that most closely matches how you really feel! I want you to circle the smiley face that best describes how you feel about each situation. You can choose "Very Unhappy," "Unhappy," "Happy," or "Very Happy." Your answers need to be how you truly feel, not how you think someone else feels or how you think you should feel. If you have questions as we go, raise your hand and we will help.*

*Do you have any questions?*

**Respond to any questions.**

*Remember, I will read each item out loud. You can move ahead, but stay on this activity. Put your pencil down when you are finished to let us know we can move on.*

**Read each item, slowly and clearly.**

**Be sure to read the item number and to remind students of where they should be as to not let anyone fall behind in the process.**

*I appreciate how hard you are working today. We have one more activity before we take a break.*

*Now, I want you to think about how well you write. Let's look at the next activity in your folder.*

**Hold up the Writing Attributions Scale**

*Doing well in writing is important to many students. There are different reasons for how well you write. Listed below are some situations about doing well or not so well in writing. Imagine yourself to be in each situation. Imagine means to pretend you are in each situation. Read each statement and each reason and tell whether or not the reason is "like you." Let's try some examples.*

*Look at item A. It says: I got a good grade on my writing project. It is because: You can choose "I am a good writer" OR "I work hard to make good grades in writing." Decide which of these options best describes you. Circle the reason that is most like you.*

**Make sure students circle a response.**

*Now, look at item B. It says: I had trouble spelling words. It is because: You can choose "I am naturally a bad speller" OR "I do not practice enough to be a good speller." Decide which of these options best describes you. Circle the reason that is most like you.*

*Now, we are going to read some more situations. Imagine yourself to be in each situation. Remember, I want you to circle the reason that is more like you for each item.*

*Do you have any questions?*

**Read each situation carefully.**

*Put your pencil down when you are finished to let us know we can move on.*

*Thank you for working hard. Close your packets. We are going to take a 10-minute break.*

**BREAK – restroom, candy, etc.**

*Now, we are going to do two more activities in your folder. Open your folder to this page.*

**Hold up the Writing Skills Self-Efficacy Scale.**

*I am going to read some statements. I want you to decide how sure you are that you can perform each writing skill. You can choose any number between 0 and 100. Look at how I want you to choose your numbers.*

**Point to the number scale.**

*After I read each statement, think about how sure you are that you can do that skill. If you think that you definitely cannot do it, you would write a number around 0. If you think you cannot do it, you would write a number around 10. If you think you*

probably cannot do it, you would pick a number around 20 to 40. If you think you could maybe do that writing skill, you would pick a number around 50. If you think you probably can do it, write a number between 60 and 80. If you think that you could do it, you would pick a number around 90. And, if you think you can definitely do it – no doubt about – pick 100.

Let's try some examples. Look at practice item A. It says: Write a funny letter to a friend. How sure are you that you can complete that? Choose a number between 0 and 100 and write it in the box.

Let's try some examples. Look at practice item B. It says: Write a newspaper article. How sure are you that you can complete that? Choose a number between 0 and 100 and write it in the box.

Let's try some examples. Look at practice item C. It says: about an important event in my life. How sure are you that you can complete that? Choose a number between 0 and 100 and write it in the box.

Turn to the next page in your folder. I will read each statement. Remember to write a number that best describes how sure you feel that you could do that skill. You can pick a number between 0 and 100. Do you have any questions?

**Respond to questions.**

**Read each item. Remind students to pick a number between 0 and 100, if needed.**

Put your pencil down when you are finished to let us know we can move on.

**After everyone has finished with the Skills Scale, say:**

In a few moments I am going to ask you to write a story. Before you write your story, I am going to ask you about how sure you are about writing it.

**Hold up the Narrative Writing Self-Efficacy Scale.**

Look at this picture. Show the picture titled “The Surprise Party” of the TOWL-4.

I want you to think about how you feel about writing a story about this picture. On a scale of 0 to 100, how sure are you about each of these statements. You can write any number you want between 0 and 100.

**Read each item. Remind students to pick a number between 0 and 100, if needed.**

Now, we are going to write a story about this picture. Before you write your story, I want to give you an idea of what a good story is. I will read you an example of a good story that was written by another student. Look at the picture I am holding. Refer to the sample picture. This story is titled “The Surprise Party.”

Sara and her brother, Joe, decided to throw a fabulous surprise party for their mother's birthday. Sara told Joe to make some food while she decorated the living room. He didn't know much about cooking, but he figured he would just make it up as he went along. While Joe was cooking, he dropped some eggs on the floor. Before he could

clean them up, he noticed the spaghetti was boiling over! Joe panicked and hollered for his sister.

Before Sara could get to the kitchen, she heard Joe screaming, “Help me, Sara!” Water overflowed from the sink, smoke poured from the stovetop, and the place was a mess. Joe pointed at the clock and yelled that it was after 6:00. Mom and Dad would be home any second! As they hurried to clean up the disaster, Mom and Dad walked in the front door. When she saw the huge mess, Mom was so angry, she looked like a thunderstorm.

Dad joked that the kitchen looked like a hurricane had hit it. Sara explained that she and Joe had wanted to do something nice for their mother on her birthday. Joe gave Mom a big hug and told her how much he loved her.

Mom replied, “I love you, too. You meant well, and that's what matters.”

“What really matters is that you clean up the kitchen,” Dad joked. This time, everyone laughed, and then they all cleaned up the mess together.

*The story I just told you has a clear beginning, middle, and an ending. The story has a title, the people in the story have names and emotions, and their actions are interesting. Now, I want you to write a story about another picture that I am going to show you. Try to make your story as interesting as you can.*

**Hold up the Picture Card. The Picture Card should correspond to the picture on page 2 of the Student Response Book.**

*Get out the lined paper in the back of your packet.*

**Hold up the lined paper.**

*I want you to write a story about this picture. Before you start, take time to plan your story. Make an outline on the scratch paper I have given you. This will help you plan and write your story. You will have 5 minutes to plan before you start writing your actual story. Begin your outline now.*

**After 5 minutes have elapsed, say:** *Now, get out the Student Response Booklet and a piece of (lined) scratch paper, and open up your booklet to page 2.*

**Hold up page 2 of Student Response Booklet.**

*You will have 15 minutes to write your story. Use your imagination to make your story as interesting as you can. Also, use paragraphs, good spelling, and the right punctuation to make your story the best it can be. Remember to write neatly. **Pause,** then say: Begin writing now.*

**When 12 minutes have lapsed, say:** *You have 3 minutes to finish writing your story. At the end of 15 minutes, say: Stop writing. Put your scratch paper inside your booklet. **Proceed with the first subtest, Vocabulary.***

**Refer to TOWL-4 manual, page 14 for the remaining subtests scripts.**

## Appendix H: Student Assent Study

### Student Assent Form for Participation in a Research Study Phase II

Title: Examining the Writing Achievement and Motivation of Upper Elementary-Aged Students

Researchers: [REDACTED] and Beau Whitsett

You are invited to participate in helping teachers learn about writing and your motivation to write. We want to find out if there is a relationship between the way you feel about writing and how you perform on different writing tasks.

We will collect information about your grade level, age, and other important information. We will also collect information about how well you write, how often you like to write, and your beliefs about how well you write. We will ask you to work with us for about 1 ½ to 2 hours at the beginning of the summer and about 1 hour at the end of the summer. We will share how you do with other people when we find out if your motivation to write impacts the way you write. However, no one will know your name, class, or school. We will give you a student number.

We are asking that you be a member of this group of students. Your participation in this study is voluntary. If you agree, you can also stop at any time and that is okay too.

If you have any questions you can contact:

- The researchers can be contacted for any further questions about the research, now or during the course of the project at:
  - [REDACTED]
  - Mr. Beau Whitsett, University of Tennessee, A204 Bailey Education Complex, Knoxville, TN 37996-3442; Phone: (865) 974-6228; Email: bwhit1@vols.utk.edu
  - Dr. Sherry Bell, faculty advisor, University of Tennessee, A204 Bailey Education Complex, Knoxville, TN 37996-3442; Phone: (865) 974-6228; Email: sbell1@vols.utk.edu
- If you have any questions about your rights as a research participant, you may contact the UT Office of Research Compliance Officer at (865) 974-7697.

If you are willing to participate in this study, please sign below. If you agree, you may stop participating at any time. We will give you a copy of this assent form to keep.

Student's Name \_\_\_\_\_

Student's Signature \_\_\_\_\_

Date \_\_\_\_\_

## Appendix I: Summary of Results

### Examining the Writing Attitude, Mindset, and Writing Achievement of At-Risk Elementary-Aged Students: Summary of Results

| Research Question                                                                                                                                                                                                                                                  | Analysis            | Result                                                                                                                        | Page(s) |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-------------------------------------------------------------------------------------------------------------------------------|---------|
| 1. Is there a significant positive relationship between <b>Mindset</b> (as measured by the Theories of Intelligence Scale for Children) and <b>writing achievement</b> (as measured by the Test of Written Language-IV) of at-risk upper elementary-aged students? | Pearson Correlation | TOI & TOWL-4: <b>significant</b> moderate positive correlation between these two variables, $r(58) = .33, p < .01; r^2 = .11$ | 60      |
| 1A. Is there a significant positive relationship between <b>Mindset</b> (as measured by the Theories of Intelligence Scale for Children) and <b>writing achievement</b> (as measured by the Test of Written Language-IV) for <b>male</b> participants?             | Pearson Correlation | TOI & TOWL-4: non-significant, $r(36) = .27, p > .05; r^2 = .07$ .                                                            | 60-61   |
| 1B. Is there a significant positive relationship between <b>Mindset</b> (as measured by the Theories of Intelligence Scale for Children) and <b>writing achievement</b> (as measured by the Test of Written Language-IV) for <b>female</b> participants?           | Pearson Correlation | TOI & TOWL-4: <b>significant</b> large positive correlation between these two variables, $r(22) = .58, p < .01; r^2 = .34$    | 61-62   |
| 2. Is there a significant positive relationship between <b>Attitude toward writing</b> (as measured by the Writing Attitude Survey) and <b>writing achievement</b> (as measured by the Test of Written Language-IV) of at-risk upper elementary-aged students?     | Pearson Correlation | WAS & TOWL-4: <b>significant</b> large positive correlation between these two variables, $r(58) = .52, p < .01; r^2 = .27$ .  | 62      |
| 2A. Is there a significant positive relationship between <b>Attitude toward writing</b> (as measured by the Writing Attitude Survey)                                                                                                                               | Pearson Correlation | WAS & TOWL-4: <b>significant</b> large positive correlation between these two variables, $r(36) = .64, p < .01; r^2 = .41$ .  | 62-63   |

|                                                                                                                                                                                                                                                      |                               |                                                                                        |    |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|----------------------------------------------------------------------------------------|----|
| and <b>writing achievement</b> (as measured by the Test of Written Language-IV) for <b>male</b> participants?                                                                                                                                        |                               |                                                                                        |    |
| 2B. Is there a significant positive relationship between <b>Attitude toward writing</b> (as measured by the Writing Attitude Survey) and <b>writing achievement</b> (as measured by the Test of Written Language-IV) for <b>female</b> participants? |                               | WAS & TOWL-4: non-significant, $r(22) = .24$ , $p > .05$ ; $r^2 = .06$                 | 63 |
| 3. Is there a significant mean difference in <b>Mindset</b> (as measured by the Theories of Intelligence Scale for Children) for <b>male</b> participants and <b>female</b> participants?                                                            | Independent samples $t$ -test | TOI: non-significant, $t(56) = -1.58$ , $p > .05$ ; $d = .43$ (range = 1.67 – 6.00)    | 64 |
| 4. Is there a significant mean difference in <b>Attitude toward writing</b> (as measured by the Writing Attitude Survey) for <b>male</b> participants and <b>female</b> participants?                                                                | Independent samples $t$ -test | WAS: non-significant, $t(56) = 1.25$ , $p > .05$ ; $d = .32$ (range = 1.25 – 3.94)     | 64 |
| Additional analysis. Is there a significant mean difference in <b>writing achievement</b> (as measured by the Test of Written Language-IV) for <b>male</b> participants and <b>female</b> participants?                                              | Independent samples $t$ -test | TOWL: non-significant, $t(56) = 1.10$ , $p > .05$ ; $d = .30$ (range = 62.00 – 145.00) | 64 |

**Vita**

Beau Michael Whitsett is an Assistant Professor of Education at Tennessee Wesleyan University. He received his Bachelor's and Master's degrees in Elementary Education from The University of North Alabama. He was a self-contained fourth grade classroom teacher at an elementary school in Florence, Alabama for five years before attending The University of Tennessee, Knoxville. His main research interest is elementary school writing. Other research interests include mindset and movie/book trailers in literacy.