Partners in Learning:

Supporting Student Learning Through Parent Mindset Training

Corinne Peters

Trinity Western University

September 2022

A thesis submitted in partial fulfillment of the requirements for the degree of

Master of Arts in Educational Studies – Special Education

Abstract

Parent involvement in a child's learning has been strongly linked to student academic achievement and success. Similarly, the development of a growth mindset, the belief that intelligence is developed through effort and perseverance, has also been linked to increased student achievement. While research supports both claims, there are few studies that examine the impact parent mindsets have on their level of involvement in their child's learning. Parents with low involvement tend to also have low self-efficacy when it comes to helping their children learn. This study examined whether providing a workshop to parents on mindsets and learning support impacted their self-efficacy and involvement with their child's learning. By conducting pre- and post-training questionnaires on parent self-efficacy and involvement, the study sought to explore possible relationships between parent mindset training and self-efficacy levels, and parent training and the amount of time involved in supporting student learning. Initial findings indicated that pretest scores for parental self-efficacy were high while pretest scores for involvement were moderate. Findings also indicated that the mean for the parent involvement pretest was higher than the mean for the posttest. Although in-depth analysis was limited as a result of sample size ($N = 4$), implications of this research are discussed.

Keywords: parent involvement, parent self-efficacy, theories of intelligence, failure mindsets, incremental theory, entity theory

Partners in Learning:

Supporting Student Learning Through Parent Mindset Training

Chapter 1: Introduction

Parent involvement and student intelligence mindsets both play a key role in a child's learning and academic achievement (Boaler, 2013; Broda et al., 2018; Claro et al., 2016; Hill & Tyson, 2009). Even though parent involvement is recognized as an important factor in student achievement, my experience as an educator has revealed that many parents feel at a loss when it comes to helping their child succeed at school. In particular, parents with limited education themselves, those whose own experiences of school were negative, or those ill-confident of their proficiency in the English language, have frequently expressed difficulty with knowing how to help their child with schoolwork, or how to support their child with learning challenging concepts. Lack of parent education, coupled with significant changes that have occurred in education over the past decade or two, including advances in neuroscience that have altered our understanding of learning processes and therefore changed best practices in teaching, have left parents feeling they do not have the education, the skills, or the know-how to support their child in learning. Parents' own anxieties about learning, success, failure, and school might also impact the academic experiences and success of their children (Casad et al., 2015) and at no time has the role of parents been more important to the educational success of children than during the COVID-19 pandemic over the last few years. Health restrictions leading to school closures and requiring learning to happen remotely put increased pressure on parents to provide primary learning support for their school-aged children in the absence of in-person teacher support. So, what can parents do to support their child's learning when they lack the confidence or feel ill-equipped to do so?

Rationale for the Current Study

There is a significant body of research around parent involvement in schools, school communities and learning. It has been well-established in the literature that parents play an important role in supporting education, however the specifics of what constitutes the most effective parental involvement is complex and multi-faceted. Studies have examined factors contributing to parent involvement in schools and at home (Li & Hamlin, 2019; McNeal, 2015; Park & Holloway, 2017), explored motivators and predictors of involvement (Calzada et al., 2014; Green et al., 2007), analyzed factors that moderate or mediate involvement (Boonk et al., 2018), and barriers to involvement (Griffin & Galassi, 2010; LaRocque et al., 2011; MacPhee, 2021). Much of the research has focused on immigrant and minority families, underserved communities, or school communities with low achievement histories.

Research examining the impact of mindsets on academic achievement has predominantly focused on student and teacher mindsets. As more and more studies showed associations between intelligence mindsets and learning behaviours (Burnette et al, 2013; West et al., 2016;) and academic achievement (Claro et al., 2016; Costa & Feria, 2018), research into the effectiveness of mindset interventions has become a growing area of interest. Research has shown that students' beliefs about intelligence influence their motivation and achievement and that parent's own mindsets influence the mindsets of their children (Haimovitz & Dweck, 2016). It may not be surprising, then, that teaching a growth mindset has shown to improve motivation and productivity (Orosz et al., 2017; Rhew et al., 2018).

Although the literature has examined factors contributing to parent involvement and the impact of mindset on academic achievement and learning behaviours, research exploring the impact of parent mindsets on student mindsets and achievements is limited. Furthermore,

research on any of the variables of interest in this study from a Canadian context is rare, and rural Canadian settings even more so.

My experience as a middle school educator, hearing the same concerns expressed by parents year after year, and knowing what the research about mindsets has demonstrated about its potential impact on learning, has motivated my interest in examining mindset interventions for parents more closely. The purpose of the study, therefore, was to examine the variables of parent parental involvement and self-efficacy before and after participating in mindset training. It looked at whether gaining knowledge about mindsets and the learning process influenced parents' involvement with their child's learning and whether that same knowledge influenced parental self-efficacy. Recognizing the constraints of this study in terms of time between pre- and post- measurements, and that any potential impact of the intervention may not be evident in parent practices in that time, the variable of parental self-efficacy is another way of measuring potential change.

The research questions guiding this study were:

1. Is there a relationship between mindset training and parental involvement with a child's learning?

2. Is there a relationship between parent mindset training and parent self-efficacy in supporting their child's learning?

It was hypothesized that mindset training would result in an increase in parent involvement, although given the short duration of this study, it was anticipated that changes may not reach significance. It was also hypothesized that after participating in a workshop on mindsets and learning, parents would report an increase in their self-efficacy in regard to supporting their child with learning.

Given the geographic locale of this study, and that the target population itself is not large, it was not expected that participant recruitment would result in a large enough sample size to provide data that could be generalized to a larger population. Furthermore, considering that parent interventions on mindsets is a new area of research, this study was intended to be a first step in exploring whether a parent mindset workshop might be a feasible and effective way to empower parents in support of student learning.

Definition of Terms

Parent Involvement

In the vast body of research related to parental involvement in education, there are nearly as many definitions of parent involvement, or related terms used, as there are studies. While the construct of parent involvement will be explored in detail in the next chapter, it is important to define the term as it will be utilized in the remaining chapters. For the purpose of this study, the term *parent* will refer to a primary adult caregiver in a child's life. The term *involvement* will use Jeynes' (2012) definition and will refer to any "parental participation in the educational processes or experiences of their child" (p. 717). This includes help with homework, conversations about school, learning, assignments, parental expressions of interest in a students' learning, or participation in any learning or school related events. While distinction can be made between using the terms *involvement* and *engagement*, unless otherwise noted, these terms will be used interchangeably throughout.

Parental Self-Efficacy

The definition of self-efficacy in the literature is not always clear or consistent. Often used as a synonym for confidence, competence or self-esteem, Wittkowski et al. (2017) draw distinctions between these terms and self-efficacy. Whereas confidence tends to be stable over

time and refers to the strength of belief about a task, and self-esteem refers to one's judgement of worth, self-efficacy refers to "one's judgement of personal capability" and varies according to task and context (p. 2961). Bandura and Adams (1977), whose body of work includes a significant amount of research on self-efficacy, define it as "expectations of personal effectiveness" (p. 287). In relation to this study, *parental self-efficacy* will be defined as a parent's belief that he or she has the capability to influence a child's learning. Based on this definition, a parent with low self-efficacy would believe she had little or no capability to influence her child's academic success, whereas a parent with high self-efficacy would believe she was highly capable of impacting her child's learning.

Mindsets

The notion of intelligence mindsets was first conceived by Carol Dweck (2016). According to Dweck, mindsets are beliefs about our intelligence, talents, and personality. She differentiated between two main beliefs: a fixed mindset; and a growth mindset.

Fixed Mindset. A fixed mindset, also known as entity theory of intelligence, describes the belief that either you are smart, or you are not. Dweck explains a fixed mindset in the following way:

> People with a fixed mindset believe that their traits are just givens. They have a certain amount of brains and talent and nothing can change that. If they have a lot, they're all set, but if they don't…So people in this mindset worry about their traits and how adequate they are. They have something to prove to themselves and others (Dweck, 2016).

Entity Theorist. An *entity theorist* refers to an individual who subscribes to the entity theory of intelligence, or fixed mindset.

Growth Mindset. A *growth mindset*, also known as *incremental theory intelligence*,

describes the belief that intelligence and smartness can be learned and that the brain grows from exercise. This belief values effort and problem-solving strategies. Dweck explains that people with a growth mindset see that qualities can be developed through dedication and effort and that great things are accomplished through practice and learning (Dweck, 2016).

Incremental Theorist. An *incremental theorist* refers to an individual who subscribes to the incremental theory of intelligence, or growth mindset. This individual believes that with enough effort, intelligence and skills can be improved. For example, a student struggling to understand a math concept such as algebra, who knows that with time, effort, and the right supports they can learn the concept, would be an *incremental theorist*.

Failure-is-Debilitating Mindset. The belief that failure is a debilitating experience that inhibits learning and productivity is called a failure-is-debilitating mindset. These individuals view mistakes and failure as evidence they are not smart and tend to avoid experiences that might lead to further mistakes. For example, a student who does poorly on a reading test, concludes they're just not good at reading and avoids having to do it, would have a failure-is-debilitating mindset.

Failure-as-Enhancing Mindset. The belief that failure provides opportunity for learning and growth is referred to as a *failure-is-enhancing* mindset. These individuals enjoy challenges and view mistakes as evidence they may lack a skill or knowledge but know that with practice they can improve. For example, if this student does poorly on a reading test, she would conclude that although this test did not go well, with practice and effort she can do better on the next one. She would hold a *failure-as-enhancing* mindset.

Given the purpose of this study, to explore if a relationship exists between parent mindset training and parent involvement, and between mindset training and parent self-efficacy, the

salient literature on parent involvement in student learning, parental self-efficacy as relates to parental involvement in student learning, the impact of intelligence mindsets, and the effectiveness of mindset interventions will be reviewed.

Chapter 2: Literature Review

This study explores the use of parent mindset training as a potential means of supporting parents in their involvement in their child's learning. To understand the relevance and scope of this research, a review of relevant literature is necessary. This chapter will examine models of parent involvement, its benefits as supported by research, and initiatives that have been used to increase parent involvement. It will then provide a review of the salient literature on parental self-efficacy, followed by a discussion on mindset research, examining implicit theories of intelligence, their relationships to academic factors of achievement and behaviours, and how parent mindsets influence their children. The chapter will conclude with a review of mindset interventions and the impact they have on students and academics.

Parent Involvement

The study of parent involvement in education is decades long and has evolved from a focus on parent participation in school activities, such as serving on parent councils or volunteering in the school, to a focus on parent-school partnerships that look at communication between the school or teacher and the home, and more recently to the ways parents are involved in a child's learning at home. Research has explored various contexts and aspects of parent involvement including, but not limited to: motivators of parent involvement (Jasis & Ordonez-Jasis, 2012; Murry et al., 2014); barriers to involvement (Antony-Newmann, 2019; Housel, 2020; MacPhee, 2021); and predictors of involvement (Calzada et al., 2014; Green et al., 2007; Oswald et al., 2018). Results of studies have continually shown that children whose parents are involved in their learning tend to experience increased academic success. The benefits of parent involvement include not only academic outcomes (Benner et al., 2016; Li & Hamlin, 2019; Park & Holloway, 2017) but also social adjustment (Barger et al., 2019) and school-community

relationships (Lawson & Alameda-Lawson, 2012).

Types of Involvement

Definitions of parent involvement are quite varied in the literature and as research has provided more insight into its complexity, definitions of the construct have become more inclusive. As definitions have changed, so has the terminology. Instead of involvement, researchers have used terms such as engagement (Goodall & Montgomery, 2014), investments (Jacobs & Daniels, 2020), and capital (Li & Hamlin, 2019; Sabol et al., 2018) in an attempt to reflect the complexities of parental involvement more accurately.
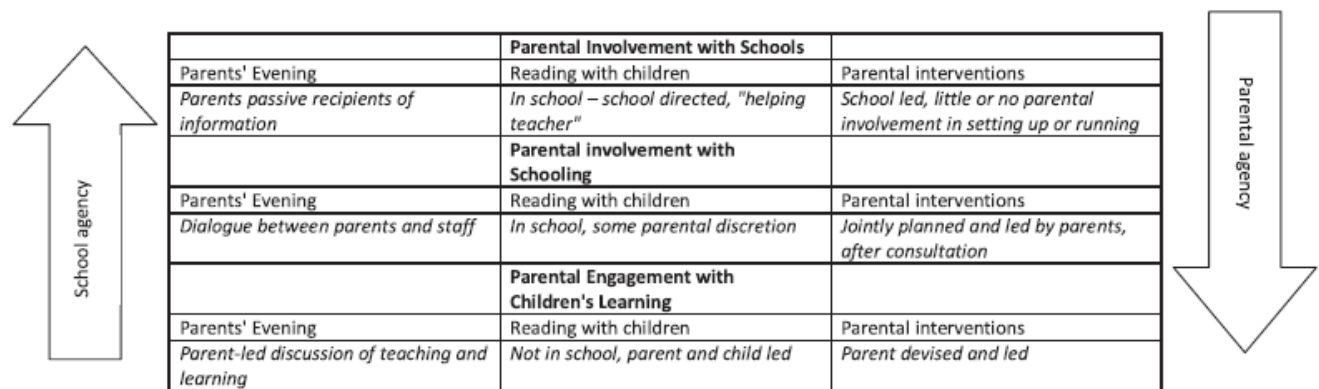
Generally, parent involvement can be sorted into two main categories: school-based and home-based involvement. As implied, school-based involvement includes any interaction or activity that takes place at or in connection with the school or under the school's jurisdiction. This might include attending school events, participating on committees, volunteering, or attending parent conference meetings. Home-based involvement includes all the ways parents participate in the education of their child, formally or informally, outside of the school. Research into home involvement has grown in recent years as researchers have recognized ways parents support a child's learning that may not be obvious at first glance, or that early models of involvement may overlook (Hamlin & Flessa, 2018; Jacobs & Daniels, 2020). In addition to help with schoolwork or engaging in learning activities at home, home-based involvement includes factors such as attitudes, beliefs, culture, socialization, advising and future-planning, among others.

Goodall and Montgomery (2014) differentiate between parent involvement in school activities and parent engagement in student learning. With parental engagement as the goal, they propose a three-point continuum in which the difference between one point and another is the

way in which actions are carried out rather than in the action itself. At the first point on the

continuum, parental involvement with the school, the school is in control of relationships and

information and parents are generally passive participants in activities that are instigated by the

school and take place in or around the school (see Figure 1). One example would be a parents

evening where the goal is to tell parents information. Parents move from classroom to classroom,

meeting staff but having little opportunity to say anything as there is a one-way flow on

information and parents are the passive recipients.

Figure 1

Continuum: From Parental Involvement to Engagement

	Parental Involvement with Schools	
Parents' Evening	Reading with children	Parental interventions
Parents passive recipients of information	*In school – school directed, "helping teacher"*	*School led, little or no parental involvement in setting up or running*
	Parental involvement with Schooling	
Parents' Evening	Reading with children	Parental interventions
Dialogue between parents and staff	*In school, some parental discretion*	*Jointly planned and led by parents, after consultation*
	Parental Engagement with Children's Learning	
Parents' Evening	Reading with children	Parental interventions
Parent-led discussion of teaching and learning	*Not in school, parent and child led*	*Parent devised and led*

Note. Reprinted from "Parental involvement to parental engagement: A continuum" by J. Goodall

and C. Montgomery, 2014, *Educational Review*, *66*(4), p. 403.

        At the second point, parental involvement with schooling, information focused on

schooling is interchanged between parents and school staff and agency is shared between the two

parties. Rather than passive participants, parents become partners and acknowledged contributors

to a student academics. A parent evening at this stage would involve dialogue between parents

and staff where information about the child is bi-directional. At the third and final point, parental

engagement with children's learning, agency belongs to the parents but is supported by schools.

Choice of action and involvement remains with the parents and their engagement with learning

stems from their own perceptions of their role as parents. A parent's evening at this point on the

continuum might involve parent-led discussions of teaching and learning. Goodall and

Montgomery describe moving along the continuum as a change in prioritization from the

school's needs and desires to joint decisions between schools and parents where agency is more

equitably distributed so parents and schools can work together to support the best possible

outcome for students.

Models of Parent Involvement

In addition to the model provided by Goodall and Montgomery (2014), several models

have been developed to help explain and evaluate parental involvement in education. In an

article investigating theoretical and conceptual frameworks used in research on family-school

partnerships over a five-year period (from 2007-2011) Yamauchi et al. (2017) review the two

conceptual frameworks they found were used in parental involvement studies, both of which

have been foundational in parent involvement research. Epstein's *types of family involvement*

model (as cited in Yamauchi et al., 2017), was the most frequently used model in their

investigation, which categorizes family involvement into six types: parenting, communication,

volunteering, learning at home, decision making, and community collaborations. Hoover-

Dempsey and Sandler's model (as cited in Yamauchi et al., 2017) describes the reasons parents

become involved in their child's learning and how their involvement impacts learning outcomes.

Their model presents five levels that influence involvement, including: parental belief systems

(motivational beliefs, perceptions of invitations to involvement, parent perceptions of their life

context), forms of involvement (school-based or home-based), modeling of behaviours and attitudes, mediating variables, and student outcomes. While the Hoover-Dempsey and Sandler model is comprehensive, Yamauchi et al. (2017) found most research that used their model focused only on aspects of the model, primarily the first two levels, rather than the whole model.

Hornby and Lafaele (2011) critique earlier models of parent involvement suggesting that although there is a substantial collection of theoretical models and practical guides aimed at developing parental involvement in education, there remains a "rhetoric-reality gap" (p. 50). Arguing that parent involvement requires more than a simplistic understanding as it is a complex issue, bi-directional between the school and parents (rather than one-directional as presented by previous frameworks) and shaped by a range of barriers, Hornby and Lafaelle (2011) identify four groups of factors they say act as barriers to involvement. These are: individual parent and family factors (parents' beliefs about involvement, perceptions of invitations for involvement, current life contexts, class, ethnicity and gender); parent-teacher factors (differing goals and agendas, differing attitudes, differing languages used); child factors (age, learning difficulties and disabilities, gifts and talents, behavioural problems); and societal factors (historical and demographic, political, economic). Understanding these factors, they argue, will benefit the development of more effective practice with regard to parent involvement in education.

Offering a Canadian perspective, Hamlin and Flessa (2018) examined parent involvement initiatives in Ontario and present a model that highlights parent-identified needs for involvement. Findings in their inquiry revealed that what parents need to support their children through school changes according to context. For example, parents of primary students expressed the need for support in the way of skills and knowledge for engaging in home learning activities while parents of secondary students stressed needing skills for supporting mental health challenges in

their children. Arguing that Epstein's model subsumes some types of involvement, they provide a modified version and create a five-category model that includes well-being, skills for home learning, accessibility to resources and services, partnerships, and parent-child communication.

Benefits of Parental Involvement

There are several positive associations to parent involvement that are supported in the literature. Perhaps the most researched is the connection between the involvement of parents and the academic achievement of students. For example, in a meta-synthesis of earlier research, Wilder (2014) synthesized nine meta-analyses to determine if there were generalizable findings on the relationship between involvement and academic achievement. With definitions of parent involvement varying among meta-analyses, and including various combinations of factors such as parent-child communication, home supervision, homework assistance, attendance at school activities, reading with children, attitudes toward education, parenting style and communication with school, Wilder (2014) found that regardless of the definition, there was a strong positive relationship between the two constructs, although the relationship appeared to be strongest if involvement was defined as parental expectations for academic achievement, reflected in parents' beliefs and attitudes toward school, teachers, subjects, and education in general. He found this to be true across ethnicities and grade levels. There was, however, no positive relationship between assistance with homework and achievement, and some studies indicated a negative relationship between parental homework help and achievement.

Similarly, Castro et al. (2015) conducted a meta-analysis to examine the strength of relationship between parent involvement and student achievement and determine the characteristics of studies that moderate the effects of this relationship. Their analysis divided parent involvement into seven categories: general involvement, communication about school

issues, homework/supervision, expectations, reading with children, attendance or participation in school events, and parenting style. After analyzing data from 37 studies of kindergarten, primary or secondary school students between 2000 and 2013, they also found the strongest links to academic success to be parental expectations, followed by communication with children about school activities.

In a longitudinal study on 720 families of Mexican origin in United States, Camacho-Thompson et al. (2019) looked at whether maternal and paternal involvement in grade seven predicted achievement in grade twelve. They found that indeed both maternal and paternal involvement predicted grade twelve outcomes, concluding that parents' academic involvement, not just their educational values and academic knowledge, influence a child's performance in years following. The authors suggest adolescents are more likely to receive higher grades and show greater investment in future planning when parents socialize them toward academic achievement during middle school.

Exploring whether different types of involvement impact academic outcomes differently, Benner et al. (2016) looked at the associations between four aspects of parent involvement (home-based, school-based, expectations and advice-giving) and both proximal and distal outcomes. They analyzed data from 15,240 tenth graders, looking at grade twelve GPAs as proximal outcomes and educational attainment after eight years as distal outcomes and found school-based involvement to be most beneficial for disadvantaged students, those from low socioeconomic backgrounds and with low prior achievement. They also found academic socialization to most benefit students from high socioeconomic backgrounds and high prior achievement.

In another study, Boonk et al. (2018) conducted a meta-analysis to understand how

different involvement factors correlated with academic success, and then which variables

moderated or mediated the relationship between involvement and academics. Examining 75

studies between 2003 and 2017, they found the strongest correlations to academic achievement

were the parental factors of reading at home, academic expectations, parent-child

communication, and encouragement and support for student learning. Factors that indicated

moderating or mediating roles were ethnicity/race, social economic status, and child

characteristics and competencies.

Barger et al. (2019) also conducted a meta-analysis and examined the links between

parental involvement at home and at school and multiple dimensions of student adjustment on

six dimensions: academic achievement, academic engagement, academic motivation, social

adjustment, and emotional adjustment. Looking at 448 independent studies, 72 of which were

longitudinal, Barger et al. (2019) found that although strongest for motivation, parent

involvement was significantly and positively associated with all six dimensions of adjustment,

indicating that benefits to parental involvement go beyond academic success.

Predictors of Involvement

Oswald et al. (2018) found several factors to be strong predictors of involvement. Using

national data from an existing education-related survey in the United States, they constructed a

measure of parent involvement to investigate which child, family and school characteristics were

most associated with variation in parent involvement. They found that parent involvement tended

to be higher if parents had a high school diploma or more, were self-employed or stay-at home

parents, thought their children enjoyed school, and were more satisfied with their interactions

with how the school interacted with parents. Additionally, the model predicted that parent

involvement was higher if children were White, female, between kindergarten and grade four,

and healthy. Predictors of lower involvement included if the school population was higher than 600 students, it was a public school, and attendance was consistent.

Parental Involvement in Middle School

Research indicates that parental involvement changes as students enter middle school. Smith et al. (2019) examined family-school engagement within the context of elementary and middle school settings. Using data from a larger study, they looked at how overall and specific family-school engagement practices differ between elementary and middle school, to what degree student characteristics were associated with engagement and whether they moderate the relationship between developmental context (elementary of middle years) and engagement, and whether the effects of engagement differ based on developmental context. As expected, parental engagement was significantly higher in elementary than middle school, however, regardless of developmental context, family-school engagement at the beginning of the school year predicted increases in prosocial skills and decreases in concentration problems, disruptive behaviour and emotional dysregulation in students by the end of the year. In fact, higher levels of parent involvement predicted especially strong decreases in emotional dysregulation in middle school.

Oswald et al. (2018) also found involvement to change between early years and middle years. They found parent involvement remained constant through kindergarten to grade four, then dropped in grades five to seven. A possible explanation for this, they suggest, is that as children enter higher grades, parents have less opportunity to become involved in classrooms and are less likely to help with schoolwork at home.

With strong evidence that parental involvement is beneficial for student success on many levels, and research pointing to factors that contribute and those that hinder involvement, as well as evidence indicating a decline in parent involvement as students enter higher grades, some

school districts have begun looking at ways to increase parent involvement through programs and interventions.

Parent Involvement Interventions

Given the large body of evidence supporting the benefits of parental involvement in student learning, some schools and districts have implemented programs and initiatives to increase parental involvement. While few have been formally reviewed for their effectiveness, Andersen and Nielson (2016) argue that most are ineffective because parents do not believe they can make a difference. Crosby et al. (2015), however, examined a school-based parent involvement program, *Fast Start*, over a three-year period to evaluate the extent to which it improved literacy development of kindergarten and grade one students, and to what extent the school was able to maintain the program over multiple years. In the *Fast Start* program, teachers sent home a poem and activity page each week between September and May, and parents were asked to complete the lesson with their child, approximately 10-15 minutes in length, twice per week. Results of the study showed a modest but statistically significant correlation between the number of lessons implemented by parents and student gains in reading. In addition, year over year, the number of families participating in the program increased, as did the number of lessons completed by each family, from an average of 11 lessons in the first year to 31 lessons in year three. Also important, as Andersen and Nielsen (2016) argued, 82% of parents surveyed in this study reported the program had a positive or somewhat positive impact on their child's reading in year one and by year three that number increased to more than 90%. With the success of this program and its implementation, Crosby et al. recommend school administrators consider systemic, multi-year implementation of parent involvement programs, particularly if the programs use proven methods of instruction, provide instructional routine, parent training and

support, and make parent involvement easy, quick, and enjoyable.

Most programs designed to increase parent involvement focus on parents of primary school students. While effective programs are necessary, as mentioned earlier parental involvement tends to decline in middle school and no studies were found that addressed programs focused on increasing parent involvement in middle years. Even though learning concepts become more challenging as children get older, parent involvement remains an important factor in student success and there appears to be a gap in support for parents of middle school learners. It should be possible to develop programs that provide scaffolding, training, and support for parents of middle school students so they, too, can engage with their children in beneficial ways that are easy, quick, and enjoyable.

Self-Efficacy

Many factors influence human behaviour, and while a comprehensive exploration into theories of human behaviour is beyond the scope off this study, a basic overview of parental self-efficacy, and a review of salient literature on the concept as it relates to children and academic achievement is appropriate. Self-efficacy refers to an individual's belief that he or she has the capacity to perform a given task. The concept of self-efficacy comes from Bandura's (1977) social learning theory, later renamed social cognitive theory, and according to Bandura, perceived self-efficacy is a pivotal factor in the choices people make, affecting an individual's actions, behaviours, and persistence in the face of challenges. Self-efficacy theory posits that "unless people believe they can produce a desired outcome by their actions, they have little incentive to act or persevere in the face of difficulties" (Bandura et al., 2001, p. 187) and research has shown that parental self-efficacy is a strong predictor of parenting function, such as positive psychological functioning and providing environments for children that are nurturing,

stimulating and adaptive. (Wittowski et al., 2017)

Parental Self-Efficacy and Children

In relation to the current study, a parent's belief about whether he or she can influence a child's academic success can play a role in whether that parent becomes involved in student learning and what types of involvement the parent engages in. When parents perceive they have greater influence over their child's learning, they are more likely to be involved in various aspects of their child's academic life (Pelletier & Brent, 2002; Shumow & Lomax, 2002). In fact, Bandura et al. (2001) found that stronger parental self-efficacy was associated with higher educational aspirations for children, and parental aspirations were, in turn, positively linked to children's academic success. Similarly, Liu and Leighton (2021) found parent self-efficacy to directly contribute to parental involvement behaviours such as reading, reviewing, and helping children with homework, and parental self-efficacy positively predicted children's achievement in math.

Parental self-efficacy can directly impact the academic achievement of children but can also influence it indirectly through other factors. Albanese et al. (2018) reviewed 115 studies to examine the role of parental self-efficacy in parent and child well-being. Looking at the links between parent self-efficacy and parental mental health, parent-child relationship and child development, the results of their analysis showed that higher parental self-efficacy was linked to more effective parenting styles. As well, high self-efficacy was associated with decreased risk of psychological stress among parents, better behavioural outcomes for children, and higher academic and school-related outcomes. Specifically, Albanese and colleagues found higher parental self-efficacy to be related to such factors as providing a more optimal home learning environment, school readiness, school competence, academic performance, and child mental

health. Parental self-efficacy, they argue, is not just a factor but a "key metric in understanding parent and child functioning" (p. 357).

Steccca et al. (2011) also found related benefits to strong parent self-efficacy. Adolescents with high efficacious parents showed better psychosocial adaptation in terms of higher efficacy beliefs in managing learning activities, fewer depressive symptoms, and fewer behavioural problems. In addition, children of parents with high self-efficacy communicated more openly with their parents, were more engaged and motivated in academic activities during classwork and home study and reported higher levels of happiness and freedom.

Parents want to support their child's learning but can be unsure of how to help (Griffin & Galassi, 2010). The findings of the studies reviewed suggest that if parents with low self-efficacy could learn about the value of their role in a child's learning, altering their perceptions and beliefs about their potential to positively influence a child's academic development, parental involvement in a student's learning might increase.

Self-Efficacy Interventions

Interventions that provide tips and skills to parents on how to support student learning, thereby increasing parents' self-efficacy, can be one way to help parents support their child's education. However, research on school-specific parent self-efficacy interventions is limited. In one study, Hajihashemi et al. (2019) examined the effect of an educational intervention on parenting self-efficacy in parents of primary school children. One hundred four parents were randomly assigned to either an experimental group, which received the intervention, or the control group, which received a family school education program. In this study, the intervention included six weekly two-hour sessions delivered by skilled parenting educators and involved lectures, question-answer, role-playing, and group discussion on helpful parenting strategies.

Participants completed a survey prior to the group sessions and again at a two-month follow-up. At pre-test, self-efficacy scores were similar in both groups, however at the two-month follow-up, there was a statistically significant difference between the two groups in overall self-efficacy as well as some of its individual domains (play and enjoyment, discipline, and boundaries, and learning and knowledge). Hajihashemi and colleagues concluded that educational interventions that engage parents in group task and facilitate sharing of experiences are feasible and have a positive effect on parenting self-efficacy, which is in turn, associated with fewer child issues.

Although effective, one critique of this study is the investment of time the intervention required. Even when scheduling around parents' preferred meeting time, six sessions of two hours each is a significant commitment for parents to make and many parents simply do not have that amount of time available. While this type of intervention might work for some, perhaps mostly for those who have the time and would benefit from the social interaction with other parents over several weeks, it certainly would not work for others.

Guimond et al. (2008) suggest that interventions aimed at promoting parents' cognitive appraisals of their parenting abilities, as well as their child's attributes and behaviours may have positive effects for the parent, child, and family as a whole. Furthermore, they argue that intervention practices targeting parent empowerment positively influence parental self-efficacy, and that parent behaviour training effectively increases positive parenting behaviours, parenting self-efficacy, and decreases parental stress. Thus, the intervention designed for the present study seeks to empower parents by providing mindset training in hopes of increasing parental self-efficacy.

Mindsets

Over the past two decades or more, advancements in neuroscience and the work of Carol

Dweck (2016) and others have significantly altered our understanding of learning and the brain.

Where at one time the brain could only be examined and studied post-mortem, the evolution of

science and technology have given us tools such as functional magnetic resonance imaging

(fMRI), among others, that allow the brain to be studied safely in living individuals while

engaged in various activities. One important discovery born out of these technological advances,

is the concept of neuroplasticity, the brain's ability to learn, change and grow as a result of

experiences (Doidge, 2007; Sweatt, 2016). Not only has the concept of neuroplasticity changed

the field of neuroscience, but it has greatly impacted our views of intelligence and ability and has

begun to change the way we understand teaching and learning (Tovar-Moll & Lent, 2016).

> A pioneer in the study of how views of intelligence impact our learning is Carol Dweck

(Dweck, 2016; Dweck & Yeager, 2019). Dweck's work has explored common beliefs about

learning and ability that she calls *implicit theories of intelligence*, or mindsets, and over the years

her research has examined the role mindsets play in student achievement (2016). There are two

theories related to intelligence, according to Dweck: incremental theory and entity theory.

Incremental theory, commonly referred to as a growth mindset, describes the view that individual

traits and abilities are malleable and can be altered or changed. Intelligence, therefore, can be

improved with perseverance and hard work, and challenges are viewed as opportunities to build

on our intelligence. On the other hand, entity theory, also known as a fixed mindset, sees

intelligence and other traits as fixed, or fixed entities (Blackwell et al., 2007). Individuals with a

fixed mindset see themselves as either intelligent or unintelligent and are less likely to persist

through challenges, instead viewing challenge as an affirmation they are not 'smart'.

> Boaler (2013), whose work has studied the influence of student mindsets on math and

sciences, describes the impact of mindsets this way:

Students with a growth mindset work and learn more effectively, displaying a desire for

challenge and resilience in the face of failure. On the other hand, those with a fixed

mindset believe that you are either smart or you are not. When students with a fixed

mindset fail or make a mistake, they believe that they are just not smart and give up. Such

students frequently avoid challenge, preferring instead to complete easier work on which

they know they will succeed" (p. 143).

While Dweck (2016) and Boaler (2013) have focused on beliefs about intelligence

generally, other research has indicated that people can hold different mindset beliefs depending

on the skill or intelligence area. For example, Furnham (2014) examined the degree to which

people believed it was possible to change intelligence according to types. Using Gardner's ten

multiple intelligences and Steinberg's three, Furnham's study of 277 participants between 16 and

78 years of age, the majority (82%) of which were students, indicated that people distinguish

between the changeability of different intelligence types. Based on mean scores for

changeability, the intelligences thought to be easiest to change were verbal/linguistic intelligence

followed by intra-personal intelligence, while those thought hardest to change were the creative

and musical intelligences.

Mindsets and Learning

The impact of mindsets on learning and achievement is well supported by research. Early

work by Blackwell et al. (2007) looked at the relationship between theories of intelligence and

academic achievement, and between theories of intelligence and motivational variables in a five-

year study following four waves of New York City students ($n = 373$) through seventh and eighth

grades. Their study found that students' theories of intelligence were not only a significant

predictor of their math achievement but holding to an incremental theory of intelligence at the

beginning of grade seven predicted higher math grades at the end of grade eight. In addition, their study showed that an incremental theory, along with learning goals, positive beliefs about effort, non-helpless attributions, and strategies in response to failure, formed a network of interrelated variables.

More recently, Claro et al. (2016) used nationwide data of 10th grade public school students in Chile to examine the relationship between mindsets and achievement on a national level. The results of their analysis indicated that while family income and parents' education were correlated with test scores, as has been shown in prior research, the relationship between mindsets and achievement was comparatively strong. Further, this relationship was observed across the socioeconomic spectrum, even when controlling for student and school-level factors. For students with the same observable characteristics, those with a growth mindset achieved at higher levels than those with a fixed mindset. In other words, for any two students with equal characteristics, the one holding a growth mindset is more likely to experience greater academic achievement than one holding a fixed mindset.

This is congruent with Mangels et al. (2006) who found that not only did incremental theorists demonstrate significantly greater overall gains in knowledge than their entity theorist counterparts, but that they differ in how they appraise performance information and use different areas of their brain to process learning feedback. Mangels and colleagues examined how mindset influenced student responses to negative feedback, tracking neural responses of attentional and conceptual processes while students processed feedback. They found that entity theorists were less likely to engage in sustained semantic processing of learning feedback, leading to fewer corrections of errors, whereas incremental theorists did engage in sustained deep semantic processing and had greater remediation of errors. The authors state that where self-report

measures offer introspective insight into task strategies, their use of covert measurement (neural activity) provides evidence of how beliefs influence attention on a moment-to-moment basis and provide support for a neurocognitive model for understanding the relationship between beliefs about ability and achievement success.

Additional studies supporting the association between mindsets and achievement include an Australian study conducted by Bostwick et al. (2017) and a study done in Kenya by Kizilcec and Goldfarb (2019). Both studies showed mindset to be a strong predictor of academic achievement, and like the findings by Mangels et al. (2006), Kizilcec and Goldfarb found students with a growth mindset spent more time on their assessments than those with a fixed mindset.

These results seem to suggest that some of how mindsets lead to greater achievement may be explained by their association with general learning behaviours. For instance, after conducting a meta-analysis of 85 articles, dissertations, theses and unpublished data, Burnette et al. (2013) found a positive association of incremental theorists with learning-oriented goals (process focused), mastery-oriented strategies, and optimistic expectations when evaluating the potential for future success, while entity theorists were associated with performance goals (outcome focused), helpless-oriented strategies, and negative emotions when evaluating potential for success. While admitting that the relationship between implicit theories of intelligence and learning behaviours are nuanced, Burnette et al. advise that interventions designed to encourage an incremental view of intelligence can help students facing challenges and those who feel they are not likely to succeed. Another study looked at the relationship between non-cognitive skills and attendance, behaviour, grades in mathematics and grades in English (West et al., 2016). Comparing data between grade four and eight for students ($n = 1368$) in Boston revealed that

measures of conscientiousness, self-control, grit, and mindset were all positively associated with attendance, behaviour, and math and English grades

Lastly, the impact of mindsets seems to go beyond the boundaries of learning behaviours and achievement to impact students' overall stress, health, and well-being. A 2014 study by Yeager et al. looked at how mindset related to stress, health, and achievement in grade nine students and found that a fixed mindset in the first month of grade nine predicted not only lower grades at the end of the school year, but also greater stress, poorer health, and more reactive responses to social adversity. According to the authors, this may indicate that mindsets may have longer term, cross-domain implications, particularly for adolescents during a socially difficult period of transition.

Mindsets and Grade Level

There is some evidence that mindsets are associated with grade level. Gunderson et al. (2018) looked at whether there were age-related differences in theories of intelligence and learning goals. Results of their analysis comparing students in grades one to eight ($n = 317$) indicated that growth mindset scores were higher among older children. Interestingly, their findings also indicated learning goals to be lower in older children than in younger children, a relationship that appears to contradict results found in other studies (Burnette et al., 2013). Gunderson and her colleagues explain these seemingly conflicting results by suggesting that it might not be until high school or later that theories of intelligence and learning goals become more cohesive, although even then, they say, the relationship is significant, but not large. Again, this suggests a complex and nuanced relationship between theories if intelligence and learning-related variables.

Global Mindsets

There is also some evidence that the links between implicit theories of intelligence and academic achievement vary globally. A 2018 meta-analysis done by Costa and Faria found that in Eastern continents (Asia and Oceana), incremental beliefs were positively associated with academic achievement, while in Europe, academic achievement was positively associated with entity beliefs. In North America, however, entity beliefs were negatively correlated with achievement. As mentioned earlier, however, studies by Bostwick et al. (2017) and Kizilcec and Goldfarb (2019) supported the notion that the correlation between mindsets and achievement in Australia and Kenya are similar to correlations found in North America. While it is beyond the scope of this study to explore these differences, it does suggest that there may be additional factors involved, perhaps differing education systems or varying measures of achievement, that influence the relationship between mindsets and achievement.

The Impact of Parent Mindsets on Children

The impact of one's own mindset on behaviour and learning has been reviewed, but what about the impact of parent mindsets on children? Research has shown that parent mindsets influence their children in some significant ways. Examining whether mindsets about the malleability of ability influenced the quality of parents' involvement in children's learning, Moorman and Pomerantz (2010) randomly assigned 79 mothers of first and second grade students to one of two groups: an entity mindset induction group, or an incremental mindset induction group. Each group was given an ability message about a test their child was about to complete: that abilities assessed by the test were clearly something that could be changed, or that they were clearly not something that could be changed. When mothers joined their children to work on the 15-minute test, their interactions were observed and coded. Analysis of the data revealed that mothers in the entity mindset group used more unconstructive involvement

(performance teaching - telling children how to get the right answer; control – pressuring, directing, commanding children; and negative effect – directing frustration, annoyance, hostility of negative feedback toward children) than those in the incremental group. In addition, the unconstructive involvement of mothers intensified when children demonstrated helplessness. Among the conclusions drawn from these results, Moorman and Pomerantz argue that children may be at heightened risk academically and emotionally when their parents hold an entity mindset of ability and view the child as lacking competence. Also, given the success of the study's mindset induction, they suggest that parents of children starting out in school may be sensitive to situational cues regarding their involvement, and that how homework or learning tasks are framed to parents might impact the quality of parental involvement in those tasks.

In another study that examined how parents' mindsets influence their responses to children, Rutledge et al. (2018) measured parents' mindsets then asked them to respond to vignettes describing child transgressions ranging from minor personal misbehaviours to serious moral wrongdoings. Compared to low-entity belief parents, high-entity belief parents were more likely to interpret children's behaviours as indicative of negative traits, to view the behaviours as reflecting underlying personality traits rather than being caused by situational factors, and to expect the children to exhibit similar behaviours in the future. They also interpreted misbehaving children as having higher levels of hostile intent and parents more likely to select harsh parenting strategies in response to the child's behaviours, such as yelling, shouting, hitting or spanking.

Finally, a 2016 study used hierarchical linear regression to determine how much of three parent variables (mindset, trait worry, and depression) accounted for change in children's scores of both social anxiety and overall internalizing (Schleider et al.). Measuring parents on the degree to which they held a fixed mindset and measuring children on levels of anxiety,

depression and mood, results showed parental fixed mindset was correlated with higher overall internalizing problems in both boys and girls, most strongly with social anxiety. Additionally, boys with fixed-mindset parents had more depressive symptoms than boys with growth-minded parents, although the same correlation was not found between girls and parental mindsets. To explain the overall results, the researchers speculate that fixed-mindset parents may selectively praise observable success and criticize failure, leading children to equate self-worth with performance.

While these studies indicate that the consequences of parent mindsets may be passed on to children, it appears that intelligence mindsets themselves are not. Haimovitz and Dweck (2016) looked at the relationship between parent and child mindsets in a series of four separate studies. The first study examined parent-child dyads of fourth and fifth grade students and discovered that parents' views of intelligence were not related to their child's intelligence mindsets. Rather, it was the parent's view of failure that significantly influenced a child's view of intelligence. They surmise that because intelligence mindsets are less visible and failure mindsets are evident through parent responses to academic results, it is the reaction of parents to a child's failure or fear of failure that influences the development of a growth or fixed mindset of a child. Parents who view failure as debilitating tend to have children with a fixed mindset, while parents who view failure as an opportunity to learn and grow tend to have children with growth mindsets. Examining more closely how parents display failure mindsets, their second study asked a separate group of parents to complete a survey assessing their failure and fixed mindsets, perceptions of their child's competence, and their reactions to their child's hypothetical failing grade. As hypothesized, parents' mindsets predicted their response to failure and those who believed more strongly that failure is debilitating were more likely to respond with concerns

about their child's performance and lack of ability. Moreover, these same parents were less likely to react with support for their child's learning and improvement.

The third study in this series sought to examine if children could determine their parents' mindsets. One hundred twelve parents were assessed on their failure and intelligence mindsets while their children (ages eight to twelve) were assessed on their perceptions of their parents' mindsets. Results showed that children's perception of their parents' failure mindsets related to their parents' own reports, however, there was not a significant relationship between children's perception of their parents' intelligence mindsets and parents' own reports. The remainder of this series of studies determined that children who more strongly perceived their parents to hold a failure-as-debilitating mindset were significantly more likely to hold an entity theory of intelligence.

In addition to the idea that intelligence mindsets are less visible than failure mindsets, Haimovitz and Dweck (2016) explain that while parents may hold growth mindsets, children "spend 12 or more years in fixed mindset cultures cramming for tests rather than enjoying the process and fruits of learning" (p. 9). While more research is needed to understand the nuances of the relationship between parent and child mindsets, there is strong support in mindset research for the benefits of mindset interventions.

Mindset Interventions

As Dweck and Yeager (2019) relay in "Mindsets: A View From Two Eras", mindset research has shifted from examining mindsets as the core of meaning systems, exploring how they relate to academics and behaviours, to the development of reliable interventions, then to adapting those interventions for administration to large populations in relatively short amounts of time. The majority of intervention studies have focused on students and academics, many of

them following a similar format. Typically, participants are presented with scientific information that endorses or explains a growth mindset, either through an article or video, followed by the testimony of a role model or expert opinion. Many interventions then ask participants to write or film their advice to a peer who might be in their situation in the future, advising the peer of the benefits of a growth mindset as the participant has just learned in the intervention. Most mindset interventions are generally brief, lasting between 15-45 minutes.

Two early studies that tested the impact of a growth mindset intervention on behaviours include a 2013 study by Yeager et al. and a 2014 study by Yeager et al. The former compared a six-session mindset intervention with a coping skills intervention and a control group on grade nine and ten students and found the mindset intervention to be successful in increasing student resilience, reducing aggression, conduct problems, truancy, and depression at a one-month and three-month postintervention. In fact, compared to the control and coping skills groups, participants in the mindset group demonstrated a reduction in aggressive retaliation after provocation by almost 40% and an increase in prosocial behaviour related to the same event by more than 300%.

The second study tested an intervention strategy that randomly provided grade nine students an envelope that contained either a mindset intervention or a control group activity, both requiring approximately 25 minutes to complete. At immediate follow-up, students in the mindset group reacted less negatively to an experience of exclusion, and eight months later, reported significantly lower stress scores, fewer experiences of physical illness that impacted their daily functioning, and experienced higher grades in English, math, and science over the school year. The researchers repeated this study with another group of students, changing administration of the intervention and control activities to computer-based rather than paper, and

found similar results. These findings have been supported by more recent studies that have found mindset intervention participants to experience lower levels of depression and improved behaviour control (Schleider & Weisz, 2018), reduced performance avoidance goals and improved academic challenge-seeking (Yeager et al., 2016), increased enrollment to advanced math courses (Yeager et al., 2019), as well as improved grades (Broda et al., 2018; Paunesku et al., 2015; Porter et al., 2022).

One of few mindset intervention studies focused on parents of students was a study conducted in Denmark (Anderson & Nielsen, 2016). This study provided a reading intervention from a growth mindset perspective to parents of second graders and found that children of parents in the treatment group improved in language comprehension, decoding, and text comprehension compared to the control group at a three-month follow-up, and again at seven months post intervention, although with smaller changes. Since mindset research has shown that parents are not passing down to their growth mindsets to their children, Andersen and Nielsen recommend that providing scaffolding for parents might help them put their growth mindset into practice, thereby making it more visible to their children.

Literature Review Summary

Despite the knowledge that parent involvement and having a growth mindset both impact student learning in significant ways, research combining the two factors is limited. Studies that exist have primarily examined the relationship between parent and child mindsets, and that research has shown no clear link between parents' intelligence mindsets and their child's. So, if the role of a parent is important to the academic success of a child, and developing a growth mindset helps to develop resilience and improve mental health which, in turn, improves academic achievement in students, then empowering parents with this knowledge may improve

their self-efficacy. This information may help parents recognize the experience and skills they

have to support their child's learning, especially for parents who struggle with academic skills

themselves. If parents can gain understanding about how learning happens and develop a growth

and failure-as-enhancing mindset, perhaps they will perceive themselves as more competent to

engage in their child's learning in ways that make a difference.

Chapter 3: Methodology

Since the nature of this study was exploratory, it looked only at whether there was a relationship between the variables of mindset training and parent involvement and between mindset training and self-efficacy.

Impact of COVID-19

The planning of this study began prior to the COVID-19 pandemic, and since the pandemic and related health restrictions impacted all aspects of daily life for a significant period of time, including on-and-off community lockdowns, schools alternating between in-class and remote learning, and the prohibition of group gatherings for much of the past two years, it was not possible to complete this project as originally intended: as an in-person workshop for parents of middle school students. Consequently, the original methodology was altered to accommodate pandemic restrictions and with that change, two key aspects of the project were significantly modified.

First, since the study relied on a parent workshop that was not possible under pandemic restrictions an alternative method for delivering the workshop was needed. To accommodate for this, workshop content was converted into a set of resources that could be distributed to participants via email and included links to online content. Second, because the target population was parents of students between grades four to eight in rural southern Manitoba, many of whom choose not to have internet access, and those that do experience unreliable service, a new sample population was needed. This chapter will describe the research methodology as originally intended as well as how it was adapted and ultimately carried out.

Research Paradigm

This study was conducted from a postpositivist world view, meaning that the researcher

retains intellectual honesty, suppresses personal bias and acknowledges the limits of the study (Mertens, 2015). Additionally, postpositivist research assumes that although there is one reality, it is only possible to determine probability of a relationship, not causality. In order to arrive at the most accurate measure of probability, objectivity is important, therefore the researcher and participants remain independent of each other. Finally, since the rigor required for the scientific method was not possible in the context of this study, a quasi-experimental method was used. This approach to inquiry is consistent with the postpositivist paradigm and is discussed later in the chapter.

Research Design

To determine if there was a relationship between mindset training and parent involvement, and mindset training and parental self-efficacy, a quasi-experimental repeated measure design was used. A quasi-experimental design is used when a control group is not possible, and participants are not randomly assigned. As a result, there are several weaknesses associated with this method such as maturational change, threats of history and threats of testing (Mertens, 2015). Additionally, without a control group, a researcher is limited in the ability to claim effectiveness of the treatment. Nonetheless, the exploratory nature of this study and its attempt to determine whether a relationship between variables exists and whether more in-depth research is warranted, justified the use of the one group pretest-posttest design. Furthermore, this method is also justified in "circumstances in which you are attempting to change attitudes, behaviour, or knowledge that are unlikely to change without introduction of an experimental treatment" (p. 128). In a quasi-experimental design, participants complete a pretest, followed by participation in an intervention or treatment and then complete a posttest. Since this study sought to determine if there was a change in perception or behaviour following an intervention, the

selected method was appropriate.

Population and Sampling Procedures

The grade range for this study was selected based on research that indicates parent involvement is highest in early years and decreases as children get older, despite the impact of academic success becoming more important (Green et al., 2007; Harris & Goodall, 2008).When students enter middle school, curriculum content becomes more detailed and complex and parents with limited formal schooling, negative schooling experiences, or those with limited proficiency in the English language may begin to feel they have less to offer in the way of educational supports (MacPhee, 2021). Considering these factors, and research that indicates subtle aspects of parental involvement such as expectations and communication are generally more beneficial than overt actions (Jeynes, 2011), a mindset training program has the potential to impact parental self-efficacy and involvement for parents of middle school students.

This study relied on convenience sampling, meaning participants were recruited because they were easily available. Convenience sampling is one of the most used sampling strategies but does present limitations which are mentioned later in this chapter (Mertens, 2015). The population of interest for this study was parents of students in grades four to eight from rural southern Manitoba. At the outset of this project, the target population was parents from two schools under the same administrative unit in the researcher's local school division. The two schools draw students from several small villages where the primary language in many homes is German and the population has a lower-than-average parental literacy rate as well as lower-than-average education. Many families live in the area for reasons such as lower cost of living, large properties, and relative isolation from government and large economic centers. The hope was that these parents had the most to gain from participating in the intervention and that the

experience would provide benefits beyond this study, such as an increased comfort level with the school and school staff, as well as connecting with like-minded parents.

With an on-site workshop for parents no longer an option under pandemic regulations, workshop materials were altered to be provided via email. However, given the rurality of the communities of interest, many homes in the region have no internet, or poor, unreliable service. Additionally, offering written and online content to participants with limited proficiency in English and lower literacy skills without a translator or learning support would likely present a barrier to learning. As a result, a modified version of the original study was no longer appropriate for the intended population and an alternative sample pool was needed. Given these challenges, participants were recruited from other rural communities in the area through known contacts and word of mouth. The resultant sample size for the study was four participants.

Measures

Three measurement tools were developed specifically for this study based on relevant educational literature. Participant surveys included two parts and combined measures of parent involvement and parental self-efficacy. Pre- and posttest surveys were identical with the exception of the posttest allowing space for participants to provide feedback on workshop materials or comment on any aspect of their experience as participants in this project. Copies of the measurement tools are included in Appendix A.

Parent Involvement

After an extensive search of the literature and finding no suitable instrument to measure the construct of parent involvement as needed for this study, a survey was developed by the researcher by combining and/or adapting items from other sources (Mertens, 2015). The self-report survey contained ten questions focused on home-based parent involvement and asked

parents to indicate how often they engaged in specific activities over the past two weeks (e.g., *In the past two weeks, how often have you read with your child?*). Participants selected their response based on a four-point Likert scale with answers ranging from 1 (*0 times*) to 4 (*6 or more times*). Responses were added together to provide a total, with higher scores indicating greater parent involvement.

Parental Self-Efficacy

Several parent self-efficacy measurement tools exist; however, none were found that measured aspects of the variable required for this study. For example, Wittkowski et al. (2017) reviewed 34 measures of parental self-efficacy and only one was designed for parents of school-age children (5-12 years). Some measures were designed for a range of ages; however, no measures were specifically for parents of adolescents.

Given that self-efficacy reflects a person's beliefs about ability to perform a task, the construct is measured via self-report. According to Bandura (2005), self-efficacy scales must be related to factors that determine quality of functioning in the domain of interest. Citing Coleman and Karraker (2000), Wittkowski et al. (2017) explain the four domains typically measured by self-efficacy scales: general or trait self-efficacy, which refers to parents' overall perception of efficacy and is not linked to any specific task or area of daily life; domain-specific (also referred to as *task-related*), which refers to parents' beliefs about their ability to complete specific tasks for a child of a certain age; domain-general (also referred to as *global*), assesses functioning within one area but not is not related to any specific task; and narrow-domain (also referred to as *task-specific*), which focuses on a particular task in a given situation. Based on the research, measures of task-specific self-efficacy are most accurate and likely to reflect change, if it exists, over time (Guimond et al., 2008; Malm et al., 2016)

The measurement tool developed in the present study focused on home-based support of middle years students and attempted to assess parents' beliefs about their ability to influence or support various aspects of their child's academic success. The ten-item survey asked parents how much they agreed or disagreed with a variety of statements (e.g., *I know how to help my child do well in mathematics*), where Likert scale responses ranged from 1 (*strongly disagree*) to 5 (*strongly agree*). Of the ten statements, four were domain-specific and six were task-specific. Responses were added together to provide a total score, with higher scores indicating higher parental self-efficacy.

Mindset Intervention/Workshop

To the researcher's knowledge, based on a tertiary search of the literature, there is no existing mindset intervention designed specifically to empower parents with knowledge about the brain, learning, and the importance of mindsets for the purpose of supporting their children's education. The original research design included parent mindset training designed for the target population and delivered through schools as an in-person workshop. Since this was not possible, workshop content was converted into a set of resources that could be distributed via email. Drawing on past research for both content and procedure (Burnette et al., 2018; Paunesku et al., 2015; Yeager et al., 2013; Yeager et al., 2014), the workshop included three components: learning materials, a writing activity, and handouts. Workshop materials are provided in Appendices B and C. While early mindset interventions involved trained facilitators providing face-to-face workshops, over the past decade interventions have been developed through research and development to be brief (often less than one hour in length) and provided online, directly to students (Dweck & Yeager, 2019). These revised interventions have produced effect sizes comparable to the earlier methods that were more extensive and costly. Most recent

mindset interventions tend to follow a common procedure that includes explaining a growth

mindset, supporting the concept with science, testimonials by role models, and an activity in

which participants write or record a growth mindset message for a future student. Online mindset

interventions have varied in length from single 20-minute sessions (Schleider & Weisz, 2017) to

longer multi-session modules (Burnette et al., 2018), although most aim for quick scalability.

In the present study, the intervention was designed to maximize relevance for the target

population and took approximately 45 minutes. The workshop included three elements: video

content, handouts, and a writing activity.

Video Content. The teaching portion of the workshop consisted of eight videos, carefully

curated for this study, ranging in length from two to nine minutes. The first video was created by

the researcher and included content initially intended to be delivered through an in-person

workshop. It introduced neuroscience, basic facts about the brain such as how it develops and

changes with learning, neuroplasticity, and general tips for learning. The remaining seven videos

focused on fixed versus growth mindsets, neuroplasticity, growing your mind, the value of

mistakes, developing a growth mindset, the impact of praise, and the learning brain.

Handouts. Participants were given two handouts that reinforced a growth mindset

message that they could review and post as reminders. Parent's Guide to a Growth Mindset was

an infographic available through www.biglifejournal.com and included an overview of growth

mindset concepts covered in the workshop videos. Growth Mindset Praise & Feedback is a

parent tool available at www.midsetworks.com and provides growth mindset scripts for parents,

along with fixed mindset counter-scripts, and explanations as to why one is better than the other.

Writing Activity. The writing activity included two prompts. The first asked participants:

What are the goals you have for your child's future? How could a stronger brain help them

achieve that? The second prompt read: *Imagine another parent with a child having a hard time in school. Write a brief letter to encourage that parent using the ideas you have learned about growth mindsets.*

Data Collection Procedures

Upon recruitment, participants were given an envelope containing an information letter, consent form, participation instructions, workshop materials (handouts and writing activity) as well as their pre- and post-workshop surveys. Once informed consent and an email address were provided, participants were sent links to the workshop materials as well as electronic copies of the envelope contents if participants preferred to use electronic documents. Participants were instructed to complete the pre-test questionnaire to view the workshop materials in the order provided, and to complete the posttest survey two weeks after finishing the workshop. Once posttest had been filled out, participants returned their surveys to the researcher by using a drop-off point, sending them by email, or requesting the researcher to pick them up.

Data Analysis

Data analysis for this study was impacted by the extremely small sample. Since analyses to determine the existence of a relationship between variables require a larger sample, data were entered into Statistical Package for Social Sciences (SPSS) software and a descriptive summary of the data was calculated. Results are reported and discussed in the next chapter.

Chapter 4: Results and Discussion

The purpose of this study was to explore if there was a relationship between mindset training and parental self-efficacy, and between mindset training and parent involvement in student learning. It was hypothesized that participating in a workshop on mindsets and learning would result in an increase in parent involvement, although given the short duration of this study, it was anticipated that change may not reach significance. It was also hypothesized that after mindset training, parents would report an increase in perceived self-efficacy in regard to supporting their child with learning. To determine answers to the research questions, parents of rural middle years students were recruited to participate in this study. Results are reviewed in this chapter, along with a discussion of the information gleaned, its implications, limitations, and recommendations for future research.

Profile of the Sample

The sample in this study consisted of four parents (1 father; 3 mothers) of grades four to eight students from rural communities in southern Manitoba. Three parents were from the same village, the other lived rurally but was not connected to a community. Among the parents there were five students in the required grade range (grade 4 = 1, grade 5 = 1, grade 6 = 1, grade 7 = 2, grade 8 = 0).

Results

Data collected from the participants included pre- and post-workshop questionnaires measuring parental self-efficacy and home-based parent involvement. One participant completed the posttest incorrectly, so posttest calculations are missing one measurement score for each variable. A descriptive summary of the data is presented in Table 1. With the extremely small sample size, additional analyses were not possible, however data that were obtainable is

reviewed.

Table 1

Descriptive Summary of Data

	N	Range	Minimum	Maximum	Mean	Std. Deviation
Parental Self Efficacy Pretest	4	7.00	37.00	44.00	40.00	3.56
Parental Self Efficacy Posttest	3	6.00	38.00	44.00	41.00	3.00
Parent Involvement Pretest	4	9.00	12.00	21.00	16.50	3.87
Parent Involvement Posttest	3	12.00	10.00	22.00	15.67	6.03
Valid N (listwise)	3					

Parental Self-Efficacy

A five-point Likert scale ranging from *strongly disagree* (1) to *strongly agree* (5) was used to rate ten items for parental self-efficacy. A total score was obtained by summing the value of each response and possible scores ranged from 10 (low self-efficacy) to 50 (high self-efficacy). Pretest parental self-efficacy scores ranged from 37 to 44 with a mean of 40.00; SD = 3.56. Posttest efficacy scores ranged from 38 to 44 with a mean of 41.00; SD = 3.00.

Parent Involvement

A four-point Likert scale ranging from *0 times* (0) to *6 or more times* (3) was used to rate ten items for parent involvement. A total score was obtained by summing the value of each response and possible scores ranged from 0 (no involvement) to 30 (high involvement). Pretest parent involvement scores ranged from 12 to 21 with a mean of 16.50; SD = 3.87. Posttest involvement scores ranged from 10 to 22 with a mean of 15.67; SD = 6.03.

Discussion

While it was not possible to statistically analyze the data acquired in this study to determine whether there was a relationship between the intervention and variables of parent involvement and self-efficacy, this research is not without merit. The descriptive summary shows that pretest scores for parental self-efficacy were high, indicating that parents surveyed perceived themselves as efficacious when it came to supporting their child with learning. Results also showed that pretest scores for involvement were moderate and that the mean for the parent involvement pretest was higher than the mean for the posttest, suggesting that involvement in the two weeks between pre- and posttest decreased for at least one participant. While there is not enough information to infer a possible reason, it is important to note that this study took place in June, at the end of the school year when the majority of curriculum and formal learning has typically been completed or is wrapping up, and intense classroom learning is replaced with end-of-year activities such as field trips, school picnics, field days, graduations, and other extra-curricular events. It is possible that as the month went on, families fell out of normal routines, and this was reflected in a lower involvement score in one or more cases. It is also possible that after viewing the learning materials provided for the workshop, that one or more parents changed their perspective of what constituted involvement as measured by the survey.

This study could not determine whether the intervention was related to any change in involvement or efficacy scores among parents. Studies in attitudes and behaviour change indicate that new knowledge and experience may alter attitudes and perspective, however behaviour can take much longer to change. In fact, according to Mertens (2015), "interventions designed to change behaviors, attitudes, and knowledge often require more time than would be possible in a short experiment of one or two sessions" (p. 137). She asserts that it may not be reasonable to

expect that learning and attitudes will be affected in short duration and, therefore, lack of change in results may reflect less on the effectiveness of the approach and more on the intervention not being tried long enough. In fact, Lally et al. (2010) found it took participants between 18 and 254 days to develop automaticity when changing a habit of choice. Even when a desire to change may exist, intentional repetition of a new habit or behaviour must take place consistently for new behavior to become routine. Since the present study was a short-term exploration into a potential relationship between mindset training and the variables of parental self-efficacy and involvement, a change in behaviour may not have occurred in that time, even if a larger sample size was available. This seems to contradict previous studies that have shown that mindset inductions or interventions can have immediate effect on parent behaviour (Moorman & Pomerantz, 2010; Rutledge et al, 2018), however, those studies tend to assess parents in simulated or unfamiliar contexts on the same day with researchers present.

While qualitative data collection was not included in the design of this study, the follow-up survey provided opportunity for participants to give feedback on the surveys and learning materials, as well as on their overall experience as participants. Two participants left comments that add to the information gleaned in this study. In response to an invitation for recommendations or suggestions regarding the surveys, one parent commented, "My child does not have homework so that is why I have marked low that I have not supervised it. She also does not have an agenda to check. That is also why that one is marked low". This comment raises two points worth noting. First, that low scores on an overall survey or question may indicate that the question is not applicable rather than reflect a parent's actions. If using this survey in future studies, it may be helpful to provide an optional response such as *not applicable* for each question and to adjust scoring of the survey to account for items that receive this response in

order to improve the accuracy of data collection. Second, this parent's comment suggests the participant is mindful of the researcher's interpretation of responses provided in the survey which raises the question of social desirability bias, a potential threat to survey validity as a result of participants changing answers to look better to others or to feel better about oneself (Larson, 2019). Although there is no evidence of social desirability bias in this case, and the participant's comment may simply be intended to provide clarification, it is worth noting. Providing an option for participants to indicate when a survey item is not applicable may help clarify both of these concerns in the future.

In response to the same prompt, another parent wrote, "I found the survey allowed me to self-evaluate my involvement in my children's education and development". This suggests a potential benefit of including questionnaires similar to the one used in this study not just in research but also in future workshops and interventions with parents. Encouraging parents to reflect on their participation in their child's learning might reveal ways they have been supporting their child they did not realize were important. It might also present them with additional ways they could become involved in a child's learning that they had not previously considered.

Responding to the request for feedback on learning materials, one parent wrote, "I found the videos and materials to be informative and encouraging. Most of the material I was familiar with, but there was some new and interesting information as well". The other commented, "I have enjoyed watching and learning from the videos". Although details were not provided as to which resources reinforced existing knowledge and which provided the most impactful new learning, these responses indicate that participants found the content of the intervention to be appealing, informative, and valuable. The learning materials used in this study were carefully

curated specifically for the revised target population. This may be an important factor to consider in future workshops to maximize their benefit to parents and to optimize their potential to empower parents in areas where it is most needed. One way this can be done is by tailoring interventions and supports for parents to individual school contexts. Gibbs et al. (2021) argue for integrating school contexts to understand how to effectively encourage parent engagement and increase parental efficacy, recognizing that school contexts vary, as do the strengths and needs of parents in those communities. Hamlin and Flessa (2018) also argue for adapting parent support according to school context, acknowledging that parent-identified needs differ from one community to another as well as from primary to secondary schools. Programs and initiatives designed to support parent engagement must consider these contexts if they are to be effective.

The third and final prompt for feedback on the follow-up survey invited parents to provide thoughts or comments about their participation in the study. One parent noted, "I think this information is very important and informative and I believe all parents and teachers should have the opportunity to learn from it". The other wrote, "It is great to learn about the growth mindset and how to encourage my children in that. It will bring them so much farther in life and can help create less stress for them to adopt the growth mindset rather than the fixed". This indicates that the experience of participation in this study was positive, and something these participants would likely encourage others to participate in were the opportunity to become available for other parents in the future.

In addition to comments made on the surveys, one parent mentioned in an email, "I have found it very interesting and beneficial as a parent and EA" adding, "Thanks for asking me to be part of it. I think I will get [my daughter in high school] to watch one too. I think it would be helpful for her". This seems to suggest that concepts presented in the workshop materials such as

what happens in the brain when we learn, the concept of growth mindset, and the importance of seeing mistakes as opportunities to learn, as well as how to encourage learners to develop a growth mindset are not widely known among parents, students, educational assistants, or even teachers in this population. It appears there is opportunity to share the content of this workshop with other groups in the community who could potentially benefit from the research it presents and the learning it provides, and possibly move this learning community closer toward a growth mindset culture.

As the past few years have shown, the value of home support for student learning should not be over-looked. In light of the recent pandemic and its impact on in-school learning, it is important to look at how we can build the capacity of parents to support children's education through home-based practices, particularly in middle years and beyond, when parent involvement appears to decline. Students whose parents are involved in their learning tend to experience increased academic success and social adjustment. Although this study did not provide insight into the links between mindset training and parent involvement or self-efficacy, it explored an area of research not previously explored. As MacPhee (2021) articulates, while most parents want to be involved in their child's learning, and believe that their involvement makes a difference, not all parents are equally equipped for educational involvement. Many do not feel competent to help and would benefit from parent workshops and training. Building parents' capacity for supporting their children's education, therefore, is a worthwhile endeavor and providing parents with information on effective, research-based involvement strategies through interventions and training opportunities may empower parents with knowledge that increases their learning support efficacy and involvement. Afterall, research shows that parents are more likely to be involved if they feel supported by the school (Jeynes, 2011; MacPhee, 2021). This

study provided parents with information on how the brain learns and how mindsets impact

learning, giving them tips and suggestions for how to support their child's learning by nurturing a

growth mindset.

While mindset research has focused on developing large-scale interventions targeting

students, there are benefits of smaller scale interventions implemented at the school or

community level. Interventions offered at the school level allow for content and implementation

to be tailored to the specific characteristics, sensitivities, and needs of parents in that community.

Furthermore, as Burnette et al. (2018) suggest, effective individual-level interventions would

likely be bolstered by cultures that advocate student growth mindsets. Interventions targeting

growth mindset training for parents can help move a community or school toward a growth

mindset culture.

Limitations

There are several limitations with the present study related to the collection of data. First,

the small sample size limited the amount of data available for analysis and as a result, few

inferences could be made that would offer insight into potential relationships between variables.

Second, the instruments used to collect information relied on self-reporting, therefore scores

obtained are subjective. In terms of measuring self-efficacy, this is appropriate considering that

self-efficacy refers to one's own beliefs, not actions based on those beliefs. However, in terms of

parent involvement, it is possible that self-reports may differ from actual behaviours or actions.

One way to arrive at a more objective measurement of parent involvement could be to include

both parent and child reports of involvement (Haimovitz & Dweck, 2016). While still subjective,

a measurement from more than one perspective might reduce the impact of self-report

subjectivity.

Third, participants in this study received all related documentation and information at one time so it is unclear as to whether they followed participation instructions closely or not. As evident by the missing posttest score, at least one participant misunderstood the instructions provided and submitted an incorrectly completed posttest. There was no way to verify if participants reviewed all the workshop material or followed procedures as outlined.

Finally, although the intervention used in this study followed a framework used in numerous mindset interventions, the intervention itself was developed by the researcher and had not previously been tested. Similarly, the measurement tools used to assess parent involvement and self-efficacy were developed by the researcher specifically for this study. Although based on previous research, neither tool was tested for reliability or validity prior to use.

Recommendations for Future Research

Suggestions for future research include replicating this study with a larger sample size and an in-person workshop where participants have opportunity to discuss, ask questions, share experiences, and benefit from the support of workshop facilitators, translators (when necessary), and one another. Future studies might also include student perspectives in measurements of involvement, and an assessment of change in variables over time. Researchers might also examine if a relationship exists between parent mindset workshops and student achievement. Finally, additional studies might explore whether there is a relationship between parent intelligence mindsets and self-efficacy as it relates to educational involvement, given that both constructs refer to one's own beliefs and perceived ability to influence an outcome.

Conclusion

Mindset interventions targeting parents with the specific goal of increasing their self-efficacy and involvement is an underexplored area of research. Despite changes made to the

methodology of this study as a result of the pandemic, and the extremely low sample size that made useful inferential analyses impossible, this study presents a new area of research that warrants further investigation.

To the researcher's knowledge, there is no other study that provides an intervention focused on empowering parents with information on learning, the brain, and the importance of mindset. For parents whose own schooling experiences have been negative, or those wanting to support their child's education but lacking the knowledge of how to do so, a learning opportunity such as the workshop provided in this study has the potential to offer parents a new positive school experience and tools with which to engage with their child. This, in turn, can influence their child's perspective and experience of school.

Parent involvement in student learning is a complex matter that requires researchers to go beyond simplistic notions about the underlying factors impacting one's involvement (Hornby & Lafaele, 2011). As Goodall and Montgomery (2014) aptly state, "parental engagement is never 'complete', never something that can be ticked off a list and considered 'done'" (p. 399). Any effort to support parents in building their capacity to engage with their child's learning is worth exploring.

References

Albanese, A. M., Russo, G. R., & Geller, P. A. (2019). The role of parental self-efficacy in parent and child well-being: A systematic review of associated outcomes. *Child: Care, Health and Development, 45*(3), 333-363.

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.

Antony-Newman, M. (2019). Parental involvement policies in Ontario: A critical analysis. *School Community Journal, 29*(1), 143-170.

Bandura, A. (1977). *Self-efficacy: The exercise of control.* W.H. Freeman.

Bandura, A., & Adams, N. E. (1977). Analysis of self-efficacy theory of behavioral change. *Cognitive Therapy and Research, 1*(4), 287-310.

Bandura, A., Barbaranelli, C., Caprara, G. V., & Pastorelli, C. (2001). Self-efficacy beliefs as shapers of children's aspirations and career trajectories. *Child Developement, 72*(1), 187-206.

Barger, M. M., Kim, E. M., Kuncel, N. R., & Pomerantz, E. M. (2019). The relation between parents' involvement in children's schooling and children's adjustment: A meta-analysis. *Psychological Bulletin, 145*(9), 855-890.

Benner, A. D., Boyle, A. E., & Sadler, S. (2016). Parental involvement and adolescents' educational success: The roles of prior achievement and socioeconomic status. Journal of youth and adolescence. *Journal of Youth and Adolescence, 45*(6), 1053-1064.

Blackwell, L. S., Trzesniewski, K. H., & Dweck, C. S. (2007). Implicit theories of intelligence predict achievement across an adolescent transition: A longitudinal study and an intervention. *Child Development, 78*(1), 246-263.

Boaler, J. (2013). Ability and mathematics: The mindset revolution that is reshaping education. *Forum, 55*(1), 143-152.

Boonk, L., Gijselaers, H. J., Ritzen, H., & Brand-Gruwel, S. (2018). A review of the relationship between parental involvement indicators and academic achievement. *Educational Research Review, 24*, 10-30.

Bostwick, K. P., Collie, R. J., Martin, A. J., & Durksen, T. L. (2017). Students' growth mindsets, goals, and academic outcomes in mathematics. *Zeitschrift für Psychologie, 225*(2), 107-116.

Broda, M., Yun, J., Schneider, B., Yeager, D. S., Walton, G. M., & Diemer, M. (2018). Reducing inequality in academic success for incoming college students: A randomized trial of growth mindset and belonging interventions. *Journal of Research on Educational Effectiveness, 11*(3), 317-338.

Burnette, J. L., O'boyle, E. H., VanEpps, E. M., Pollack, J. M., & Finkel, E. J. (2013). Mind-sets matter: a meta-analytic review of implicit theories and self-regulation. *Psychological Bulletin, 138*(3), 655-701.

Burnette, J. L., Russell, M. V., Hoyt, C. L., Orvidas, K., & Widman, L. (2018). An online growth mindset intervention in a sample of rural adolescent girls. *British Journal of Educational Psychology, 88*(3), 428-445.

Calzada, E. J., Huang, K. Y., Hernandez, M., Soriano, E., Acra, C. F., Dawson-McClure, S., & Brotman, L. (2014). Family and teacher characteristics as predictors of parent

involvement in education during early childhood among Afro-Caribbean and Lation

immigrant families. *Urban Education*. http://doi.org/10.1177/0042085914534862

Camacho-Thompson, D. E., Gonzales, N. A., & Tein, J. Y. (2019). Parental academic

involvement across adolescence contextualized by gender and parenting practices. *School

Psychology, 34*(4), 386-397.

Casad, B. J., Hale, P., & Wachs, F. L. (2015). Parent-child math anxeity and math-gender

stereotypes predict adolescents' math education outcomes. *Frontiers in Psychology, 6*, 1-

21. http://doi.org/10.3389/fpsyg.2015.01597

Castro, M., Exposito-Casas, E., Lopez-Martin, E., Lizasoain, L., Navarro-Asencio, E., &

Gaviria, J. L. (2015). Parental academic involvement across adolescence contextualized

by gender and parenting practices. *Educational Research Review, 14*, 33-46.

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, 113*(31),

8664-8668.

Costa, A., & Faria, L. (2018). Implicit theories of intelligence and academic achievement: A

meta-analytic review. *Frontiers in Psychology, 9*.

http://doi.org/10.3389/fpsyg.2018.00829

Crosby, S. A., Rasinski, T., Padak, N., & Yildirim, K. (2015). A 3-year study of a school-based

parental involvement program in early literacy. *The Journal of Educational Research,

108*(2), 165-172.

Doidge, N. (2007). *The brain that changes itself: Stories of personal triumph from the frontiers

of brain science.* New York: Penguin Group.

Dweck, C. (2016, August 14). *What is mindset?* Tratto da Mindsetonline.com:

http://mindsetonline.com/whatisit/about/

Dweck, C. S., & Yeager, D. S. (2019). Mindsets: A view from two eras. *Perspectives on*

Psychological Science, 14(3), 481-496.

Furnham, A. (2014). Increasing your intelligence: Entity and incremental beliefs about the

multiple intelligences. *Learning and Individual Differences, 32*, 163-167.

Goodall, J., & Montgomery, C. (2014). Parental involvement to parental engagement: A

continuum. *Educational Review, 64*(4), 399-410.

Green, C. L., Walker, J. M., Hoover-Dempsey, K. V., & Sandler, H. M. (2007). Parents'

motivations for involvement in children's education: An empirical test of a theoretical

model of parental involvement. *Journal of Educational Psychology, 99*(3), 532-544.

Griffin, D., & Galassi, J. P. (2010). Parent perceptions of barriers to academic success in a rural

middle school. *Professional School Counseling, 14*(1), 87-100.

Guimond, A. B., Wilcox, M. J., & Lamorey, S. G. (2008). The early intervention parenting self-

Efficacy Scale (EIPSES) scale construction and initial psychometric evidence. *Journal of*

Early Intervention, 30(4), 295-320.

Gunderson, E. A., Donnellan, M. B., Robins, R. W., & Trzesniewski, K. H. (2018). The

specificity of parenting effects: differential relations of parent praise and criticism to

children's theories of intelligence and learning goals. *Journal of Experimental Child*

Psychology, 173, 116-135.

Haimovitz, K., & Dweck, C. S. (2016). Parents' views of failure predict children's fixed and

growth intelligence mind-sets. *Psychological Science, 27*(6), 859-869.

Haimovitz, K., & Dweck, C. S. (2017). The origins of children's growth and fixed mindsets: New

 research and a new proposal. *Child Development, 88*(6), 1849-1859.

Hajihashemi, M., Mazaheri, M. A., & Hasanzadeh, A. (2019). Assessment of educational

 intervention in enhancing parenting self-efficacy in parents of primary school students.

 Journal of Education and Health Promotion, 8(43).

 http://doi.org/10.4103/jehp.jehp_260_18

Hamlin, D., & Flessa, J. (2018). Parental involvement initiatives: An analysis. *Educational

 Policy, 32*(5), 697-727.

Harris, A., & Goodall, J. (2008). Do parents know they matter? Engaging all parents in learning.

 Educational Research, 50(3), 277-289.

Hill, N. E., & Tyson, D. F. (2009). Parental involvement in middle school: a meta-analytic

 assessment of the strategies that promote achievement. *Developmental Psychology, 45*(3),

 740-763.

Hornby, G., & Lafaele, R. (2011). Barriers to parental involvement in education: An explanatory

 model. *Educational Review, 63*(1), 37-52.

Housel, D. A. (2020). Supporting the Engagement and Participation of Multicultural,

 Multilingual Immigrant Families in Public Education in the United States: Some Practical

 Strategies. *School Community Journal, 30*(2), 185-209.

Jacobs, C., & Daniels, D. (2020). Their capital has value, too: Exploring parental educational

 support in low-socioeconomic single-mother families. *Journal of Education (University

 of KwaZulu-Natal), 80*, 160-175.

Jasis, P. M., & Ordonez-Jasis, R. (2012). Latino parent involvement: Examining commitment

 and empowerment in schools. *Urban Education, 47*(1), 65-89.

Jeynes, W. (2011). Parental involvement research: Moving to the next level. *The School Community Journal, 21*(1), 9-18.

Jeynes, W. (2012). A meta-analysis of the efficacy of different types of parental involvement programs for urban students. *Urban Education, 47*(4), 706-742.

Kizilcec, R. F., & Goldfarb, D. (2019). Growth mindset predicts student achievement and behavior in mobile learning. *ACM Conference on Learning@ Scale*, (p. 1-10). Chicago.

Lally, P., Van Jaarsveld, C. H., Potts, H. W., & Wardle, J. (2010). How are habits formed: Modelling habit formation in the real world. *European Journal of Social Psychology, 40*, 998-1009.

Lawson, M. A., & Alameda-Lawson, T. (2012). A case study of school-linked, collective parent engagement. *American Educational Research Journal, 49*(1), 651-684. http://doi.org/10.3102/0002831211427206

Li, A., & Hamlin, D. (2019). Is Daily Parental Help with Homework Helpful? Reanalyzing National Data Using a Propensity Score–Based Approach. *Sociology of Education, 92*(4), 367-385.

Liu, Y., & Leighton, J. P. (2021). Parental self-efficacy in helping children succeed in school favors math achievement. *Frontiers in Education, 6*. http://doi.org/10.3389/feduc.2021.657722

MacPhee, M. (2021). The Differentiated Parent Support Model: Enhancing the Involvement of Parents Who Do Not Speak the School Language. *Canadian Journal of Education/Revue canadienne de l'education, 44*(1), 28-56.

Malm, E. K., Henrich, C., Varjas, K., & Meyers, J. (2016). Parental self-efficacy and bullying in elementary school. *Journal of School Violence, 16*(4), 411-425.

Mangels, J. A., Butterfield, B., Lamb, J., Good, C., & Dweck, C. S. (2006). Why do beliefs about intelligence influence learning success? A social cognitive neuroscience model. *Social Cognitive and Affective Neuroscience, 1*(2), 75-86.

McNeal, R. B. (2015). Parent involvement and student performance: The influence of school context. *Educational Research for Policy and Practice, 14*(2), 153-167.

Mertens, D. M. (2015). *Research and evaluation in education and psychology.* Sage Publications.

Moorman, E. A., & Pomerantz, E. M. (2010). Ability mindsets influence the quality of mothers' involvement in children's learning: an experimental investigation. *Developmental Psychology, 46*(5), 1354-1362.

Murray, K. W., Finigan-Carr, N., Jones, V., Copeland-Linder, N., Haynie, D. L., & Cheng, T. L. (2014). Barriers and facilitators to school-based parent involvement for parents of urban public middle school students. *SAGE Open, 4*(4), 1-12. http://doi.org/0.1177/2158244014558030

Orosz, G., Peter-Szarka, S., Bothe, B., Toth-Kiraly, I., & Berger, R. (2017). How not to do a mindset intervention: Learning from a mindset intervention among students with good grades. *Frontiers in Psychology, 8*. http://doi.org/10.3389/fpsyg.2017.00311

Oswald, D. P., Zaidi, H. B., Cheatham, D. S., & Brody, K. G. (2018). Correlates of parent involvement in students' learning: Examination of a national data set. *Journal of Child and Family Studies, 27*(1), 316-323.

Park, S., & Holloway, S. D. (2017). The effects of school-based parental involvement on academic achievement at the child and elementary school level: A longitudinal study. *The Journal of Educational Research, 110*(1), 1-16.

Paunesku, D., Walton, G. M., Romero, C., Smith, E. N., Yeager, D. S., & Dweck, C. S. (2015).

    Mind-set interventions are a scalable treatment for academic underachievement.

    Psychological Science, 26(6), 784-793.

Pelletier, J., & Brent, J. M. (2002). Parent participation in children'school readiness: The effects

    of parental self-efficacy, cultural diversity and teacher strategies. *International Journal of*

    Early Childhood, 34(1), 45-60.

Porter, T., Catalan Molina, D., Cimpian, A., Roberts, S., Fredericks, A., Blackwell, L. S., &

    Trzesniewski, K. (2022). Growth-mindset intervention delivered by teachers boosts

    achievement in early adolescence. *Psychological Science*.

    http://doi.org/10.1177/09567976211061109

Rhew, E., Piro, J. S., Goolkasian, P., & Cosentino, P. (2018). The effects of a growth mindset on

    self-efficacy and motivation. *Cogent Education, 5*(1), 1-16.

    http://doi.org/10.1080/2331186X.2018.1492337

Rutledge, E. L., Crouch, J. L., Vanentiner, D. P., Davila, A. L., Milner, J. S., & Skowronski, J. J.

    (2018). Are implicit personality theories associated with parental reactions to child

    transgressions? *Personality and Individual Differences, 128*, 113-121.

Sabol, T. J., Sommer, T. E., Sanchez, A., & Busby, A. K. (2018). A new approach to defining and

    measuring family engagement in early childhood education programs. *AERA Open, 4*(3),

    1-12. http://doi.org/10.1177/2332858418785904

Schleider, J. L., Schroder, H. S., Lo, S. L., Fisher, M., Danovitch, J. H., Weisz, J. R., & Moser, J.

    S. (2016). Parents' intelligence mindsets relate to child internalizing problems:

    Moderation through child gender. *Journal of Child and Family Studies, 25*(12), 3627-

    3636.

Schleider, J., & Weisz, J. (2018). A single-session growth mindset intervention for adolescent anxiety and depression: 9-month outcomes of a randomized trial. *Journal of Child Psychology and Psychiatry, 59*(2), 160-170.

Shumow, L., & Lomax, R. (2002). Parental efficacy: predictor of parenting behavior and adolescent outcomes. *Parenting: Science and Practice, 2*(2), 127-150.

Smith, T. E., Reinke, W. M., Herman, K. C., & Huang, F. (2019). Understanding family–school engagement across and within elementary-and middle-school contexts. *School Psychology, 34*(4), 363-375.

Steca, P., Bassi, M., Caprara, G. V., & Delle Fave, A. (2011). Parents' self-efficacy beliefs and their children's psychosocial adaptation during adolescence. *Journla of Youth and Adolescence, 40*(3), 320-331.

Sweatt, J. D. (2016). Neural plasticity and behaviour: Sixty years of conceptual advances. *Journal of Neurochemistry, 139*, 179-199.

Tovar-Moll, F., & Lent, R. (2016). The various forms of neuroplasticity: Biological bases of learning and teaching. *Prospects, 46*(2), 199-213.

West, M. R., Kraft, M. A., Finn, A. S., Martin, R. E., Duckworth, A. L., Gabrieli, C. F., & Gabrieli, J. D. (2016). Promise and paradox: Measuring students' non-cognitive skills and the impact of schooling. *Educational Evaluation and Policy Analysis, 38*(1), 148-170.

Wilder, S. (2014). Effects of parental involvement on academic achievement: A meta-synthesis. *Educational Review, 66*(2), 377-397.

Wittkowski, A., Garrett, C., Calam, R., & Weisberg, D. (2017). Self-report measures of parental self-efficacy: A systematic review of the current literature. *Journal of Child and Family Studies, 26*(11), 2960-2978.

Yamauchi, L. A., Ponte, E., Ratliff, K. T., & Traynor, K. (2017). Theoretical and Conceptual

Frameworks Used in Research on Family-School Partnerships. *School Community*

Journal, 27(2), 9-34.

Yeager, D. S., Hanselman, P., Walton, G. M., Murray, J. S., Crosnoe, R., Muller, C., Tipton, E.,

Schneider, B., Hulleman, C. S., Hinojosa, C. P., Paunesku, D., Romero, C., Flint, K.,

Roberts, A., Trott, J., Iachan, R., Buontempo, J., Man Yang, S., Carvalho, C. M., . . .

Dweck, C. (2019). A national experiment reveals where a growth mindset improves

achievement. *Nature, 573*(7774), 364-369.

Yeager, D. S., Johnson, R., Spitzer, B. J., Trzesniewski, K. H., Powers, J., & Dweck, C. S.

(2014). The far-reaching effects of believing people can change: implicit theories of

personality shape stress, health, and achievement during adolescence. *Journal of*

Personality and Social Psychology, 106(6), 302-314.

Yeager, D. S., Romero, C., Paunesku, D., Hulleman, C. S., Schneider, B., Hinojosa, H. Y., . . .

Dweck, C. S. (2016). Using design thinking to improve psychological interventions: The

case of the growth mindset during the transition to high school. *Journal of Educational*

Psychology, 108(374-391).

Yeager, D. S., Trzesniewski, K. H., & Dweck, C. S. (2013). An implicit theories of personality

intervention reduces adolescent aggression in response to victimization and exclusion.

Child Development, 84(3), 970-988.

Appendix A

Pre/Post-Workshop Questionnaire

<u>PART A</u>
Indicate how much you agree or disagree with the following statements. Circle the number representing your response.

I can influence how well my child does at school.

1	2	3	4	5
Strongly disagree	Disagree	Unsure	Agree	Strongly agree

I know how to help my child do well in school.

1	2	3	4	5
Strongly disagree	Disagree	Unsure	Agree	Strongly agree

I know how to help my child learn.

1	2	3	4	5
Strongly disagree	Disagree	Unsure	Agree	Strongly agree

I know how to help my child with homework or assignments when needed.

1	2	3	4	5
Strongly disagree	Disagree	Unsure	Agree	Strongly agree

I know how to help my child do well in reading.

1	2	3	4	5
Strongly disagree	Disagree	Unsure	Agree	Strongly agree

I know how to help my child do well in writing.

1	2	3	4	5
Strongly disagree	Disagree	Unsure	Agree	Strongly agree

I know how to help my child do well in mathematics.

1	2	3	4	5
Strongly disagree	Disagree	Unsure	Agree	Strongly agree

I know how to help my child do well in science.

1	2	3	4	5
Strongly disagree	Disagree	Unsure	Agree	Strongly agree

I know how to supervise my child's homework.

1	2	3	4	5
Strongly disagree	Disagree	Unsure	Agree	Strongly agree

I am able to help my child value learning.

1	2	3	4	5
Strongly disagree	Disagree	Unsure	Agree	Strongly agree

PART B
There are many ways in which parents are involved in their child's education. How often have you done the following in the *past two weeks*? Put a check (√) in the circle next to your answer.

Read with your child.
   O 0 times
   O 1-2 times
   O 3-5 times
   O 6 or more times

Talked to your child about his/her school day.
   O 0 times
   O 1-2 times
   O 3-5 times
   O 6 or more times

Played a board game, did a puzzle, or played a word game with your child.
   O 0 times
   O 1-2 times
   O 3-5 times
   O 6 or more times

Asked your child about what he/she is learning in class.
   O 0 times
   O 1-2 times
   O 3-5 times
   O 6 or more times

Worked on a project like building, making, or fixing something.
        O 0 times
        O 1-2 times
        O 3-5 times
        O 6 or more times

Supervised your child's homework.
        O 0 times
        O 1-2 times
        O 3-5 times
        O 6 or more times

Talked to your child about your expectations regarding school or learning.
        O 0 times
        O 1-2 times
        O 3-5 times
        O 6 or more times

Review your child's school planner or checked his/her agenda.
        O 0 times
        O 1-2 times
        O 3-5 times
        O 6 or more times

Encouraged your child to work hard at something they found difficult.
        O 0 times
        O 1-2 times
        O 3-5 times
        O 6 or more times

Helped your child study for a test, learn math facts, vocabulary words, or help with other homework.
        O 0 times
        O 1-2 times
        O 3-5 times
        O 6 or more times

Appendix B

Workshop Materials

Videos:

- Understanding the Brain and How We Learn video – 7 minutes (PowerPoint Slideshow)

- Growth vs Fixed Mindset – 5 minutes
  (Link: https://www.youtube.com/watch?app=desktop&v=KUWn_TJTrnU)

- Neuroplasticity – 2 minutes
  (Link: https://vimeo.com/157222777)

- Growing Your Mind – 3 minutes
  (Link: https://www.youtube.com/watch?app=desktop&v=WtKJrB5rOKs)

- The Value of Mistakes – 3 minutes
  (Link: https://bhi61nm2cr3mkdgk1dtaov18-wpengine.netdna-ssl.com/wp-content/uploads/2017/03/Day-5-Mistakes.mp4)

- Developing a Growth Mindset: The Power of Yet – 9:30 minutes
  (Link: https://www.youtube.com/watch?v=hiiEeMN7vbQ)

- Carol Dweck: A Study on Praise vs Mindset – 5 minutes
  (Link: https://www.youtube.com/watch?v=NWv1VdDeoRY)

- The Learning Brain – 7 minutes
  (Link: https://www.youtube.com/watch?v=cgLYkV689s4)

Writing Activity Prompts:

- What are the goals you have for your child's future? How could a stronger brain help them achieve that?

- Imagine another parent with a child having a hard time in school. Write a brief letter to encourage that parent using the ideas you have learned about growth mindsets.

Appendix C

Parent Handouts

mindset works®   **Growth Mindset Language** | Parent Tool

Growth Mindset Praise & Feedback

SAY THIS	NOT THAT
"I can see you worked so hard on this!"	"You are so smart!"
Say this because it helps your children understand you value their effort.	Do not say this because it makes them think of intelligence as a fixed quality.
"It seems like it's time to try a new strategy."	"It's okay. Maybe you're just not cut out for this!"
Say this because it lets your children know that they control outcomes by making choices.	Do not say this because it makes your children think they don't have the capacity to improve.
"I like watching you do that."	"You're a natural at that!"
Say this because it conveys a message of approval of an activity they enjoy doing, regardless of outcome.	Do not say this because the next time your children fail or make a mistake, they might think they do not have that talent after all.
"It looks like that was too easy for you. Let's find you something challenging so your brain can grow."	"That's right! You did that so quickly and easily; great job!"
Say this because it teaches kids that learning should be challenging, and if tasks are too easy then your brain isn't growing.	Do not say this because praising tasks completed without much effort paints effort in a negative light and encourages a fixed mindset.
"That's not right. You don't understand this yet. What strategies can you try to understand it better?"	"That's not right. Are you paying attention in class? It seems like you're not even trying."
Say this because it's important to be honest about what your child knows and doesn't know, but also explain that you believe in their capacity to improve.	Do not say this because the fight or flight response may be preventing your child from giving their best effort in class.
"That was really hard. Your effort has paid off! Next time you'll be ready for this kind of challenge!"	"That was really hard. I'm so glad it's over and you don't have to do that again."
Say this because reminding children of how they were able to overcome challenges by putting forth a lot of effort cultivates a growth mindset.	Do not say this because there will always be more challenges, and children should feel that they have the tools for what comes next.

PARENT'S GUIDE TO A GROWTH MINDSET

Your brain is like a muscle. When you learn, your brain grows.
The feeling of it being hard is the feeling of your brain growing!

Big Life Journal

PRAISE FOR:

EFFORT
STRATEGIES
PROGRESS
HARD WORK
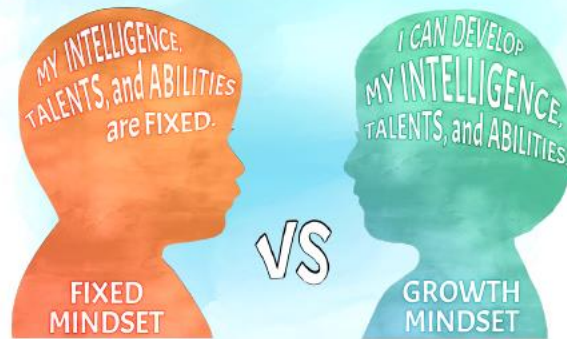PERSISTENCE
RISING TO A CHALLENGE
LEARNING FROM A MISTAKE

NOT FOR

TALENT
BEING SMART
BORN GIFTED
FIXED ABILITIES
NOT MAKING MISTAKES

THE POWER OF "YET"
SAY

"YOU CAN'T DO IT **YET**."
"YOU DON'T KNOW IT **YET**."
"IF YOU LEARN AND
PRACTICE, YOU WILL!"

BRAINS can GROW

MY INTELLIGENCE, TALENTS, and ABILITIES are FIXED.

I CAN DEVELOP MY INTELLIGENCE, TALENTS, and ABILITIES.

VS

FIXED MINDSET

GROWTH MINDSET

FAILURES AND MISTAKES = LEARNING

SAY

"MISTAKES HELP YOU IMPROVE."
"YOU CAN LEARN FROM YOUR MISTAKES."
"LET'S SEE WHAT OTHER STRATEGIES YOU CAN TRY."

PRINTABLES BY BIG LIFE JOURNAL - BIGLIFEJOURNAL.COM

RECOGNIZE YOUR OWN MINDSET

BE MINDFUL OF YOUR
OWN THINKING AND THE
MESSAGES YOU SEND
WITH YOUR WORDS AND
ACTIONS.

ASK

"WHAT DID YOU DO
TODAY THAT MADE YOU
THINK HARD?"

"WHAT NEW STRATEGIES
DID YOU TRY?"

"WHAT MISTAKE DID YOU
MAKE THAT TAUGHT YOU
SOMETHING?"

"WHAT DID YOU TRY
THAT WAS HARD
TODAY?"