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Self-efficacy in Parents and their Children with Dyslexia: A Survey Study

by

Virginia Rainsdon

A thesis

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Committee Approval

To the Graduate Faculty:

The members of the committee appointed to examine the thesis of VIRGINIA RAINSDON find it satisfactory and recommend that it be accepted.

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Human Subjects Committee Approval

November 9, 2022

Heather Ramsdell
School of Rehabilitation Comm Sciences
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RE: Study Number IRB-FY2023-71: Advocacy and Efficacy Parent Survey

Dear Dr. Ramsdell:

Thank you for your responses to a previous review of the study listed above. I agree that this study qualifies as exempt from review under the following guideline: Category 2.(i). Research that only includes interactions involving educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior (including visual or auditory recording).

The information obtained is recorded by the investigator in such a manner that the identity of the human subjects cannot readily be ascertained, directly or through identifiers linked to the subjects.

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Sincerely,

Ralph Baergen, PhD, MPH, CIP
Human Subjects Chair

Dedication Page

This thesis is dedicated to my son, whose journey with dyslexia has inspired me to delve deeper into this complex neurobiological learning difference and explore the challenges faced by individuals with dyslexia. Your strength, resilience, and perseverance have been a source of inspiration for me throughout this research. Witnessing your challenges has reinforced my conviction that there is a need for greater understanding and support for individuals with dyslexia and their caregivers. I hope this thesis can contribute to a better understanding of dyslexia and provide insight into how we can improve the lives of those who experience it. Thank you for being my motivation and inspiration to make a difference.

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List of Abbreviations

DLD	Developmental Language Disorder
DSM-5	Diagnostic and Statistical Methods Manual of Mental Health, 5th Edition
IDA	International Dyslexia Association
IDEA	Individuals with Disabilities Education Act
PSE	Parent Self-efficacy
SLD	Specific Learning Disability
SLI	Specific Language Impairment

Abstract

This survey examined the impact of self-efficacy on reading development and academic outcomes for children with dyslexia and reading disabilities. The study aimed to identify parent-driven behaviors that promote self-efficacy in reading for children with dyslexia and to determine the relationship between parent self-efficacy, child self-efficacy, and academic success. Descriptive and inferential statistics were used to analyze participant demographics, parent self-efficacy, child self-efficacy, and academic success. The results demonstrated that high levels of parent and child self-efficacy significantly influence the academic success of children with dyslexia and reading disabilities. The findings suggest that fostering self-efficacy in parents and children is crucial in building the confidence and resilience needed for academic success. Educators, clinicians, and other professionals can use these results to promote self-efficacy in parents and children to improve educational outcomes for children with dyslexia and reading disabilities. The study's implications, limitations, and future directions are discussed.

Key Words: Dyslexia, reading disorder, self-efficacy, parent self-efficacy, academic success

Introduction

Self-efficacy is our beliefs about our ability to accomplish a specific task (Bandura,1995a). Academic success and the ability to overcome our fears are linked to self-efficacy. Specifically, research suggests that self-efficacy is essential in reading development and determining academic outcomes (Ronimus et al., 2022). Reading proficiency is necessary for a child's overall academic performance. Parents with high self-efficacy believe in their capacity to assist their children in building the skills essential for reading development. Understanding how to better promote self-efficacy in children with dyslexia or who struggle to read could lead to better reading development and academic achievement. Through this survey, we sought to identify parent-driven behaviors that produce self-efficacy in reading for children with dyslexia; to determine the relationship between parent self-efficacy (PSE), child self-efficacy, and academic success (and to identify tools that promote self-efficacy in parents and their children from the parent's perspective). Descriptive and inferential statistics are reported for the following categories: participant demographics, PSE, child's self-efficacy, and child's academic success (per parent report). The research highlights the significant impact that high levels of parent/child self-efficacy have on the academic success of children with dyslexia and reading disabilities. Therefore, by fostering self-efficacy in parents and children, educators, clinicians, and other professionals can help to build the confidence and resilience needed for academic success for children with dyslexia and reading disabilities.

A Note on Terminology

For the purposes of this paper, we use the term dyslexia exclusively but recognize inconsistencies and confusion in terminology across professions. While reading and reading

difficulties are probably the most studied aspect of human psychology, lack of student learning in reading nationally could be considered a public health crisis. At least part of the crisis stems from inconsistent use of terminology across professions. The term *dyslexia* is, most simply, a descriptive label for a word reading and spelling problem that originates with specific language processes, most often those involving the brain's system for identifying, remembering, thinking about, and manipulating elements of speech (phonemes). These terms are used in the formal definition of dyslexia adopted by the International Dyslexia Association (IDA). However, some professions do not formally recognize the term dyslexia, given disorder definitions put forth by other governing bodies such as that printed in the Diagnostic and Statistical Methods Manual of Mental Health, 5th Edition (DSM-5; American Psychiatric Association - APA, 2013), that instead uses the term *specific learning disability* (SLD) "with impairment in reading." It defines SLD as "a pattern of learning difficulties characterized by problems with accurate or fluent word recognition, poor decoding, and poor spelling abilities" (p.67). Specific learning disabilities are the most common disability that plague school children. It is estimated that 5-15% of school-age children struggle with a learning disability (APA, 2013), with as many as 80% of those children having an impairment in reading (dyslexia; Shaywitz et al., 2021).

To further complicate the issue, there is the debate/misuse of the related and relevant terms *developmental language disorder* (DLD) and *specific language impairment* (SLI). A DLD is a lifelong neurodevelopmental condition affecting understanding and use of language, with the absence of brain damage, hearing impairment, or intellectual disability (McGregor et al., 2020). As with most disorders, DLD presents variably across individuals and can be identified by difficulties in word learning, morphosyntactic skills, vocabulary, and discourse-level language (Lancaster & Camarata, 2019). Similar to SLD, DLD is one of the most common developmental

disorders, occurring in around 7.5% of the population (e.g., Norbury et al., 2016). In addition, and relevant to the topic of dyslexia, children with DLD are at greater risk for having reading difficulties (Catts et al., 2002). Conversely to DLD, SLI is a more widely used, more narrowly defined term that generally refers to an impairment specific to language that cannot be attributed to hearing loss, neurological damage, or intellectual disability (Leonard, 2014, 2020).

Adding to the confusion, although dyslexia, SLD, DLD, and SLI, among other terms, are used, sometimes interchangeably throughout the literature, these research-oriented terms are not always the terms used by clinicians, insurance providers, educational policymakers, and stakeholders at large, all of whom operate under different labeling systems (Georgan et al., 2023). For example, in the United States, while clinicians across settings may refer to the DSM-5 (*language disorder* and *specific learning disorder*), insurance providers more often use codes outlined in the World Health Organization's International Classification of Diseases (F80.1 Expressive language disorder and F80.2 Expressive and receptive language disorder). Still alternate, educational policymakers and speech-language pathologists working in school settings will likely use broader disorder categories defined in the Individuals with Disabilities Education Act (IDEA). These inconsistencies add to the confusion and make it difficult for researchers across professions to work together. Further, it quickly becomes apparent that such terminological barriers are going to prevent people in different sectors from efficiently/effectively communicating with one another, from generating awareness, and from making unified progress toward reading success in school children (Georgan & Hogan, 2019; Leonard, 2020; Schuele & Hadley, 1999).

Dyslexia

Dyslexia is a specific learning impairment affecting word reading, decoding, and spelling, as demonstrated by low accuracy or fluency on standardized testing (Adlof & Hogan, 2018). Dyslexia is neurobiological in nature and is often caused by deficits in the phonological processing component of language (Shaywitz & Shaywitz, 2005). Reading challenges in individuals with dyslexia are unexpected because dyslexia has traditionally been characterized as a gap between reading achievement and intellectual potential as determined by standardized intelligence testing *and* access to adequate instruction. Thus, it can be further defined as a persistent deficit in literacy learning in otherwise typically developing children. This concept of unexpected underachievement is a hallmark feature of dyslexia (Tunmer & Greaney, 2009).

Reading proficiency is essential for a child's overall academic performance. A significant consequence of the discrepancy between a child's reading achievement and intellectual potential is that children with dyslexia are not typically identified until 2 or 3 years after exposure to reading instruction. Consequently, this prevents many with dyslexia from receiving the benefits of early intervention. Children with poor word recognition skills often receive less experience with literacy and encounter material that is too challenging, leading them to avoid reading. As a result, they do not benefit from reciprocating skills such as increased vocabulary development, use and understanding of complex syntax, and the development of richer and more elaborate knowledge bases, which in turn supports growth in reading more advanced texts (Tunmer & Greaney, 2009). The relationship between oral and written language is symbiotic or interdependent and thus mutually beneficial. Children first learn to speak, then read. The more a child succeeds at reading, the more they read, and the more they read, the more their oral language skills develop. A child's reading level increases with their oral language skills. In

addition, many children with dyslexia develop negative self-perceptions of their ability because of repeated learning failures and perceptions imposed upon them by others in the academic community (e.g., teachers saying the student is lazy, classmates saying the student is dumb, etc.). Low expectations for success and poor reading-related self-efficacy result in less motivation to try (Tunmer & Greaney, 2009).

Dyslexia is a reading, writing, and spelling disorder which suggests that children with dyslexia are rarely proficient at tasks requiring extensive reading, writing, and spelling (Adubasim & Nganji, 2017). Secondary effects may include difficulties with reading comprehension and diminished reading experience, which can hinder the development of vocabulary and background information (Lyon et al., 2003). For example, a child could be proficient at chess yet struggle to learn tasks that involve reading, writing, or spelling in school. Dyslexia, as defined by Shaywitz & Shaywitz (2005), has a neurological component. Numerous brain studies have revealed anatomical differences in the brains of individuals with dyslexia that offer explanations for learning differences. Therefore, utilizing the same or standard teaching approaches may not benefit most students, particularly those with dyslexia. Likewise, strategies and teaching methods that regularly emphasize the phonemic awareness of children with dyslexia often reveal their inability for phonetic decoding and consequently limit their academic success (Adbubasim & Nganji, 2017).

A bright and capable child may struggle with reading, writing, and spelling tasks despite good teachers and parental support. Continual exposure to falling short academically can lead to feelings of frustration and low self-worth in children (Adbubasim & Nganji, 2017). Self-efficacy influences behavioral decisions, motivation, cognitive patterns, responses, perception of control, and students' academic outcomes (Hussain et al., 2021). A child with dyslexia that has high self-

efficacy will be more likely to believe in their capacity to be academically successful. Self-efficacy inspires confidence in the child's ability to overcome obstacles that prevent them from achieving their goals. The belief that they are capable of success motivates them to try, encourages them to be more willing to work hard, and allows them to preserve even when they experience setbacks. A child with dyslexia that has low self-efficacy does not believe it is in their power to succeed academically. As disappointments mount, a child with low self-efficacy tends to stop caring; they become apathetic to achieving success. This apathy makes them less likely to try and more likely to settle for mediocrity. A child's reading achievement is influenced by the self-perception of their reading ability (Peura et al., 2021).

Self-efficacy

Bandura (1997) defined self-efficacy as a person's belief in their ability to complete a specific activity successfully. In combination with personal goals, self-efficacy is one of the most powerful motivating predictors of individual performance. Self-efficacy is also a compelling determinant of effort, perseverance, strategic thinking, future job training, and work performance. In addition to being highly predictive, self-efficacy is a trait that can be nurtured and developed to gain its performance-enhancing effects (Rogelberg et al., 2007).

Self-efficacy is task-specific. As such, an individual may have high self-efficacy for some tasks while simultaneously having low self-efficacy for others (Rogelberg et al., 2007). For example, for the child with dyslexia, self-efficacy could vary when attempting to retell a story such that high self-efficacy is experienced when retelling a story read to them, but low self-efficacy is experienced when retelling a story they read to themselves.

In this discussion, it is essential to distinguish between self-efficacy and two other important terms, self-confidence and self-esteem. While these are complementary concepts, they can have different applications. For example, Bandura (1997) stated, "Confidence is a nondescript term that refers to the strength of belief but does not necessarily specify what the certainty is about. I can be supremely confident that I will fail at an endeavor" (p. 382). In general, self-confidence is a personality trait related to how confident people feel and act in most situations (Rogelberg et al., 2007). Others, such as Vance & Brandon (2017), identify self-confidence as an essential self-efficacy component. Whether the idea of interest is called self-confidence or self-efficacy, it relates to the cognitive process through which individuals perceive their capacities to achieve a particular goal (Vance & Brandon, 2017). Likewise, the definition of self-esteem can be applied to varying constructs. Here, self-esteem will be defined as the self-evaluation and perception people form and maintain about themselves (Brown et al., 2001).

Let us use as an example a well-educated caregiver who values who they are as a person (good self-esteem) and is confident in their overall abilities to provide for their child (self-confidence). Still, their child is diagnosed with dyslexia, and they are apprehensive about their abilities to provide the support their child needs to succeed academically. Due to the task-specific nature of self-efficacy, a caregiver can have good self-esteem and self-confidence while also having low self-efficacy for tasks they feel less capable of performing. The low self-efficacy in this example could be due to numerous factors such as, but not limited to, the caregiver's understanding of dyslexia, the time commitment they feel is needed for success, perceived financial hardship, or lack of available resources. A teacher could also be used in the preceding example. As a teacher, they may possess good self-esteem and self-confidence, but due to their lack of understanding of dyslexia, they may have low self-efficacy when faced with helping a

student with dyslexia. Self-efficacy is more distinct and encompassing than self-confidence or self-esteem and is typically easier to cultivate. Self-efficacy is a significantly better predictor of how well people will execute a particular activity than self-confidence or self-esteem (Rogelberg et al., 2007).

People with a high sense of self-efficacy work hard and persevere in the face of adversity. History has long recorded the throngs of entrepreneurs, inventors, and politicians that persisted and stood steadfast despite setbacks, hardship, and lack of support. For example, as a young man, Walt Disney was fired from his job at the Kansas City Star Newspaper because he was deemed uncreative but had grit and did not give up (Lavinsky, 2021). Through persistent effort, he became a successful entrepreneur and a self-made millionaire. And although many are unaware of the fact, Walt Disney had dyslexia. Individuals with dyslexia who have developed grit and tenacity happen to be those who represent 35% of all entrepreneurs (Gyarmathy, 2020) and 40% of all self-made millionaires (BBC2 Television Program, *Mind of the Millionaire*, screened at 9 pm, on Tuesday, October 7, 2003).

When faced with learning complex subjects, individuals with high self-efficacy seek to better their expectations and plan of action rather than looking for reasons to avoid the activities. High self-efficacy promotes our ability to gather relevant information, make informed decisions, and take appropriate action. Low self-efficacy, in comparison, can lead to inconsistent analytic thinking, which threatens the quality of problem-solving—a vital ability in today's knowledge-based world (Rogelberg et al., 2007).

Children with low self-efficacy frequently interpret a negative outcome as validating their inadequacy. This creates a vicious cycle where obscure outcomes are interpreted as confirmation of perceived inadequacy, decreasing the child's self-efficacy, effort, and subsequent performance.

Low self-efficacy can easily lead to a sense of helplessness and discouragement. This can prevent even the most intelligent children from performing effectively (Rogelberg et al., 2007). For children who struggle to read or are diagnosed with dyslexia, this cycle further solidifies their negative self-perceptions of their ability to be successful readers, impeding future academic outcomes.

Self-efficacy is task-specific; thus, there is no single standardized measure of self-efficacy. Preferably, measures of self-efficacy need to assess an individual's self-perceived capacity to either accomplish a specific task (outcome self-efficacy) or engage in the processes likely to lead to the desired result (process self-efficacy). So fundamentally, to determine the most informative, predictive, and practical measure of a child's self-efficacy for reading, focus on specific behaviors, activities, or objectives that are task-specific to reading is needed (Rogelberg et al., 2007). Furthermore, depending on the task, a person may possess varying degrees of self-efficacy. For example, a child may exhibit high self-efficacy in playing soccer but low self-efficacy in tasks related to reading.

Sources of Self-efficacy

Bandura (1997) suggests four sources of self-efficacy exist; enactive self-mastery, vicarious experience, verbal persuasion, and physiological and affective states. A child's interpretation of information received from these four sources leads to the development of their self-efficacy beliefs. When individuals succeed at doing at least portions of a task, they have developed enactive self-mastery, the most potent predictor of self-efficacy. Such success serves to persuade individuals that they have what it takes to perform progressively challenging tasks of a similar nature. Self-mastery is best gained through progressive mastery, which is achieved by

breaking complex tasks into small, manageable steps to ensure early success. Individuals should be progressively assigned more complex tasks, with positive feedback and accomplishments applauded, before attempting increasingly demanding tasks. Building self-efficacy through enactive self-mastery includes arranging conditions that result in rewarding achievements while avoiding the sensation of repetitive failure. An example of enactive self-mastery is teaching a young child to play the cello. First, you would give them the appropriate amount of time to improve their proficiency and confidence in all the individual component skills (e.g., posture, finger placement, bow placement, and note reading) before putting them together to play a song. Initial cello lessons would be designed to challenge the child while simultaneously providing them with efficacy-building successes. Challenges should be placed for the child to encounter and celebrate victories as they grow in their proficiency to acquire self-efficacy through enactive self-mastery (Rogelberg et al., 2007).

Vicarious experience (role-modeling) occurs when people watch others accomplish an activity they are attempting to learn or imagine themselves effectively performing. Role modeling can provide people with ideas about how to execute specific skills and instill confidence in them that they can achieve equal success. Strong role models exhibit skill development, tenacity, and learning rather than defensiveness and blame, which cause mistakes to reoccur and decrease subsequent performance (Rogelberg et al., 2007). Choosing a mentor is critical for successful intervention. Models are most effective at increasing self-efficacy when those observing personally like them and have common characteristics (e.g., age, race, and ethnicity; Rogelberg et al., 2007).

Verbal persuasion promotes self-efficacy when individuals receive positive feedback and encouragement from credible sources (e.g., a respected role model). Additionally, positive self-

talk can boost self-efficacy. Efficacy-raising feedback highlights how constant efforts have enabled significant changes and progress, rather than including peer comparisons or referring to how far individuals must go before their goal is accomplished. Appropriate actions strengthen effective verbal persuasion. For example, assuring a child that they are capable without providing them with challenging assignments undermines the child's self-efficacy and the mentor's credibility as a role model. In contrast, having the child complete a progress chart before commending their progress is a powerful way of increasing their awareness of what they can accomplish. While positive accolades can promote self-efficacy, attempts to increase self-efficacy through verbal persuasion can readily deteriorate into empty advice unless accompanied by efficacy-affirming acts such as enactive self-mastery (Rogelberg et al., 2007).

Physiological and affective states encompass those perceptions of ability influenced by our awareness of the body's physical and emotional reactions to certain situations (Bandura, 1997). For example, suppose a child feels stress and anxiety while completing a reading task. In that case, it could compromise self-efficacy if the child interprets those feelings as lacking capacity (Peura et al., 2021).

Positive developmental trajectories of self-efficacy were correlated with higher degrees of enactive mastery, verbal persuasion, vicarious experiences, and lower levels of physiological arousal. Peura et al. (2021) found that the trajectory of students' self-efficacy decreased when they had declining encounters with social sources of self-efficacy, such as verbal persuasions and vicarious experiences.

Parenting Self-efficacy

Parenting self-efficacy (PSE) is the caregiver's or parent's belief in their ability to raise children successfully. Higher levels of PSE have been reliably linked to various parenting and child outcomes. Therefore, numerous parenting strategies seek to increase PSE (Wittkowski et al., 2017). Unfortunately, like self-efficacy, PSE is frequently confused and used interchangeably with parental confidence, parental competence, and parental self-esteem (Hess et al. 2004). The distinctions between the terms may be slight but must be explored to ensure understanding and consistency (Wittkowski et al., 2017).

According to Bandura (1997), parental confidence refers to the strength of a belief about a task but does not specify the certainty of strength; in contrast, PSE contains both strength of belief and an interpretation of capacity based on that belief. Glidewell & Livert (1992) defined parental confidence as steady across time, not situation-dependent or situation-specific. In contrast, they described PSE as task-specific, context-specific, and changeable. However, according to Vance & Brandon (2017), both PSE and parental confidence describe parental perceptions of their capacity to engage in expected parenting behaviors. They define PSE as a distinct, domain-specific term encompassed by self-efficacy theory. It is a multidimensional concept described as parental beliefs or confidence in their ability to carry out parenting responsibilities successfully. A parent's opinion or evaluation of their capacity to successfully perform parenting-related duties is parental confidence. Thus, Vance & Brandon (2017) concluded that parental confidence should be included along with knowledge, self-perceived ability, and strength of perceptions as characteristics of self-efficacy. A primary component of self-efficacy is confidence itself. People who believe they have the capacity to engage in particular behaviors are described as being effective and confident. These attitudes must exist for

a person to begin and master an activity, such as the attitudes parents must hold to promote their child's growth and well-being. The similarities between the causes and characteristics of PSE and parental confidence support the widespread use of both concepts. For this study, PSE will describe parental belief or confidence in their ability to carry out parenting responsibilities successfully.

According to De Montigny & Lacharité (2005), parental self-esteem is a distinct concept in and of itself. Parental self-esteem is one's assessment of one's worth as a parent, whereas PSE assesses one's personal capability to fulfill a parent's job (Bandura 1997). A person with high parental self-esteem feels good about themselves and believes they are a valuable asset to their children, but it is not task or behavior specific. In contrast, a parent with high PSE believes in their capacity to assist their child with a particular task or behavior (e.g., reading). Finally, parental competence is also a distinct notion from PSE. It relates to the ability to accomplish a task successfully and efficiently (Pearsall and Hanks 1998), as does PSE, but it is based on the viewpoints of others on how well the activity will be completed rather than a parent's judgment (Wittkowski et al., 2017). An example of parental competence would be a therapist's assessment of a parent's ability to complete a task.

Efficacy beliefs impact how people feel, think, motivate themselves, and act (Bandura, 1993). An individual's actions are influenced by their views about their ability to control their degree of functioning for a specific task. People have limited incentive to engage unless they feel they can achieve their desired outcomes through their efforts (Bandura et al., 1996). It has been demonstrated that parents who believed they could influence their children's development were more proactive and successful in fostering their children's skills than parents who doubted their ability to influence their children's developmental track (Schneewind, 1995). Mondell & Tyler

(1981) discovered that more efficacious parents (those with high levels of self-efficacy) provided more direct aid, gave fewer orders, and demonstrated more positive affect in interactions with their children. Such behaviors may act as a bridge between the self-efficacy of the parents and the child's self-efficacy. Grolnick et al. (1991) contended that parents' behavior does not influence children through skill development, as was previously believed, but rather through its influence on children's attitudes and motivations regarding school.

A child's perception of their abilities can significantly impact their academic achievement. Ability is not a fixed trait; children's performance is highly variable (Bandura,1998). Bassi et al. (2006) reported that students with higher self-efficacy indicated higher academic aspirations and pursuits than students with low self-efficacy. They spent more time doing assignments and positively linked enjoyment and value to learning activities. Individuals with high self-efficacy act, think, and feel differently than those with low self-efficacy. Rather than simply foretelling the future, they create it (Bandura,1995b). Because parents play a significant role in their children's academic achievement, research on PSE is particularly important (Lynch, 2002). Understanding how parents promote self-efficacy in their children with learning disabilities, such as dyslexia, can lead to more effective resources and tools for children with diagnoses.

Purpose

Accordingly, the **long-term goal** of this research is to understand better the relationship between self-efficacy in parents and their children with learning disabilities. The **objective** of this study was to identify behaviors that promote PSE and parent-driven behaviors that produce self-efficacy in reading for their children with dyslexia. The **central hypothesis** was that parents

would report various activities and techniques that have positively impacted their own self-efficacy and their child's self-efficacy in relation to reading and academic achievement for their children with dyslexia. This hypothesis was formulated from a review of the literature. There is a plausible gap in the literature regarding the impact of a child's self-efficacy on academic success for children with dyslexia or reading disabilities. The **rationale** for this research was that identifying activities, supports, and techniques that parents have received, employed, and found to be effective in nurturing the self-efficacy of their children with dyslexia will provide additional tools to support parents and children with dyslexia. Finding resources to provide complementary support for establishing self-efficacy for academic success is an essential yet complicated and arduous task. Characteristics of dyslexia manifest differently in each person; therefore, individuals will have varied responses to different supports and tools. Thus, the results of this study generated a broader list of resources for parents to utilize in their quest to nurture their child's self-efficacy.

Through three central aims, we tested the hypothesis. **Aim #1:** How does PSE influence child self-efficacy? **Aim #2:** Based on parent report, how does a child's self-efficacy influence their perception of academic outcomes? **Aim #3:** What descriptive comments do parents make about successful self-efficacy? For the **working hypothesis for aim #1**, we expected that parents with good self-efficacy would have a direct positive influence on the self-efficacy of their children. Parents would report literacy-related activities, supports for academic coursework, and therapies that provide complementary support for their child's development of self-efficacy for academic success. For the **working hypothesis for aim #2**, we expected that children with good self-efficacy, as reported by parents, would demonstrate positive perceptions of their educational outcomes. Parents would report positive literacy-related educational outcomes for their children

with good self-efficacy. In addition, parents would indicate the tools, accommodations, and therapies that provide complementary support that increases motivation for academic achievement in their children. For the **working hypothesis for aim #3**, we expected an applicable list of resources to be generated from parent feedback to promote parental and child self-efficacy for perceived academic success. It was anticipated that parents would report various activities or events that empower themselves and their child's self-efficacy. Such reports would include but not be limited to praise from peers, teachers, and therapists.

Methods

Participants

Approval was obtained from the Human Subjects Committee at Idaho State University prior to the collection of data. Each participant provided voluntary informed consent prior to participation in the study. Participants were recruited using convenience sampling, which is not random and is used to target members of a group of interest who are readily available. The recruitment methods detailed are considered convenience sampling because all caregivers accessed a survey link through social media. We only received responses from those who chose to fill out the survey, incorporating an element of volunteerism. All participants in the study were the caregivers of an individual with dyslexia or a learning disability related to reading. Participants responded to a survey link distributed to support and advocacy groups for distribution to members, through social media advertising and word of mouth.

Materials and Procedure

The survey contained 68 items that followed a Likert scale, allowing participants to rate the extent to which they agreed or disagreed with the presented statements. In addition, there were questions about PSE, perceived child self-efficacy, perceived child academic performance, and other thoughts on self-efficacy in general. We determined how long the survey (see Appendix A for a copy of the proposed survey) would take by requesting several volunteers (caregivers with children with a diagnosed learning disability) to complete the survey before it was distributed. This trial survey also aimed to identify whether or not any items need to be revised for clarity. Finally, we reported the expected length of the survey to participants in an explanation of the study before participation.

Research Design and Data Analysis

Descriptive statistics (frequencies, percentages, mean, and range) were calculated to describe demographics and response rates. Survey response comparisons between PSE (sorted by a response of capable, incapable, and neutral) are represented in tables for the following categories: demographics, PSE, child self-efficacy, child academic success, and helpful resources for self-efficacy.

Chi-square tests of independence were completed using Jamovi, an open statistical software package, to explore the relationship between parent self-efficacy, child self-efficacy, and child academic success. A standard alpha of $p \leq 0.05$ was used to determine the statistical significance between the criterion and predictor variables. In addition to exploring the significance of the relationships between variables, the effect size was calculated using Cramer's V. Cramer's V is an effect size measurement for the chi-square test of independence. It measures

how strongly categorical fields are associated. In interpreting effect sizes, those lower than or equal to 0.2 are considered only weakly associated, those between 0.2 and 0.6 are considered moderate results, and those greater than 0.6 are considered to be strongly associated.

Some response categories were collapsed to decrease the number of response options explored. Data were collapsed as follows. When asked about capability with respect to self-efficacy (defined as the confidence you have in your ability to help your child succeed academically for parent self-efficacy and as the confidence your child has in their ability to succeed academically for child-self efficacy), response options were collapsed from 6 to 3 categories, such that very capable and somewhat capable became *capable*, neither incapable nor capable became *neutral*, and somewhat incapable and very incapable became *incapable* (there were no responses indicating *I don't know*). When "level of agreement" was questioned, responses were collapsed from 6 categories to four categories such that somewhat agree and strongly agree became *agree;* strongly disagree and somewhat disagree became *disagree*; *I don't know* remained; and neither disagree nor agree became *neutral* (nothing was collapsed here, the agreement label was simply shortened for presentation purposes). State of residence was collapsed from 50 response options to 5 per census geographic classification. Accordingly, Connecticut, Maine, Massachusetts, New Jersey, New Hampshire, New York, Pennsylvania, Rhode Island, and Vermont collapsed into the *Northeast*; Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin were collapsed into the *Midwest*; Alabama, Arkansas, Delaware, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia were collapsed into the *South;* Alaska, Arizona, California,

Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming were collapsed into the *West*; and *Other* remained the same.

Results

Of the 112 surveys obtained, 72 were useable (64.29% of the total response rate). Surveys were excluded if participants only responded to informed consent but no other survey questions or if they completed less than half of the survey questions beyond informed consent. Also, the number of respondents (*n*) varies slightly for each specific variable of interest, detailed below. We only included respondents who answered all questions for each statistical analysis, resulting in slightly different numbers of respondents across comparisons (e.g., 59 capable parents under the category of "highest level of education" versus 54 capable parents under the category of "income" in Table 1). We queried parent self-efficacy, child self-efficacy, child academic success, and resources that were helpful tools for parent/child in achieving academic success. Combined with demographic data, this allowed for comparisons between the following three groups of parent respondents: those who felt 1) capable that they could help their child succeed academically, 2) incapable, and 3) neutral.

Variables of Interest

Parent Self-efficacy and Demographics

For information related to demographics and parent self-efficacy, see Table 1. Most parent respondents indicated they felt capable in response to the statement, "With self-efficacy defined as the confidence you have in your ability to help your child succeed academically, evaluate your self-efficacy with respect to helping your child" (81.9%).

With respect to how long ago a reading disability was diagnosed in children, parent responses varied such that the majority of those who were capable obtained a diagnosis more than 6 years ago (35.8%). Those who were incapable received a diagnosis 3 to 6 years ago (30%), and those who were neutral with respect to capability obtained a diagnosis in the last 6 months (100%). Regardless of parent self-efficacy rating, the majority of respondents had either a professional or 4-year degree (83.3%), a full-time or other (possibly stay-at-home parent) employment status (83.3%), made more than $100,000 per year (71.4%), were married (77.5%), lived in the South or the West (66.7%), had children with a formal diagnosis of dyslexia or a reading disability (88.9%) in a private practice setting (59.4%), and had children with another formal diagnosis other than dyslexia or a reading disability (77.8%).

Table 1 Parent Self-efficacy and Demographics: Descriptive Statistics

	With self-efficacy defined as the confidence you have in your ability to help your child succeed academically, evaluate your self-efficacy with respect to helping your child.					
	Capable		Incapable		Neutral	
	n	*%*	*n*	*%*	*n*	*%*
	What is your highest level of education?					
N=72	(n = 59)		(n = 12)		(n = 1)	
Professional degree	27	45.8	1	8.3	1	100.0
Some college	3	5.1	3	25.0	0	0.0
2-year degree	3	5.1	1	8.3	0	0.0
4-year degree	24	40.7	7	58.3	0	0.0
Doctorate	2	3.4	0	0.0	0	0.0
	What is your current employment status?					
N=72	(n = 59)		(n = 12)		(n = 1)	
Student	1	1.7	0	0.0	0	0.0
Seeking opportunity	0	0.0	1	8.3	0	0.0
Part-time	10	16.9	0	0.0	0	0.0
Full-time	37	62.7	7	58.3	1	100.0
Other	11	18.6	4	33.3	0	0.0
	What is your current income level?					
N=66	(n = 54)		(n = 11)		(n = 1)	
$20,000-$39,999	7	13	1	9.1	0	0.0
$40,000-$59,999	2	3.7	2	18.2	0	0.0
$60,000-$79,999	9	16.7	0	0.0	0	0.0
$80,000-$99,999	4	7.1	1	9.1	0	0.0
More than $100,000	32	59.3	7	63.6	1	100

			What is your current marital status?			
N=71	(n = 58)		(n = 12)		(n = 1)	
Married	54	93.1	11	91.7	1	100.0
Never Married	1	1.7	0	0.0	0	0.0
Divorced	3	5.2	1	8.3	0	0.0
			In what region do you reside?			
N=72	(n = 59)		(n = 12)		(n = 1)	
South	17	28.8	5	41.7	0	0.0
West	22	37.3	3	25.0	1	100.0
Northeast	15	25.4	3	25.0	0	0.0
Midwest	4	6.8	1	8.3	0	0.0
Other	1	1.7	0	0.0	0	0.0
			Does your child have a formal diagnosis of dyslexia (or a reading disability)?			
N=72	(n = 59)		(n = 12)		(n = 1)	
Yes	53	89.8	10	83.3	1	100.0
No	6	10.2	2	16.7	0	0.0
			Does your child have any other formal diagnoses?			
N=63	(n = 52)		(n = 10)		(n = 1)	
Yes	39	75.0	9	90.0	1	100.0
No	13	25.0	1	10.0	0	0.0
			How long ago was your child's reading disability diagnosed?			
N=64	(n = 53)		(n = 10)		(n = 1)	
Within last 6 months	4	7.5	2	20.0	1	100.0
1-3 years	16	30.2	2	20.0	0	0.0
3-6 years	14	26.4	3	30.0	0	0.0
6+	19	35.8	2	20.0	0	0.0
No diagnosis	0	0.0	1	10.0	0	0.0
			Where was your child's reading disability diagnosed?			
N=64	(n = 53)		(n = 10)		(n = 1)	
Private Practice	34	64.2	4	40.0	0	0.0
School	9	17.0	2	20.0	0	0.0
Private practice and school	10	18.9	3	30.0	1	100.0
Does not apply	0	0.0	1	10.0	0	0.0

The statistical relationships between demographics and parent self-efficacy are listed in Table 2. As can be seen, none of the comparisons were statistically significant at the $p < 0.05$ level or smaller, with the exception of "how long ago was your child's disability diagnosed," which was statistically significant. Effect sizes ranged from weak to moderate.

Table 2 Parent Self-efficacy and Demographics: Chi Square (X2) and Cramer's V (φc)

Variables of Interest	X^2	*df*	*p*	φ_c	Effect size
Parent Self-efficacy					
What is your highest level of education?	11.0	8	0.199	0.277	Moderate
What is your current employment status?	8.93	8	0.349	0.249	Moderate
What is your current income level?	5.86	8	0.663	0.211	Moderate
What is your current marital status?	0.465	4	0.977	0.057	Weak
In what geographical region do you reside?	2.99	8	0.935	0.144	Weak
Does your child have a formal diagnosis of dyslexia (or a reading disability)?	0.553	2	0.758	0.0876	Weak
Does your child have any other formal diagnoses? - Selected Choice	1.38	2	0.501	0.148	Weak
How long ago was your child's reading disability diagnosed?	15.8	8	0.045	0.352	Moderate

Aim #1. Parent Self-efficacy and Child Self-efficacy

In Aim # 1, we asked how PSE influences child self-efficacy. As shown in Table 3, for parents who were capable, the majority of their children were likewise rated capable when asked, "with self-efficacy defined as the confidence your child has in their ability to succeed academically, evaluate your child's self-efficacy" (73.3%). For parents who were incapable, the majority of their children were likewise rated incapable (41.7%). However, there was also a split between children rated as capable (33.3%) or neutral (25.0%) in this group. For parents who were neutral with respect to self-efficacy capability, all of their children were rated as incapable (100.0%).

Table 3 Parent Self-efficacy by Child Self-efficacy: Descriptive Statistics (N=73)

	With self-efficacy defined as the confidence you have in your ability to help your child succeed academically, evaluate your self-efficacy.					
	Capable (n = 60)		Incapable (n = 12)		Neutral (n = 1)	
	n	*%*	*n*	*%*	*n*	*%*
	With self-efficacy defined as the confidence your child has in their ability to succeed academically, evaluate your child's self-efficacy.					
Capable	44	73.3	4	33.3	0	0.0
Incapable	7	11.7	5	41.7	1	100.0
Neutral	9	15.0	3	25.0	0	0.0

The statistically significant relationship (at $p < 0.05$) between parent and child self-efficacy is shown in Table 4. This comparison represented a moderate effect.

Table 4 Parent Self-efficacy by Child Self-efficacy: Chi Square (X^2) and Cramer's V (φ_c)

Variables of Interest	X^2	*df*	*p*	φ_c	Effect size
With self-efficacy defined as the confidence your child has in their ability to succeed academically, evaluate your child's self-efficacy.	12.8	4	0.012	0.296	Moderate

Aim #2. Parent and Child Self-efficacy and Child Academic Success

In Aim # 2, based on caregiver report, we asked how a child's self-efficacy influences their perception of academic outcomes. We took this one step further and explored how parent self-efficacy influences reported child academic success. As shown in Table 5, the majority of parents who were capable agreed with the statement, "my child believes/believed that he/she can/could be successful in school" (69.5%). Conversely, the majority of parents who were incapable or neutral disagreed with the statement related to child academic success (58.3% and 100%, respectively). Further, most children rated capable or neutral with respect to self-efficacy were also rated to agree with their ability to succeed academically (83% and 50%, respectively). In contrast, those rated as incapable with respect to self-efficacy were rated to disagree with their ability to succeed academically (86.4%).

Table 5 Parent and Child Self-efficacy by Child Academic Success: Descriptive Statistics

	Parent Self-efficacy: With self-efficacy defined as the confidence you have in your ability to help your child succeed academically, evaluate your self-efficacy.					
	Capable		Incapable		Neutral	
	n	*%*	*n*	*%*	*n*	*%*
	My child believes/believed that they can/could be successful in school.					
N=72	(n = 59)		(n = 12)		(n = 1)	
Agree	41	69.5	4	33.3	0	0.0
Disagree	8	13.6	7	58.3	1	100.0
Neutral	7	11.9	1	8.3	0	0.0
I Don't Know	3	5.1	0	0.0	0	0.0

	Child Self-efficacy: With self-efficacy defined as the confidence your child has in their ability to succeed academically, evaluate your child's self-efficacy. My child believes/believed that they can/could be successful in school.					
N=72	(n = 47)		(n = 13)		(n = 12)	
Agree	39	83.0	0	0.0	6	50.0
Disagree	2	4.3	11	84.6	3	25.0
Neutral	4	8.5	2	15.4	2	16.7
I Don't Know	2	4.3	0	0.0	1	8.3

Table 6 ***Parent and Child Self-efficacy by Child Academic Success: Chi Square (X^2) and Cramer's V (φ_c)***

Variables of Interest	X^2	*df*	*p*	φ_c	Effect size
Parent Self-efficacy My child believes/believed that they can/could be successful in school.	15.4	6	0.018	0.327	Moderate
Child Self-efficacy My child believes/believed that they can/could be successful in school.	43.1	6	<0.001	0.547	Moderate

The statistical relationships between parent and child self-efficacy with child academic success are listed in Table 6. As can be seen, all of the comparisons were statistically significant at the $p < 0.05$ level or smaller, with moderate (to near-strong) effect sizes.

Aim #3. Parent Self-efficacy and Helpful Resources for Self-Efficacy

In Aim # 3, we asked what kind of descriptive comments parents make about successful self-efficacy. As shown in Table 7, most parents who were capable or neutral regarding self-efficacy agreed with the statement, "I can help my child become a better reader" (81.7% and 100%, respectively). Conversely, the majority of parents who were incapable with respect to self-efficacy either disagreed or felt neutral about this statement (33.3% respectively). Further, most parents who were capable or neutral regarding self-efficacy agreed with the statement, "I can provide my child with opportunities to be successful with writing" (68.3% and 100%, respectively). The majority of parents who were incapable with respect to self-efficacy, on the other hand, disagreed with this statement (50%). Regardless of parent self-efficacy, the majority

of parents agreed with the statements, “I often tell my child about the benefits of reading” (82.2%), “I can affect my child’s reading development” (90.4%), “my child listens to my suggestions for their reading” (46.6%), “I read to my child more often than most parents” (60.3%), “my child sees me reading” (90.4%), “I can help my child by breaking complex tasks into small, manageable steps to ensure early success” (75.3%), “I can provide my child with opportunities to be successful with spelling and writing” (60.3% and 63.0% respectively), “I can provide my child with positive feedback and encouragement when they attempt increasingly difficult tasks” (98.6%), “it is important that we celebrate victories with my child” (95.9%), “my child believes that reading is important” (75.3%), “my child believes that they can become a better reader if they work hard (practice)” (60.3%), “my child can pay or paid close attention to their teacher’s opinion of how well they read” (65.7%), and “my child would report that I read/read to him/her” (84.9%). Regardless of parent self-efficacy, the majority of parents agreed or were neutral with the statements, “my child listens/listened to suggestions from me about their reading” (79.4%), and “my child would report that I read/read to them more often than most parents” (76.7%). Regardless of parent self-efficacy, the majority of parents disagreed with the statements, “my child and I seldom find time to read together” (84.9%), and “my child uses progress charts to build their awareness of what they can accomplish” (56.2%).

Table 7 Parent Self-efficacy and Helpful Resources of Self-efficacy: Descriptive Statistics (N=73)

	With self-efficacy defined as the confidence you have in your ability to help your child succeed academically, evaluate your self-efficacy.					
	Capable (n = 60)		Incapable (n = 12)		Neutral (n = 1)	
	n	*%*	*n*	*%*	*n*	*%*
	I often tell my child about the benefits of reading.					
Agree	49	81.7	10	83.3	1	100.0
Disagree	6	10.0	1	8.3	0	0.0
Neutral	5	8.3	1	8.3	0	0.0
I don’t know	0	0.0	0	0.0	0	0.0
	I can help my child become a better reader.					

Agree	49	81.7	3	25.0	1	100.0
Disagree	4	6.7	4	33.3	0	0.0
Neutral	4	6.7	4	33.3	0	0.0
I don't know	3	5.0	1	8.3	0	0.0
	As a caregiver, I can affect my child's reading development.					
Agree	56	93.3	9	75.0	1	100.0
Disagree	1	1.7	0	0.0	0	0.0
Neutral	3	5.0	2	16.7	0	0.0
I don't know	0	0.0	1	8.3	0	0.0
	My child listens to my suggestions for their reading.					
Agree	30	50.0	4	33.3	0	0.0
Disagree	9	15.0	3	25.0	1	100.0
Neutral	20	33.3	5	41.7	0	0.0
I don't know	1	1.7	0	0.0	0	0.0
	My child and I seldom find time to read together.					
Agree	4	6.7	2	16.7	0	0.0
Disagree	51	85.0	10	83.3	1	100.0
Neutral	5	8.3	0	0.0	0	0.0
I don't know	0	0.0	0	0.0	0	0.0
	I read to my child more often than most parents.					
Agree	38	63.3	5	41.7	1	100.0
Disagree	7	11.7	4	33.3	0	0.0
Neutral	14	23.3	3	25.0	0	0.0
I don't know	1	1.7	0	0.0	0	0.0
	My child sees me reading.					
Agree	55	91.7	10	83.3	1	100.0
Disagree	4	6.7	2	16.7	0	0.0
Neutral	1	1.7	0	0.0	0	0.0
I don't know	0	0.0	0	0.0	0	0.0
	I can help my child by breaking complex tasks into small, manageable steps to ensure early success.					
Agree	46	76.7	8	66.7	1	100.0
Disagree	3	5.0	1	8.3	0	0.0
Neutral	10	16.7	3	25.0	0	0.0
I don't know	1	1.7	0	0.0	0	0.0
	I can provide my child with opportunities to be successful with reading.					
Agree	55	91.7	9	75.0	0	0.0
Disagree	1	1.7	3	25.0	1	100.0
Neutral	3	5.0	0	0.0	0	0.0
I don't know	1	1.7	0	0.0	0	0.0
	I can provide my child with opportunities to be successful with spelling.					
Agree	38	63.3	6	50.0	0	0.0
Disagree	9	15.0	6	50.0	1	100.0
Neutral	11	18.3	0	0.0	0	0.0
I don't know	2	3.3	0	0.0	0	0.0

	I can provide my child with opportunities to be successful with writing.					
Agree	41	68.3	4	33.3	1	100.0
Disagree	8	13.3	6	50.0	0	0.0
Neutral	10	16.7	2	16.7	0	0.0
I don't know	1	1.7	0	0.0	0	0.0
	I can provide my child with positive feedback and encouragement when they attempt increasingly difficult tasks.					
Agree	59	98.3	12	100.0	1	100.0
Disagree	0	0.0	0	0.0	0	0.0
Neutral	1	1.7	0	0.0	0	0.0
I don't know	0	0.0	0	0.0	0	0.0
	My child uses progress charts to build awareness of what they can accomplish.					
Agree	13	21.7	1	8.3	1	100.0
Disagree	32	53.3	9	75.0	0	0.0
Neutral	14	23.3	2	16.7	0	0.0
I don't know	1	1.7	0	0.0	0	0.0
	It is important that we celebrate victories with my child.					
Agree	58	96.7	11	91.7	1	100.0
Disagree	0	0.0	1	8.3	0	0.0
Neutral	2	3.3	0	0.0	0	0.0
I don't know	0	0.0	0	0.0	0	0.o
	My child believes that reading is important.					
Agree	44	73.3	10	83.3	1	100.0
Disagree	6	10.0	2	16.7	0	0.0
Neutral	9	15.0	0	0.0	0	0.0
I don't know	1	1.7	0	0.0	0	0.0
	My child believes that they can become a better reader if they work hard (practice).					
Agree	36	60.0	7	58.3	1	100.0
Disagree	7	11.7	4	33.3	0	0.0
Neutral	14	23.3	1	8.3	0	0.0
I don't know	3	5.0	0	0.0	0	0.0
	My child can pay or paid close attention to their teacher's opinion of how well they read.					
Agree	36	60.0	11	91.7	1	100.0
Disagree	7	11.7	0	0.0	0	0.0
Neutral	8	13.3	0	0.0	0	0.0
I don't know	9	15.0	1	8.3	0	0.0
	My child listens/listened to suggestions from me about their reading.					
Agree	27	45.0	7	58.3	0	0.0
Disagree	8	13.3	2	16.7	1	100.0
Neutral	21	35.0	3	25.0	0	0.0
I don't know	4	6.7	0	0.0	0	0.0
	My child would report that I read/read to them.					
Agree	52	86.7	9	75.0	1	100.0
Disagree	4	6.7	1	8.3	0	0.0
Neutral	2	3.3	2	16.7	0	0.0

I don't know	2	3.3	0	0.0	0	0.0
	My child would report that I read/read to them more often than most parents.					
Agree	32	53.3	6	50.0	1	100.0
Disagree	5	8.3	3	25.0	0	0.0
Neutral	14	23.3	3	25.0	0	0.0
I don't know	9	15.0	0	0.0	0	0.0

In addition to the above results, some themes were extracted from parent open-ended questions related to helpful resources for self-efficacy. Themes related to various treatment approaches such as Orton-Gillingham, Davis Dyslexia training, Linda Mood LIPS Program, All About Reading, Wilson Reading Instruction, and the Barton System were found helpful. Also, dyslexia trained professionals were found helpful, such as in-class aids, SLPs, OTs, tutors. Assistive technology, such as audiobooks, noise-canceling headphones, speech to text, text to speech applications, C-pens, predictive writing, and spellcheck applications, Google Read and Write tool was helpful. Further, parents reported numerous accommodations to be helpful, such as reduced workload, extended time, scribing and provided notes, quiet space, orally administered tests and responses, seating, small groups, not marking off for spelling errors. Also, low technology assistive devices such as filtered color line marker, visual learning aids, learning allies, highlighters, colored pencils were reported to be helpful resources. And finally, other helpful resources came in the shape of support groups and materials such as Decoding Dyslexia, other parents, Overcoming Dyslexia (Shaywitz & Shaywitz, 2020), and extra patience.

The statistical relationships between parent self-efficacy and helpful resources or self-efficacy are listed in Table 8. As can be seen, none of the comparisons were statistically significant at the $p < 0.05$ level or smaller, with the exception of "how long ago was your child's disability diagnosed" and "I can help my child become a better reader," which were statistically significant. Effect sizes ranged from weak to moderate.

Table 8 ***Parent Self-efficacy and Helpful Resources of Self-efficacy: Chi Square (X2) and Cramer's V (φc)***

Variables of Interest	X^2	*df*	*p*	φ_c	Effect size
I often tell my child about the benefits of reading.	0.252	4	0.993	0.042	Weak
I can help my child become a better reader.	18.0	6	0.006	0.351	Moderate
I pay close attention to my child's teacher's opinion of how well my child is reading.	1.29	6	0.972	0.0941	Weak
As a caregiver, I can affect my child's reading development?	7.74	6	0.258	0.230	Moderate
My child listens to my suggestions for their reading.	6.24	6	0.97	0.207	Moderate
My child and I seldom find time to read together.	2.41	4	0.660	0.129	Weak
I read to my child more often than most parents.	4.78	6	0.573	0.181	Weak
My child sees me reading?	1.60	4	0.808	0.105	Weak
I can help my child by breaking complex tasks into small, manageable steps to ensure early success.	1.26	6	0.974	0.093	Weak
I can provide my child with opportunities to be successful with reading.	22.9	6	<0.001	0.396	Moderate
I can provide my child with opportunities to be successful with spelling.	12.1	6	0.059	0.288	Moderate
I can provide my child with opportunities to be successful with writing.	9.75	6	0.135	0.258	Weak
I can provide my child with positive feedback and encouragement when they attempt increasingly difficult tasks.	0.220	2	0.896	0.0549	Weak
My child uses progress charts to build awareness of what they can accomplish.	6.03	6	0.420	0.203	Moderate
It is important that we celebrate victories with my child.	5.54	4	0.236	0.195	Weak
My child believes that reading is important.	2.90	6	0.822	0.141	Weak
My child believes that they can become a better reader if they work hard (practice).	5.49	6	0.482	0.194	Weak
My child can pay or paid close attention to their teacher's opinion of how well they read.	5.42	6	0.491	0.193	Weak
My child listens/listened to suggestions from me about their reading.	7.29	6	0.295	0.223	Moderate
My child would report that I read/read to them.	4.03	6	0.673	0.166	Weak
My child would report that I read/read to them more often than most parents.	5.28	6	0.509	0.190	Weak

Discussion

Through this project, we aimed to identify behaviors that promote PSE and parent-driven behaviors that produce self-efficacy in reading for their children with dyslexia. Specifically, we explored the parent's perception of their own self-efficacy and their perception of their child's

self-efficacy, their child's academic success, demographics, and the resources they deemed effective in supporting their child.

Characteristics of Parent Respondents

Demographics

Respondents differed somewhat regarding their highest level of education, with most parents stating they had some professional training or a bachelor's degree. A small percentage of parents responded they had some college or an associate degree, and two answered that they had a doctoral degree. All the respondents had at least some college or professional training. Most respondents were employed full-time, while a small percentage included those working part-time and other opportunities such as stay-at-home parents, students, or seeking opportunities. Respondents differed significantly regarding their income level, with most parents stating their income as more than $100,000 and that they were married. Respondents geographical residences also varied greatly yet equally across the United States, except for the midwestern region.

Out of the 72 respondents, the majority of parents reported that their child has a formal diagnosis of dyslexia or a reading disability, with most diagnoses being received in the private practice setting. Conversely, only nine respondents indicated their child's formal diagnosis was received in the school setting. The prevalence of private practice diagnoses raises questions about why formal diagnoses for dyslexia are more likely to occur in the private practice setting. Possible reasons include limited school resources, a narrow focus on test preparation, stigma, and labeling concerns, and the accessibility and convenience of private practices for parents seeking a formal diagnosis for their child. These factors may impact the availability and effectiveness of interventions and support for children with dyslexia in schools, as many schools require in-

school testing and diagnosis for in-school services to be provided. Therefore, it is essential to address these factors and provide adequate resources and support for children with dyslexia and reading disabilities in both school and private practice settings.

In addition to a formal diagnosis of dyslexia or a reading disability, the majority of children reported to have dyslexia were also reported to have other formally diagnosed comorbidities. Other formal diagnoses include speech sound disorder, attention-deficit/hyperactivity disorder (ADHD), attention-deficit disorder (ADD), anxiety, depression, visual-motor integration, dysgraphia, dyscalculia, disruptive mood dysregulation disorder (DMDD), complex post-traumatic stress disorder (CPTSD), social communication disorder, autism spectrum disorder (ASD), nonverbal learning disorder (NVLD), auditory processing disorder, diabetes, Irlen Syndrome, and intellectually gifted.

The amount of time that passed since their child's formal diagnosis varied significantly from within the last 6 months to over 6 years ago. This finding, a statistically significant factor in supporting a parent's self-efficacy to help their child be academically successful, can be explained in several ways. Firstly, with time, parents may become more knowledgeable about their child's condition and the interventions and strategies that can be used to support their child's learning. This increased knowledge can lead to greater self-efficacy, as parents feel more capable of helping their children succeed academically. Secondly, as time passes, parents may have more opportunities to observe their child's progress and identify areas where their child may struggle. This increased awareness can lead to greater efficacy, as parents feel more equipped to address their child's needs and provide the support and resources necessary for success. Finally, as time passes, parents may have more opportunities to build relationships with their child's teachers and other professionals involved in their child's education. This increased collaboration can lead to

greater efficacy, as parents feel more supported and empowered to advocate for their child's needs and work with educators to support their child's academic success. Overall, this finding of time passed since diagnosis and its importance in fostering PSE and its subsequent positive academic outcomes highlights the importance of ongoing support and resources for parents of children with dyslexia and reading disabilities.

Aim #1. Parent Self-efficacy and Child Self-efficacy

In Aim # 1, we asked how PSE influences child self-efficacy. The research suggests a significant association between PSE and child self-efficacy concerning dyslexia and reading disabilities. More specifically, the survey results indicate that a PSE in supporting their child's literacy development significantly predicts their child's reading, writing, and spelling success. Self-efficacy refers to a person's belief in their ability to complete a task or achieve a goal successfully. In supporting literacy development, parents with high self-efficacy believe they are capable of providing their children with the opportunities, support, and resources necessary for success in reading, writing, and spelling. This belief can lead to more active and intentional efforts to promote literacy, such as reading to their child, providing a literacy-rich environment, and engaging in literacy activities. On the other hand, while parents with low self-efficacy believe reading, writing, and spelling are essential, according to the survey results, they may not feel confident or capable of providing relevant opportunities for their children. As a result, low PSE can lead to a lack of effort or engagement in promoting literacy and may result in missed opportunities for the child to develop their literacy skills.

It is important to note that self-efficacy is not necessarily based on a parent's actual abilities, but rather on their beliefs about their abilities. Therefore, a parent can have high self-

efficacy and limited literacy skills themselves, or for a parent with strong literacy skills to have low self-efficacy due to other factors, such as anxiety or lack of support. In conclusion, the survey results suggest that a parent's self-efficacy in promoting literacy is essential to their child's literacy development. Therefore, interventions that aim to increase PSE, such as parent education programs and coaching, may help improve children's literacy outcomes.

Aim #2. Parent and Child Self-efficacy and Child Academic Success

In Aim # 2, based on caregiver report, we asked how a child's self-efficacy influences their perception of academic outcomes. The relationship between parent and child self-efficacy and child academic success was statistically significant. For children with dyslexia and reading disabilities, high parent and child self-efficacy can be particularly important in scaffolding academic success. Children with dyslexia and reading disabilities may face more challenges and setbacks in learning to read, write and spell. However, if both the parent and child have high self-efficacy, they may be more likely to persist in the face of difficulties and to view setbacks as temporary and controllable. As discussed in the next section, children with dyslexia and reading disabilities may benefit from specific learning strategies and accommodations, such as receiving specialized treatment (e.g., Orton-Gillingham) and using assistive technology (e.g., spellchecker). Parents with high self-efficacy may be more likely to seek out and use these strategies and advocate for their children's needs. Additionally, children may struggle with feelings of frustration, low self-esteem, and negative attitudes toward reading. Regardless, suppose both parent and child have high self-efficacy, in which case they may be more willing to view reading, writing, and spelling as manageable tasks and feel confident about their learning ability.

Aim #3. Parent Self-efficacy and Helpful Resources for Self-Efficacy

In Aim # 3, we asked what kind of descriptive comments parents make about successful self-efficacy. In the survey, parents provided descriptive comments about resources they found to influence their children's self-efficacy positively. Parents of children with dyslexia and reading difficulties have identified various approaches and resources that assisted them in building their child's self-efficacy and supporting their academic success. A complete list of resources can be found in Appendix B. Some common themes extracted from open-ended questions on the present survey include treatment approaches such as the Orton-Gillingham approach, Davis Dyslexia training, and Linda Mood LIPS Program, as well as dyslexia-trained professionals like in-class aids, speech-language pathologists, occupational therapists, and tutors. Assistive technology was also identified as valuable, including audiobooks, noise-canceling headphones, speech-to-text, text-to-speech applications, and the Google Read and Write tool. Accommodations like extended time, scribing, and providing notes, as well as low-tech devices such as filtered color line markers and highlighters, were also helpful. Finally, support groups and materials like membership in local chapters of Decoding Dyslexia, other parents, and books such as "Overcoming Dyslexia" (Shaywitz & Shaywitz, 2020) were valuable resources for emotional support and practical advice. By acknowledging the variety of approaches and resources available, parents and educators can work together to identify the most effective and appropriate interventions for each child with dyslexia, ultimately supporting their self-efficacy and success in reading, writing, and spelling.

Implications

The importance of high parent and child self-efficacy for promoting academic success in children with dyslexia and reading disabilities has important implications for parents, educators, policymakers, and professionals going forward.

Firstly, parents play a critical role in promoting self-efficacy in their children with dyslexia. By providing their children with opportunities to practice and develop their skills, emotional support, advocacy, and resources to help their children succeed, parents can help to build their child's confidence in their ability to learn and succeed academically. Parents can also help create a supportive learning environment at home by providing access to effective interventions and resources and promoting a positive attitude toward learning.

Secondly, educators can help to promote self-efficacy in children with dyslexia by providing effective interventions that addresses each child's specific needs. This can include approaches like the Orton-Gillingham approach, Davis Dyslexia training, and the Linda Mood LIPS program, as well as accommodations and assistive technology that can help children with dyslexia to succeed academically. Educators can also help to create a supportive learning environment that promotes confidence, engagement, and persistence in learning, which can, in turn, lead to improved academic outcomes.

Thirdly, policymakers can help to promote self-efficacy in children with dyslexia by providing resources and support for effective interventions and accommodations. This can include funding for evidence-based programs, educational training, and policies promoting access to assistive technology and accommodations. Policymakers can also support the development of resources and support networks for parents to further help them to support their children's academic success.

Finally, professionals can promote self-efficacy in parents and children with dyslexia and reading disabilities by providing education and information, collaborating with parents to develop individualized plans, offering resources and support, and encouraging positive feedback and reinforcement. By promoting self-efficacy in parents, professionals can help to build parent confidence and resilience, ultimately leading to better outcomes for their child's academic success.

Study Limitations

An analysis of the study methods suggests possible flaws that could have influenced the results. Survey studies require volunteerism, which may introduce response bias into the results. Individuals who are particularly invested in the topic being surveyed may be more likely to respond, potentially skewing the results.

Also, data collapse is a potential limitation that can occur when data is aggregated or collapsed into fewer categories, resulting in a loss of information. Data collapse can make it more difficult to identify patterns or trends and may obscure essential differences or nuances within the data. It can lead to a loss of information about data distribution, including outliers. This can make it more difficult to identify patterns that may be important for understanding parent and child self-efficacy and its overall impact on the child's academic success. Additionally, collapsing data can impact the validity and generalization of survey findings. The sample size was small, given the incidence of dyslexia and reading disabilities.

The survey was distributed to all 50 chapters of Decoding Dyslexia and advertised via social media and word of mouth. In addition, multiple reminders were distributed to procure an adequate sample size.

Question design is an essential aspect of research methodology and can have several potential limitations. Poorly designed questions may lead to biased or unreliable responses, limiting the validity and generalizability of the study findings. One potential limitation of question design is response bias, which can occur when questions are phrased in a way that encourages certain types of responses or discourages others. This can lead to inaccurate or incomplete data that does not accurately reflect the attitudes or experiences of the participants. Additionally, question design can also impact the internal validity of the study.

Self-efficacy scales are widely used to measure an individual's beliefs about their capabilities. While they can provide valuable information, some limitations exist when interpreting results. These include the potential for reporting higher self-efficacy to conform socially, lack of context, limited predictive power, subjective nature, and limited generalizability. Concerning limited generalizability, 78% of respondents were married, and 71% had incomes over $100,000. Subsequently, limiting the generalizability of this research to all populations or contexts because different individuals or groups may have different beliefs about their capabilities. Steps were taken to minimize these limitations whenever possible.

Future Directions

In the future, research may want to focus on older individuals, such as adolescents and adults with dyslexia or reading disabilities. Surveying older individuals, adolescents, and adults with dyslexia or reading disabilities can provide valuable insights into the self-efficacy beliefs of this population. Specifically, it can help researchers understand how self-efficacy beliefs may change over time and how these beliefs impact motivation, achievement, and overall well-being. For example, surveying older individuals with dyslexia may reveal that they have developed

more significant self-efficacy beliefs over time as they have learned to cope with their dyslexia and to find strategies that work for them. Alternatively, it may reveal that some individuals experience declines in self-efficacy beliefs as they face new life challenges or transitions. Older individuals would also be able to rate their own levels of self-efficacy, limiting some of the subjectivity of the parent's perceived child self-efficacy rating. In addition, it may offer researchers new insight into the effectiveness of treatment approaches and various resources.

Understanding the self-efficacy beliefs of individuals with dyslexia across the lifespan can help researchers, educators, and other professionals better support this population. By identifying factors that promote or inhibit self-efficacy beliefs, interventions, and strategies can be developed to help individuals with dyslexia build and maintain confidence in their abilities, ultimately leading to improved academic and personal outcomes.

Conclusions

In conclusion, research has shown that high levels of parent and child self-efficacy can positively impact academic success, particularly for children with dyslexia and reading disabilities. Parents who believe in their abilities to support and advocate for their child and have high expectations for their child's success are more likely to provide the encouragement and support needed for their child to develop their own sense of self-efficacy. Similarly, children with high levels of self-efficacy are more likely to persevere in the face of challenges and believe in their ability to succeed. By promoting self-efficacy in parents and children, educators, clinicians, and other professionals can help to build the confidence and resilience needed for academic success. While there are limitations to be considered, such as the impact of sample size

or flaws in study design, promoting self-efficacy in parents and children remains a critical component of academic success, particularly for those with dyslexia and reading disabilities.

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Appendix A

Parent and Child Self-Efficacy and Reading for Children with Dyslexia Survey (adapted from Stagg et al., 2017)

Demographics

1. Are you the caregiver of a child with dyslexia?
    1. Yes
    2. No
2. Do you have a child you are concerned about or that has been diagnosed with dyslexia?
    1. No
    2. Yes concerned
    3. Yes diagnosed
    4. Both concerned and diagnosed
3. Do you have a family history of reading disabilities?
    1. Yes
    2. No
    3. Unknown
4. What is your highest level of education?
    1. High School Diploma
    2. Some college
    3. Associate degree
    4. Bachelor's Degree

5. Master's Degree
6. Ph.D. or higher
7. Other doctoral degrees
8. Trade School
9. Other

5. What is your current employment status?
    1. Full-time
    2. Part-time
    3. Seeking Opportunity
    4. Student
    5. Other
6. Income
    1. Less than $15,000
    2. $15,000-29,999
    3. $30,000-49,999
    4. $50,000-69,999
    5. $70,000-99,999
    6. More than $100,000
7. Marital status
    1. Single
    2. Married
    3. Never married
    4. Separated/divorced/widowed

8. In what geographic region do you currently live?
    1. New England (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont)
    2. Middle Atlantic (New Jersey, New York, Pennsylvania)
    3. East North Central (Indiana, Illinois, Michigan, Ohio, Wisconsin)
    4. West North Central (Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota)
    5. South Atlantic (Delaware, District of Columbia, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia, West Virginia)
    6. East South Central (Alabama, Kentucky, Mississippi, Tennessee)
    7. West South Central (Arkansas, Louisiana, Oklahoma, Texas)
    8. Mountain (Arizona, Colorado, Idaho, New Mexico, Montana, Utah, Nevada, Wyoming)
    9. Pacific (Alaska, California, Hawaii, Oregon, Washington.)
9. How long ago was your child's reading disability diagnosed?
    1. They do not have a formal diagnosis
    2. Within the last 6 months
    3. 6 months – 12 months
    4. 1 – 3 years ago
    5. 3 – 6 years ago
    6. 6+
10. If a formal diagnosis was given, where was the assessment conducted?
    1. School

2. Private Practice
3. Both
4. Does not apply

All remaining responses (unless otherwise noted) will be reported on a "level of agreement" Likert scale such that 1 = strongly disagree, 2 = disagree, 3 = somewhat disagree, 4 = neither disagree nor agree, 5 = somewhat agree, 6 = agree, 7 = strongly agree, and 8 = I don't know.

QUESTIONS 11-21 RELATED TO ADVOCACY (DAY'S Thesis)

Parent's Self-Efficacy

22. I often tell my child about the benefits of reading.

23. I think I can help my child become a better reader.

24. I pay close attention to the teacher's opinion of how well my child is reading.

25. As a caregiver, I am important in affecting my child's reading development.

26. My child listens/listened to my suggestions for their reading.

27. My child and I seldom find/found time to read together.

28. I read to my child more often than most parents.

29. My child sees me reading.

30. I can help my child by breaking complex tasks into small, manageable steps to ensure early success.

31. It is important to provide my child with opportunities to be successful with literacy activities (e.g., reading, spelling, writing).

32. I provide my child with positive feedback and encouragement when they attempt increasingly difficult tasks.

33. I often tell my child what they are successful at and highlight how much they have improved.

34. My child uses progress charts to build their awareness of what they can accomplish.

35. It is important that we celebrate victories with my child.

36. With self-efficacy defined as the confidence you have in your ability to help your child succeed academically, evaluate your self-efficacy on a scale of 0 to 5.

0= I do not know how to answer this question

1= I feel very incapable of helping my child

2= I feel somewhat incapable of helping my child

3= I feel neither incapable nor capable of helping my child (neutral)

4= I feel somewhat capable of helping my child

5= I feel very capable of helping my child

Child's Efficacy (or Individual with Dyslexia)

37. My child believes that reading is important.

38. My child believes that they can become a better reader if they work hard (practices).

39. My child pays/paid close attention to their teacher's opinion of how well they read.

40. My child listens/listened to suggestions from me about their reading.

41. My child would report that I read/read/read to them.

42. My child would report that I read/read/read to them more often than most parents.

43. My child believes/believed that they can/could be successful in school.

44. With self-efficacy defined as the confidence your child has in their ability to succeed academically, evaluate your child's self-efficacy on a scale of 0 to 5.

1. 0= I do not know how to answer this question
2. 1= My child feels very incapable of succeeding academically
3. 2= My child feels somewhat incapable of succeeding academically (neutral)
4. 3= My child feels neither incapable nor capable of succeeding academically
5. 4= My child feels somewhat capable of succeeding academically
6. 5= My child feels very capable of succeeding academically

QUESTIONS 45-50 RELATED TO ADVOCACY (DAY'S Thesis)

Resources

51. These have been helpful tools for my child or myself (check all that apply).

    a) Audiobooks

    b) Extra time on assignments

    c) Positive affirmation

    d) Sitting closer to the teacher in the classroom

    e) Provided with handwriting instruction

    f) Specialized spelling or spell to read curriculum

    g) Assistance with proofreading for spelling and writing assignments

    h) Early intervention

    i) Phonics instruction

    j) Repetition of tasks

    k) Supportive teacher

    l) Supportive parents/caregivers

    m) Tutors

    n) Orally administered tests

    o) Access to lecture notes

    p) Test taking accommodations (list all that apply)

        i) _____

        ii) _____

        iii) _____

    q) Assistive technology

        i) Highlighters, colored pencils, markers

ii) Enlarged text

iii) Spellchecker

iv) 3x5 card under print

v) Speech to text or text to speech apps

vi) Voice recorders

vii) Organizational or predictive software (list any that apply)

(1) _____

viii) Other (list any that apply)

(1) _____

52. These have been helpful resources for me as a parent to support children with dyslexia.

1. a) Positive affirmation
2. b) Support groups (list any that apply)
3. i) _____
4. c) Teachers, therapists, family, friends
5. d) Books or articles (list any that may apply)
6. i) _____
7. e) Higher education or job experience
8. i) In what areas _____

53. My child or myself experienced the following indicators of dyslexia (check all that apply).

1. a) Abnormal spelling
2. b) Unusual difficulty with reading
3. c) Difficulty saying certain words

4. d) Difficulty retrieving specific words

e) Difficulty expressing what one knows

f) Trouble remembering sequences or facts

QUESTIONS 54-68 RELATED TO ADVOCACY (DAY'S Thesis)

Appendix B

Resources identified as having a positive impact on parent-perceived child self-efficacy

Treatment Approaches

- Orton-Gillingham Approach
- Linda Mood LIPS Program
- Davis Dyslexia training
- Wilson reading Instruction
- Barton System
- Multisensory Structured Language (MSL)
- 1:1 intervention
- Spell to read curriculum
- Specialized reading instruction
- Individualized structured literacy
- Extensive language therapy
- Brain Gym Exercises
- Phonics instruction
- Early intervention

Professionals

- Dyslexia trained tutors
- Speech language pathologists
- Occupational therapists
- In-class aides
- Private tutoring
- Private school

Assistive Technology

- Audiobooks
- Noise cancelling headphones
- Writing/spellchecking applications
- Google Read/Write tool
- C-pen
- Speech to text applications
- Text to speech applications
- Filtered color line marker
- Highlighter, colored pencils, and markers
- Organizational or predictive software

Accommodations

- Seating
- Extra breaks

- Reduced workload
- Big projects broken down into smaller pieces
- Test retakes
- Small groups
- Not marking off for spelling
- Extra time
- Providing a scribe
- Access to lecture notes
- Proofreading assistance for written projects
- Orally administered tests and responses
- Enlarged text
- Repetition of tasks
- 3 x 5 cards

Support Groups

- Decoding Dyslexia
- Other parents

Books

- Overcoming Dyslexia (Shaywitz & Shaywitz, 2020)

Other Supports

- Supportive teachers
- Supportive parents
- Positive affirmation
- Extra patience