

SELF-EFFICACY IN PARENTS OF YOUNG CHILDREN WHO STUTTER

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by

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A Thesis for the Degree

Master of Science

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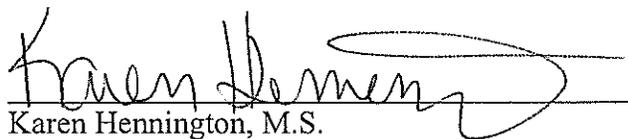
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**ABSTRACT**

Parental self-efficacy (PSE) is defined as a parent's perceptions of his/her ability to be confident and competent in the domain of parenting. The purpose of the current exploratory study was to examine the PSE of mothers of children who stutter (CWS; N = 13), and compare these perceptions with parents of children with speech sound disorders (N = 21) and with no disorder (N = 90). Results indicated significant relationships between the Parenting Sense of Competence Scale (PSOC) Total Score and treatment participation, and the PSOC Satisfaction subscale and treatment effectiveness among mothers of CWS. Findings suggest that having a CWS does not relate to poorer perceptions of parenting abilities. Results hold implications for future research and clinical implications on PSE in mothers of children who stutter.

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## INTRODUCTION

Stuttering is a complex and multi-factorial disorder perceived to be influenced by genetic, environmental, and constitutional factors (Guitar, 2014; Yaruss & Quesal, 2006). Children who stutter are inclined to present interruptions in the forward flow of speech, most commonly in the form of repetitions, blocks, and prolongations (Yairi and Ambrose, 2005). Parents have been considered important influences on children who stutter (CWS), although the exact nature of parental impact on stuttering has remained inconclusive (Lau, Beilby, Byrnes, & Hennessey, 2012). It is known, however, that parents are often included in the treatment of young children who stutter (e.g., Onslow, 2002; Franken & Putker-de Bruijn, 2007). If parents perceive themselves as less than competent or if they lack confidence in their parenting skills, the effectiveness of family-based treatments may be compromised. Further, it is possible that parental concerns about stuttering may be exacerbated by the potential chronicity of the disorder and the social stigma associated with stuttering. Unlike other communication disorders, stuttering in a young child may negatively impact parents' perceptions of self in ways that are not observed with other clinical populations. Self-perceptions of parental efficacy may be impacted by having a child who stutters. The purpose of this study is to examine the reported self-efficacy of parents of young children who stutter and compare those perceptions with parents of children with speech sound disorders and children with no communication disorders. In addition, how parent characteristics and experiences impact perceptions of efficacy will be examined.

## LITERATURE REVIEW

The following discusses the current understanding of parents of young children who stutter, parental self-efficacy (PSE) including reports of parents of children with disabilities, and how PSE is measured. This information will provide the context for the study's purpose and the research questions and hypotheses.

### Parents of Children Who Stutter

**History of the role of parents in the onset and development of stuttering.** The role of parents in the development of stuttering has been considered in stuttering theories for many years. The diagnosogenic theory proposed by Johnson (1942) suggested that parents may cause stuttering by abnormally reacting to and falsely labeling their child's typical disfluencies. Although this theory has since been demonstrated to be false (e.g. Yairi & Ambrose, 2005), parents often report self-blame, stating that they feel like they somehow caused their child's stuttering (Langevin, Packman, & Onslow, 2010). This early theory and parents' concerns about their potential role in impacting the onset and development of stuttering has led to examining a variety of characteristics and behaviors of parents of CWS. The following describes what is known about these parental characteristics, how parents typically interact with CWS, and the role of parents in current stuttering treatment for young children.

**Characteristics of parents of CWS.** There is a long history of examining characteristics and attributes of parents of CWS. For example, Holliday (1957) examined the parental characteristics of CWS compared to parents of fluent children. Results showed that there were differences between the groups in that mothers of CWS are more self-degrading than mothers of fluent children. In addition, the study showed that parents of CWS are not more dominating than parents of fluent children, refuting stuttering stigmas existent at that time. In terms of

personality and emotional adjustment, research has provided little support that the personality characteristics of parents of CWS differ from parents of fluent children (Bloodstein & Ratner, 2008). However, studies have found differences in parents' attitudes toward their children. Bloodstein and Ratner (2008) examined several studies across history concerning the differences in parental attitudes toward stuttering. These studies ultimately revealed conflicting evidence. For example, some studies reported that parents of CWS are more overly-concerned and critical of their child's stuttering, setting high expectations for their children (Moncur, 1952); however, other studies did not confirm these notions, instead reporting that mothers of CWS demonstrate lower intelligence and job stability than mothers of fluent speakers, and were unable to provide a stable environment in the home (Andrews & Harris, 1964). Overall, the conflicting evidence does not allow professionals to make general assumptions regarding the personality makeup and behaviors of parents of CWS compared to parents of typically fluent children (Bloodstein & Ratner, 2008).

Much of the parent attitudes and attributes research has been completed with an effort to determine the role of parents in the cause of the onset and development of stuttering. This work stemmed from the diagenetic theory. We know much less about the impact of stuttering on parents and families.

**Impact of stuttering on parents and families.** In addition to characteristics of parents of CWS, research has examined the impact of stuttering on parents. Two recent reports, (Langevin, Packman, & Onslow, 2010; Plexico & Burrus, 2012), have attempted to determine the impact of stuttering on parents and families. Langevin et al. (2010) examined parent perceptions of the impact of their preschool child's stuttering on themselves. Parents most frequently reported feeling frustration, anxiety and concern about their child's stuttering, and

self-blame from fear that they were the cause of their child's stuttering. Parents reported feeling like their parent-child communication was affected by their child's stuttering, and some reported feeling uncertainty about what to say or how to respond during their child's stuttering moments.

Plexico and Burrus (2012) explored the coping experience of parents of children who stutter. Parents reported feeling worried about their child's future and fearful that their children's stuttering may limit their social functioning and cause them to live a restrictive lifestyle out of self-consciousness, embarrassment, or shame. In regard to parent aspirations for their children, parents reported wanting their child to feel accepted by society, have friends, feel comfortable speaking in front of others, and reach their full potential. Parents also expressed feeling a lack of competence in regard to stuttering and decreased confidence about the effectiveness of their efforts to help their child.

These reports were among those utilized by Millard and Davis (2016) to examine parental perspectives of the impact of childhood stuttering. The study developed a 19-item questionnaire to measure the stuttering impact on the child, impact of stuttering severity on the parents, and parental competence and confidence in regard to stuttering and stuttering management. Study results showed that the impact of stuttering decreased as a function of treatment, revealing that clinical decisions regarding whether or not to begin treatment may have a subsequent impact on families.

Overall, parents of CWS have reported feeling emotions such as anxiety, guilt, frustration, helplessness, and worry (Kelman & Nicholas, 2008; Langevin et al., 2010; Plexico & Burrus, 2012; Wagon, 2017). In addition to the emotional impact of stuttering, parenting a CWS can be a challenging experience as increased demand is placed on the parent to provide increased patience, energy, and full attention toward their child (Plexico & Burrus, 2012).

**Parent Involvement in Stuttering Treatment.** The role of parents in stuttering treatment for young children is significant in the evidence-based treatments currently being used, i.e., Lidcombe Program (Jones, Onslow, Harrison, & Packman, 2000) and RESTART (Franken & Putker-de Bruijn, 2007). Parental involvement in these treatments include a wide range of activities, including providing feedback for stuttered speech, modifying the environment to support fluency, developing helpful reactions to stuttering, and advocating for the child with family members and others. The following describes parent activities and the importance of confidence and competence in the parenting role in parents of children who stutter.

The Lidcombe Program is a parent-administered stuttering treatment created primarily for children under the age of 6 years (Jones et al., 2000). It is a behavioral approach based on operant conditioning principles of positive and negative reinforcement to increase fluency and eliminate stuttering. Parents provide feedback to the child regarding his “smooth” or “bumpy” speech. In daily childhood activities, the parents make efforts to minimize interference with the child’s communication and daily life. The Lidcombe Program creators note that it is imperative that parents are supportive and positive towards their children so that the children enjoy the treatment (Onslow, 2002). These specific requirements regarding parent feedback require the speech-language pathologist (SLP) to work closely with the parent during the early stages of Lidcombe Program to train the parent to convey messages to the child positively and correctly.

RESTART-DCM is a stuttering therapy approach for preschool-aged children based on the Demands and Capacities Model (DCM; Franken & Putker-de Bruijn, 2007). The DCM treatment model was developed under the theory that a child’s stuttering occurs when the child’s environmental demands for fluent speech exceed the child’s capacities for fluent speech (Starkweather & Gottwald, 1990). Therefore, RESTART-DCM aims to evoke positive changes

that balance the demands on the CWS to communicate with the CWS's motor, linguistic, socio-emotional, and/or cognitive capacities. Within the RESTART-DCM framework, treatment begins with the SLP listening to the parents' concerns, educating the parents about stuttering, reviewing the DCM, and encouraging the parents to practice therapy strategies at home. For each week of treatment, the SLP observes the parent implementing previously assigned treatment procedures and provides feedback. Then the SLP models new treatment strategies for the parent to implement with their child and the parent imitates to demonstrate understanding. Similar to Lidcombe Program, RESTART-DCM places expectation on the parents' abilities to implement treatment strategies at home with their children to remediate stuttering.

The nature of parents' contributions in both of these treatment approaches suggest that treatment effectiveness may be impacted by parental perceptions of their competence and confidence as parents and as treatment partners. Confidence and competence are critical components when defining the construct of self-efficacy (Bandura, 1977). The following presents an overview of self-efficacy with a focus on perceptions of self-efficacy in parenting.

### **Parental Self-Efficacy**

Self-efficacy is an individual's beliefs in his or her capabilities to perform the actions required in a given domain (Bandura, 1977, 1997; Guimond, Wilcox, & Lamorey, 2008). Self-efficacy is theorized to be contingent on an individual's tendencies to create and pursue goals, confront challenges, and recover from disappointments. Self-efficacy can be domain-specific (e.g., the domain of parenting) or task specific (e.g., caring for a sick child) and may vary across different behaviors and contexts. Therefore, parental self-efficacy refers to a parent's perceptions of his or her capability to be confident and competent in the domain of parenting and perform parenting tasks.

Parental self-efficacy (PSE) has been identified as an important construct to understand psychological well-being and predict parent behaviors (Hastings & Brown, 2002). Following Bandura's theory of self-efficacy, parental self-efficacy (PSE) has been highly associated with parenting behaviors and other child and family characteristics (Bandura, 1997; Coleman & Karraker, 2000; Guimond et al., 2008). These characteristics include PSE's strong association with child developmental outcomes (Gilmore & Cuskelly, 2008; Shumow & Lomax, 2002; Jones & Prinz, 2005). Increased parental confidence and competence in parenting abilities may increase the likelihood of a parent's effectiveness at parenting tasks and, in turn, promote positive child developmental outcomes. However, when the child has a disorder or disability, parental self-efficacy may be compromised.

**Self-efficacy in parents of children with disabilities.** In PSE research involving children with and without disabilities, PSE served as a mediator between parent welfare and behavior and child characteristics (Hastings & Brown, 2002; Halpern & McLean, 1997). In a study of parents of children with Autism Spectrum Disorder (ASD), parent reports of higher self-efficacy and controllability predicted higher levels of wellbeing and lower levels of stress, anxiety, and depression (Garcia-Lopez, Sarria, & Pozo, 2016).

Highlighting PSE's importance in intervention for children with or at risk for developmental disabilities, Guralnick's (1998) study proposed that intervention success relies heavily on the degree to which parents feel confident and competent in their ability to parent their child. For example, Teti and Gelfand (1991) reported a relationship between maternal self-efficacy and maternal responsiveness toward their infants. Additionally, Sanders and Woolley (2005) examined the link between maternal self-efficacy and maternal discipline practices, finding that low self-efficacy was a predictor of maternal discipline styles, therefore revealing

the importance of considering PSE in intervention strategies for child discipline. DesJardin (2005) examined PSE in mothers of children with prelingual deafness, finding that there were no statistically significant differences between mothers of children with cochlear implants and mothers of children with hearing aids regarding their self-efficacy in developing their child's speech and language skills. However, maternal PSE scores were not compared to typically-developing children.

In addition to PSE's impact on intervention, some studies have examined factors potentially linked to PSE in parents of children with disabilities. Giallo, Wood, Jellet, and Porter (2013) examined characteristics potentially related to PSE in mothers of children with ASD. Results revealed that mothers of children with ASD reported significantly higher fatigue compared to mothers of typically developing children. The mothers' high levels of fatigue were significantly related to lower PSE and parental satisfaction. Therefore, PSE may also be impacted by the related effects of parenting children with disabilities.

Gilmore and Cuskelly (2012) examined PSE and parenting satisfaction in mothers of children with and without Down syndrome. The study found that parenting satisfaction in mothers of children with Down syndrome increased over time; however, PSE did not change over time, and PSE results were not significantly different from the normative group of typically-developing children. Based on these findings, challenges of parenting a child with Down syndrome did not significantly affect overall PSE as the child aged from early childhood to adolescence compared to mothers without disabilities.

**Self-efficacy in parents of children with communication disorders.** There are limited reports about the self-efficacy of parents of children with communication disorders. Guimond et al. (2008) reported a statistically significant link between high parental Outcome Expectations

subscale scores with higher child receptive language scores. However, researchers reported that these findings were exploratory and warrant further research in the area of PSE and child language. In order to continue this study, reliable and valid measures of PSE are required.

It is possible that self-efficacy differs in parents of children who have different communication disorders. For example, CWS and children with speech sound disorders (SSD) share many common characteristics in that they both are overt disorders of early childhood that impede communication, impact socialization, have genetic bases and run in families (Felsenfeld, 1995; Suresh et al., 2006), and are treatment-seeking populations with evidence-based treatment programs (Miller & Guitar, 2009; Baker & McLeod, 2011). Additionally, both stuttering and SSD can be comorbid with other communication disorders (Shriberg, Tomblin, & McSweeney, 1999; Arndt & Healey, 2001) and are more prevalent in males than females (McKinnon, McLeod, & Reilly, 2007). However, there are significant differences between these two clinical populations that may impact PSE, including the chronicity of stuttering and more negative treatment prognosis of persistent stuttering compared to SSD (Shriberg & Gruber, 1994), as well as strong evidence that, compared to SSD, stuttering involves a greater social stigma (Blood, Blood, Tellis, & Gabel, 2003), history of parental blame and family strain (Erickson & Block, 2013; Langevin et al., 2010), and long-term negative economical impact for adults who stutter (Klein & Hood, 2004). Given these differences, it is possible that the parents' perceived efficacy would differ when comparing parents of CWS and parents of children with SSD.

**Self-efficacy in parents of children who stutter.** No known studies have examined self-efficacy among the parents of children who stutter (CWS). However, considering the high importance of parents in the stuttering treatment process combined with the impact of self-efficacy on parental outcomes, it is fitting for SLPs to consider the self-efficacy among parents

of CWS. It may also be important to determine the ways in which parents of CWS demonstrate qualities that distinguish them from parents of typically developing children or children with other communication disorders, such as speech sound disorders.

With regard to competence and confidence, parents of CWS face distinct challenges that may uniquely affect their self-efficacy. For example, parents of CWS may have lack of confidence because of the belief that they caused their child's stuttering (Langevin, Packman, & Onslow, 2010; Wagnon, 2017). Parents may be unsure about the best way to help their child, including whether to seek intervention for stuttering. If parents chose to seek intervention, they may feel inadequate to effectively engage in stuttering therapy with their child. Parents may not know how to react to stuttering and/or have lack of confidence in their ability to parent due to believing the "stuttering stereotype," which negatively describes their CWS as overly anxious, shy, tense, insecure, nervous, afraid, and avoidant (MacKinnon, Hall, & MacIntyre, 2007). Parents of CWS may also demonstrate discipline issues due to lack of competence about structure and limits of disciplining their child who stutters. Parental discipline may also be affected by fear of damaging the child or worsening the child's stuttering by implementing improper behavioral rules. These feelings of doubt, fear, and lack of confidence in helping their child who stutters may subsequently impact the self-efficacy of the parents, which can be measured using a self-efficacy scale.

**Parental self-efficacy measurement.** PSE has been assessed using multiple types of measures. One form of measure is domain-specific and assesses PSE in a broad sense, looking at a parent's sense of confidence and competence in the parenting role without focusing on specific parenting tasks (Jones & Prinz, 2005). Another type is task-specific PSE measures, which use items related to specific parenting tasks such as helping with a child's homework or trouble-

shooting a child's hearing aid (DesJardin, 2005). Domain-level measures may be beneficial for examining children across a range of ages, whereas task-specific measures may be more related to children of a specific age (Crnec, Barnett, & Matthey, 2010).

Various studies have examined PSE in parents of children with disabilities (Gowen, Johnson-Martin, Goldman, & Applebaum, 1989; Hastings & Brown, 2002; Pit-ten Cate et al., 2002; Scheel & Rieckmann, 1998). However, limited tools are available to study self-efficacy within the specific domain of parenting a child with disabilities. This has resulted in many studies using more general measures of PSE, such as the Parenting Sense of Competence Scale (PSOC), to examine parents of children with disabilities (Johnston & Mash, 1989; Sanders & Woolley, 2005; Gilmore & Cuskelly, 2012; Giallo et al., 2013; Garcia-Lopez, Sarria, & Pozo, 2016). Some measures have been created to assess PSE among certain disability groups, including children with Autism Spectrum Disorder (ASD) (Giallo et al., 2013), Down Syndrome (Gilmore & Cuskelly, 2012), prelingual deafness (DesJardin, 2005), Asperger's Syndrome (Sofronoff & Farbotko, 2002), seizure disorders (Caplin, Austin, Dunn, Shen, & Perkins, 2002), and children receiving early intervention services (Guimond et al., 2008).

In summary, throughout the literature, parents of CWS are reported to be impacted by their child's stuttering and play an important role in widely-used, evidence-based treatment models for childhood stuttering such as Lidcombe Program and RESTART-DCM. Parental behaviors in a given domain or task are largely affected by their perception of their ability to have confidence and competence in that area, or PSE. Previous research concerning the impact of child stuttering on the experiences and characteristics of parents of CWS suggests that parents of CWS may have lower PSE compared to children with SSD and parents of children with no

communication disorders. However, no known studies have examined the PSE in parents of CWS.

The purpose of this study was to examine the parental self-efficacy of parents of CWS compared to parents of children with speech sound disorders (SSD) and parents of children with no communication disorders. The following research questions were addressed:

1. Does self-reported PSE of mothers of CWS differ from mothers of children with SSD and/or children with no communication disorders?

Hypothesis: PSE will differ across all groups of mothers. Specifically, mothers of CWS will report lower PSE than mothers of children with SSD and mothers of children with no disorders

2. Are mother and child experiences and characteristics related to PSE in mothers of CWS and children with SSD?

Hypothesis: Disorder severity, mother participation in treatment, length of treatment, satisfaction with treatment, and effectiveness of treatment will be related to PSE in parents of CWS and children with SSD. Specifically, the following would be observed:

- The more severe the disorder, the lower the PSE.
- The more participation in treatment, the higher the PSE.
- The greater the length of treatment, the higher the PSE.
- The more satisfaction with treatment, the higher the PSE.
- The greater effectiveness of treatment, the higher the PSE.

## **METHOD**

To answer the research questions, responses of mothers to a Qualtrics survey were examined.

### **Participants**

Mothers of young children who stutter, mothers of children with speech sound disorders, and mothers of children with no disorders served as participants in this study. This study chose to focus primarily on mothers' reports based on evidence suggesting that mothers and fathers report different perceptions of self-efficacy (Hastings & Brown, 2002). To be included in the study, mothers and children were required to be self-reported monolingual English speakers. In addition, the mother's child had to meet the following criteria based on mother report and as described in recruitment guidelines.

**Children who stutter.** Children who stutter had the following characteristics: (a) identified as stuttering by an ASHA certified SLP's diagnosis (which includes a student working under the supervision of an ASHA certified SLP), (b) stuttered for more than 3 months per parent report, (c) 6 years of age or younger, and (d) stuttering present at the time the survey was completed.

**Children with speech sound disorders (SSD).** Children with SSD met the following characteristics: (a) diagnosed with SSD by an ASHA certified SLP (which includes a student working under the supervision of an ASHA certified SLP), (b) had the disorder for longer than 3 months, (c) 6 years of age or younger, and (d) demonstrated SSD at the time the survey was completed.

**Children with both stuttering and speech sound disorders.** Children with both stuttering and SSD met the following characteristics: (a) diagnosed with stuttering and SSD by an ASHA certified SLP (which includes a student working under the supervision of an ASHA

certified SLP), (b) had the disorder for longer than 3 months, (c) 6 years of age or younger, and (d) demonstrated stuttering and SSD at the time the survey was completed.

**Children with no communication disorders.** Children who did not have communication disorders met the following criteria: (a) no communication disorder based on maternal report, including stating that the child received no intervention for any communication disorder, (b) no known or reported hearing, developmental, neurological, emotional, or academic problems, and no reported intervention for problems in these areas, and (c) 6 years of age or younger. Further, maternal reports indicated no children with disabilities were living at home 50% or more of the time.

## **Materials**

An online survey was created using Qualtrics and distributed via email to participants. Collected data were password-protected on the Qualtrics website and were accessed only by the researchers. Data results were transferred to an Excel spreadsheet on a password protected MacBook Pro computer. No participant was identifiable from responses. The survey included two sections with questions related to demographics and the parental self-efficacy scale.

**Demographics.** The demographic portion of the survey appeared after the informed consent page and asked parents to answer questions regarding the following: (a) parent gender, (b) mother's age, (c) marital status and living arrangement, and (d) state in which they reside. Socioeconomical variables, such as maternal education and household income, have been found to indirectly affect PSE by creating heightened stress in the family (Coleman & Karraker, 1998). In a study completed by Guimond et al. (2008), maternal self-efficacy in parents of children receiving early intervention services was related to maternal ethnicity subgroups and maternal education levels. To determine socioeconomic status (SES) of the respondents, questions were

included based on Hollingshead Four Factor Index (Adams & Weakliem, 2011) and asked about (a) maternal and paternal education, and (b) maternal and paternal occupation. Questions about children in the household included queries about (a) number, age and gender of children living at home, (b) presence and nature of disabilities/disorders in the children. For the child with stuttering disorder, speech sound disorder, or both, separate sections asked additional questions about (a) age and severity at diagnosis (0-9 scale; 0=no stuttering/speech sound disorders; 1=extremely mild stuttering/speech sound disorder; 9=extremely severe stuttering/speech sound disorder), (b) presence and severity of additional communication and/or other disorders, (c) severity at the time of survey completion (0-9 scale), and (d) treatment history and parental involvement in treatment. See Appendix A for a list of the demographic questions.

**Parental self-efficacy scale.** The PSE scale used for this study was the Parenting Sense of Competence Scale (PSOC; Gibauld-Wallston and Wandersman, 1978; Johnston & Mash, 1989), a domain-specific scale created to examine PSE. The PSOC was created to assess Bandura's self-efficacy principles of outcome expectations and efficacy expectations (Bandura, 1997). Following Bandura's model, outcome expectations among parents of CWS indicate how much a parent believes that child outcomes are a function of environmental influences or constraints, such as access to therapy or community support. Personal efficacy expectations may relate to parental beliefs in being capable of creating positive changes in their child and successfully promote child development. The PSOC consists of 17 items that are rated on a 6-point Likert-type scale with responses ranging from (1) *strongly agree* to (6) *strongly disagree*. Scoring for items 1, 6, 7, 10, 11, 13, 15, and 17 were reversed so that all items indicated that higher scores reflected more positive perceived self-efficacy. Since this study was only examining mothers, items addressing the participant as "mother/father" read as "mother" only.

Ratings for all items in the scale were summed to determine a PSOC Total Score. In addition to the PSOC Total Score, studies examining the validity of the PSOC have identified four specific subscales within the scale, including Satisfaction, Efficacy, Interest (Rogers & Matthews, 2004) and Control (Gilmore & Cuskelly, 2008). These subscales and associated items are present in Appendix B. Studies examining the PSOC's reliability and validity have supported its internal consistency, test-retest reliability, and content validity of the Efficacy and Satisfaction subscales (Gilmore & Cuskelly, 2008; Crncec et al., 2010). A third subscale, Interest, has been found to have good internal consistency on community samples (Rogers & Matthews, 2004; Gilmore & Cuskelly, 2008). Gilmore and Cuskelly also identified a fourth subscale, Control, based on a factor analysis, but did not find support for this subscale's internal consistency. Control refers to a parent's ability to manage difficult situations (Garcia-Lopez, Sarria, & Pozo, 2016).

### **Procedures**

The survey was sent electronically via email to mothers who met the participant criteria outlined in the recruitment email. After beginning the survey and providing informed consent, participants were able to complete the survey in about 15 minutes. Survey responses were collected between the months of October 2018 through February 2019 and subsequently analyzed.

**Informed consent.** The first page of the survey displayed an informed consent statement. The document outlined the purpose of the study, the known associated risks and benefits, confidentiality and anonymity of the participant's responses, and freedom to discontinue the survey and withdraw from the study at any time. The document informed respondents that their participation in the study would not affect their child's current or future status as a therapy recipient, if they were receiving therapy. Participants indicated consent by selecting the "→"

arrow located at the bottom of the page. One version of the informed consent statement was provided for parents of CWS and SSD, and a separate version was given to parents of children with no communication disorders. See Appendices C and D for copies of the informed consent statements.

**Recruitment.** The survey was sent electronically via email to clinical directors at all ASHA accredited speech-language pathology graduate programs identified through the directory of the Council of Academic Programs in Communication Sciences and Disorders. In addition, known university clinical supervisors who specialize in stuttering and speech disorders were emailed. Further, the northwest, southeast and midwest clinical supervision professional organizations served as resources for recruiting participants. Specifically, leaders of the organization sent out the recruitment message that included the survey link to the organization's clinical directors and supervisors. Leaders of the organization also shared the recruitment message and survey link on the organization's listserv. Members of the midwest group were directly contacted via email requesting participation. The recruitment email provided information about the purpose of this study and the need for mothers of children who stutter and with SSD to participate by completing the survey. Clinic directors and supervisors were asked to identify eligible mothers in their clinic and send each mother the survey link, which were included in the email. They also were requested to forward the email to clinical staff who would be aware of potential participants. The survey was also sent to fluency specialists who may have direct contact with parents of young children who stutter. See Appendix E for a copy of the recruitment script.

To recruit mothers of children with no communication disorders, early learning programs (e.g., preschools, Headstart programs, child development centers) accredited by the National

Association for the Education of Young Children (NAEYC.org) were contacted. Using a stratified random sample, two states were selected from each of the nine regional divisions defined by the United States Census Bureau (18 states total). Recruitment emails were sent to 50 NAEYC accredited programs in each state selected. If the state did not contain 50 accredited programs, the maximum number of accredited programs was contacted. Contacts were provided with a description of the study that included the contact information of the researcher and the institution. Contacts were requested to forward the email with the survey link to participants eligible for the study. See Appendix F for a copy of the recruitment script.

In addition to the recruitment procedures described above, mothers of children with no communication disorders, mothers of children who stutter, and mothers of children with speech sound disorders were identified and recruited using snowball sampling and social media outlets (e.g., Facebook groups). The survey was sent electronically to mothers via email or social media. This wide range of sources yielded reasonably representative samples of the populations of mothers of young children who stutter, who have speech sound disorders and who have typically developing children.

During the recruitment period, the researcher used an Excel spreadsheet to monitor the following information: program, program location, contact name and position, contact email and phone number, date contacted, response date, and response method. Follow-up requests were made over a two-month period of time.

**Data collection.** Participant responses to the study survey were collected electronically through Qualtrics. Responses were measured using free response, closed set, and Likert-scale response formats. Participants were allowed to complete the survey at any time during the data collection period in the setting of their choice.

## **Data Analysis**

In addition to descriptive statistics summarizing the demographic characteristics of respondents and the PSOC responses, analyses were completed using nonparametric statistics to answer each research question.

Does self-reported PSE in parents of CWS differ from parents of children with SSD and/or children with no communication disorders? Kruskal Wallis H tests were completed to determine if there were differences between PSOC Total Scores and Satisfaction, Efficacy, Interest, and Control subscale scores across the four groups of mothers (i.e., mothers of CWS, mothers of children with SSD, mothers of children with both stuttering disorder and SSD, and mothers of children with no disorders).

Do parent and child experiences and characteristics relate to PSE in parents of CWS and children with SSD? Spearman's rank-order correlations were completed to determine if a relationship existed between PSOC Total Score and Satisfaction, Efficacy, Interest and Control Subscale scores (dependent variables) and disorder characteristics and/or treatment factors (independent variables). Specifically, the following independent variables were examined:

- Disorder characteristics: Severity at diagnosis and current severity
- Treatment characteristics: Satisfaction with treatment, effectiveness of treatment, length of time in treatment, and parent participation in treatment

## **RESULTS**

### **Demographic Data**

A total of 130 mothers completed the survey. The final sample included 13 mothers of children who stutter, 20 mothers of children with SSD, 7 mothers of children with both stuttering

and SSD, and 90 mothers of children with no disorders (See Table 1). Approximately half of the children were male and half were female. Among the children who stutter, the mean age of onset was 34.46 months (SD= 10.41) and the mean length of time since disorder onset was 28.85 months (SD= 15.23). For children with SSD, the mean age of onset was 29.00 months (SD= 15.67) and mean time since disorder onset was 33.24 months (SD= 32.06; See Table 2). A total of 23 states were represented.

SES was calculated using the Hollingshead Four Factor Index. SES mean scores for each group indicated that for mothers of CWS, SSD, and no disorders, social strata was medium business, minor professional, and technical workers. For mothers of children with both stuttering disorder and SSD, social strata was skilled craftsmen, clerical, and sales workers.

Kruskal-Wallis H tests were completed to determine if there were statistically significant differences across the CDIS and no disorders mother groups on specific demographic variables. There were no significant differences in the mother groups' SES, as determined by Hollingshead Index Scores ( $\chi^2(2) = .220, p = .639$ ) or maternal age ( $\chi^2(2) = 2.894, p = .089$ ). Mean rank maternal age scores were 70.92 for mothers of CDIS and 58.92 for mothers of no disorders. Mean Rank SES scores were 67.83 for mothers of CDIS and 64.47 for mothers of no disorders.

Prior to performing analyses regarding specific research questions, internal consistency estimates of the PSOC Total Score and Satisfaction, Efficacy, Interest, and Control Subscale Scores were determined for all respondents, for the mothers who had no communication disorders, and for the mothers who had a young child with communication disorders (CDIS; includes stuttering, SSD and both disorders). Cronbach's alpha coefficients for the PSOC Total Score items were 0.80 across groups, 0.77 for mothers of children with CDIS, and 0.82 for mothers of children with no disorders. Cronbach's alpha coefficients for the Satisfaction

Subscale were 0.67 across all groups, 0.71 for the CDIS group, and 0.66 for mothers of children with no disorders. Coefficients for the Efficacy Subscale were 0.68 across groups, 0.69 for the CDIS group and 0.68 for the no disorders group. Control Subscale coefficients were 0.70 across groups, 0.82 for the CDIS group and 0.64 for the no disorders group. Cronbach alpha coefficients for the Interest Subscale were 0.64 across groups, 0.45 for the CDIS group, and 0.73 for the no disorders group. These findings supported including the Total Score, and the Satisfaction, Efficacy, and Control subscale scores in further analysis. The Interest subscale, however, was not included as a separate subscale in further analyses.

### **Question 1: Does PSE differ across mother groups?**

Mean PSOC Total Scores and subscale scores were calculated across the groups of mothers. Only mothers who reported having no children with disabilities living at home were included in the group of mothers with no communication disorders. Responses of mothers of children who stutter, children with SSD, and children with both stuttering and SSD also were combined and mean scores were calculated as one group to represent mothers with children who had communication disorders. Mean scores and standard deviations are reported in Table 3.

A Kruskal-Wallis H test showed that there were no statistically significant differences in PSOC Total Score and subscale scores between the different mother groups (PSOC Total Score:  $\chi^2(2) = .328, p = .955$ ; PSOC Satisfaction Subscale:  $\chi^2(2) = 2.159, p = .540$ ; PSOC Efficacy Subscale:  $\chi^2(2) = .197, p = .978$ ; PSOC Control Subscale:  $\chi^2(2) = .797, p = .850$ ). Mean rank PSOC Total Scores were 58.13 for mothers of CWS, 58.97 for mothers of children with SSD, 66.67 for mothers of children with both stuttering and SSD, and 58.58 for mothers of children with no disorders. Mean rank PSOC Satisfaction Scores were 58.54 for mothers of CWS, 59.31 for mothers of children with SSD, 78.58 for mothers of children with both disorders, and 57.59

for mothers of children with no disorders. Mean rank PSOC Efficacy Scores were 55.75 for mothers of CWS, 59.16 for mothers of children with SSD, 55.83 for mothers of children with both disorders, and 59.67 for mothers of no disorders. Mean rank PSOC Control Scores were 58.92 for mothers of CWS, 57.47 for mothers of children with SSD, 47.83 for mothers of children with both disorders, and 60.11 for mothers of no disorders.

Since there were no significant differences across the three disorder groups, to determine if simply having a child with a communication disorder would impact scores, these groups were combined to form one group representing mothers of children with communication disorders (CDIS). Mean scores and standard deviations of responses of mothers of children who stutter, children with SSD, and children with both stuttering and SSD are reported in Table 3.

Subsequent Kruskal-Wallis H tests examined differences between the CDIS mother group and the no disorders mother group on PSOC Total Score and subscale scores. No statistically significant differences were found in PSOC Total Score and subscale scores between the mother groups (PSOC Total Score:  $\chi^2(2) = .044, p = .833$ ; PSOC Satisfaction Subscale:  $\chi^2(2) = .496, p = .481$ ; PSOC Efficacy Subscale:  $\chi^2(2) = .112, p = .738$ ; PSOC Control Subscale:  $\chi^2(2) = .318, p = .573$ ). Mean rank PSOC Total Scores were 60.03 for mothers of children with CDIS, and 58.58 for mothers of children with no disorders. Mean rank PSOC Satisfaction Subscale scores were 62.44 for mothers of children with CDIS and 57.59 for mothers of no disorders, PSOC Efficacy Subscale scores were 57.37 for mothers of CDIS and 59.67 for mothers of no disorders, and PSOC Control Subscale scores were 56.28 for mothers of CDIS and 60.11 for mothers of no disorders.

**Question 2: Do parent and child experiences and characteristics correlate with PSE in mothers of CWS and mothers of children with SSD?**

To determine if mother and child experiences and characteristics were related to PSE in the CDIS mother group, Spearman rank-order correlations were determined between PSOC Total Scores and Satisfaction, Efficacy and Control Subscale scores and the following variables: severity of disorder at onset, current disorder severity (i.e., at the time the survey was completed), length of time in treatment, maternal treatment satisfaction, maternal perception of treatment effectiveness, and maternal involvement in treatment (i.e., participation in therapy activities).

**Disorder characteristics.** As reported in Tables 4 and 5, when analyzing relationships between disorder characteristics and PSOC scores, no statistically significant correlations were found within the CWS mother group or the SSD mother group.

**Treatment characteristics.** Table 4 presents the correlations coefficients between treatment characteristics and PSOC Total Score and subscale scores among mothers of CWS. Results revealed that for the mothers of CWS, a statistically significant moderate correlation between the PSOC Total Score and the mother's level of participation in treatment ( $r_s = -.585$ ;  $p < .05$ ) was observed. This result suggests that reports of increased participation in treatment related to increased confidence, competence, and satisfaction in the parenting role. A statistically significant moderate correlation was found between PSOC Satisfaction Subscale scores and treatment effectiveness at  $r_s = -.587$ ,  $p < .05$ , indicating that increased satisfaction with the parenting role was significantly related to increased perceptions of treatment effectiveness. The moderate correlation between PSOC Total Score and treatment effectiveness approached significance ( $r_s = -.537$ ;  $p = .072$ ), suggesting that maternal confidence, competence, and satisfaction with parenting were related to the mothers' perceptions of the effectiveness of her child's stuttering treatment.

## DISCUSSION

The purpose of the current study was to examine parental self-efficacy in mothers of children who stutter compared to mothers of children with SSD, and mothers of children with no disorders.

### **PSE Differences Between Groups**

Results of the current study yielded no statistically significant differences in PSOC scores across all four groups of mothers. Therefore, the study's hypothesis that mothers of CWS would report significantly lower PSOC scores than mothers of children with SSD and mothers of children with no disorders was not supported.

**Satisfaction and Efficacy.** There were no statistically significant differences across mother groups when examining their reported parental satisfaction and efficacy. This finding was similar to the results in a study by Gilmore and Cuskelly (2012) that examined differences in PSE and satisfaction between groups of mothers of children with Down syndrome and mothers of children with no disorders. The study found no significant between-group differences on the PSOC Efficacy and Satisfaction subscales, suggesting that parenting a child with a disability did not significantly affect maternal feelings of self-efficacy and satisfaction as a parent. Ohan et al. (2000) and Rogers and Matthews (2004) also found that there were no correlations between PSE and child behavior difficulties. However, these findings, as well as the findings from the current study, may be influenced by parents' abilities to compartmentalize behavioral problems with their children as unrelated to their confidence and competence as a parent. Perhaps if there are other children in the home who do not have disorders, this may also influence a parent's self-efficacy even when specifically thinking about their child with a disorder. In addition, these

parent groups may also be receiving emotional support from their community, which may also support why no differences were found between mothers of children with and without communication disorders. Future research may examine whether the types of support received at home or involvement in a support group influences Satisfaction and Efficacy in mothers of CWS and mothers of children with SSD.

### **PSE and Disorder Severity**

The child's severity at the onset of the disorder and the child's current severity were not related to any report about parent satisfaction, efficacy or control. Possible explanations could be that maternal satisfaction, efficacy, and control may be more influenced by other variables, such as fatigue, family history of communication disorders, or seeking treatments for the disorder and receiving support from therapists working with the child over time, rather than the child's severity. Future studies may examine the influence of these additional child factors, as well as the effects of chronicity on PSE. In exploring chronicity, studies may examine the length of time the child had the disorder and the course of the severity of the disorder over many years. A conscious decision of this study was to analyze PSE in mothers of young children because preschool stuttering treatments place a heavy focus on parent involvement, and choosing younger children allowed for comparison between mothers of CWS and SSD, since SSD is also present in children ages 6 and under.

### **PSE and Treatment Characteristics**

**Treatment satisfaction and length.** Among mothers of CWS and SSD, there were no significant relationships between treatment satisfaction and length of treatment and PSOC Total Scores and subscale scores.

**Treatment effectiveness.** Analysis of mothers of CWS revealed a statistically significant relationship between PSOC Satisfaction and treatment effectiveness, confirming this study's hypothesis that a relationship would exist between PSE and treatment characteristics. In addition, PSOC Total Score and perceptions of treatment effectiveness approached significance among mothers of CWS. While a causal relationship cannot be determined, these results may be because a mother's perceptions of treatment being more effective may increase confidence, competence, and satisfaction as a parent. Conversely, a mother's positive perceptions of her ability to parent and satisfaction with parenting may cause her to perceive treatment as beneficial and effective for her child. This finding is consistent with Coleman and Karraker's (1997) assertion about the relationship between satisfaction, efficacy and parent behavior. Parents are less likely to gain satisfaction from an activity they do not feel confident and competent in doing, and from the reverse perspective, parents will have difficulty feeling confident or competent in an activity that does not provide a sense of satisfaction.

These results were not indicated among mothers of children with SSD, suggesting that the relationship between maternal satisfaction and efficacy and treatment effectiveness is unique to mothers of CWS. A post hoc comparison using a Mann-Whitney U test indicated there was no significant difference in rankings of treatment effectiveness between mothers of CWS and SSD.

It is possible that the relationship between PSOC Satisfaction and treatment effectiveness may be influenced by a third variable, such as fatigue. For example, a study by Giallo et al. (2013) reported that mothers of children with ASD were at higher levels of fatigue, and fatigue was significantly related to lower PSE and satisfaction. It may also be suggested that mothers of children with stuttering disorders and SSD experience fatigue worrying about their child, implementing their child's communication strategies at home, and managing therapy

appointments during the week while potentially caring for other children at home. Future studies may examine the internal and external factors influencing fatigue in mothers of CWS and compare fatigue levels with PSE and perceptions of treatment effectiveness.

**Parent involvement in treatment.** Responses from mothers of CWS indicated a significant relationship between PSOC Total Score and treatment participation, confirming the hypothesis that PSE would relate to maternal involvement in the child's treatment. These results were not found when analyzing the SSD mother group, indicating that the significant relationship between parent participation in treatment and PSOC Total Score was unique to mothers involved in stuttering intervention. However, post-hoc comparisons using a Mann-Whitney U test revealed a significant difference between the level of participation rankings in mothers of CWS and SSD ( $U = 62.50, p < .05$ ). Specifically, mothers of CWS reported greater involvement in treatment. This finding may be related to why no significant relationship was found between treatment participation and PSOC scores among mothers of children with SSD.

On the survey, the item used to address parent participation in treatment read, "I actively participate in therapy sessions. That is, during therapy sessions, I am involved in the face-to-face interactions with the clinician and my child and engage in therapy activities." While this item may not reflect specific activities that seek to enhance PSE, some intervention methods have been linked with increased PSE (Gross, Fogg, & Tucker, 1995; Miller-Heyl, MacPhee, & Fritz, 1998). For example, Gross, Fogg, and Tucker (1995) found that intervention involving parent training related to increased maternal PSE. Preschool stuttering intervention programs place a heavy focus on parent training; however, the current study did not control for the amount or type of parent training implemented. Other forms of support through treatment may include education from the child's therapist about the disorder, strategies to implement at home, parent counseling,

and, for mothers of CWS, information about parental support groups. These results also related to Millard and Davis' (2016) findings that parent participation in treatment impacted their PSE. As indicated by Guralnick (1998), when considering the impact of parental confidence and competence on intervention success, it would be important for clinicians to examine the aspects of intervention that impact PSE the most. Future research may examine how the nature of parent support and training in preschool stuttering interventions such as Lidcombe Program (Onslow, 2002) and RESTART-DCM (Franken & Putker-de Bruijn, 2007) and impacts parental confidence and competence.

The current study found relationships between treatment characteristics and PSE; however, it is possible that there may be a number of third variables influencing the relationships between PSE and mother and child characteristics. This study used primarily a clinical sample, not a community sample, and majority of the children were receiving treatment. Additional studies need to be completed with a community cohort to determine whether treatment is a potential third variable influencing maternal PSE.

## **Conclusions**

Overall, the parents' perceptions of satisfaction with parenting, confidence in the parenting role, and sense of control as a parent in these groups were not significantly different. However, when considering specific aspects of treatment and disorder severity, there were differences between the mothers of CWS and mothers of SSD. Specifically, responses from the mothers of CWS on the PSOC Total Score were related to their amount of participation in treatment, with higher levels of participation relating to higher parental self-efficacy, satisfaction, and sense of control as a parent. Within mothers of CWS, higher reported PSOC Satisfaction was related to greater perceived treatment effectiveness. In addition, PSOC Total Score and treatment

effectiveness approached significance among mothers of CWS. These results were not found in mothers of children with SSD, suggesting that these results were unique to mothers of CWS.

These findings indicate that overall, mothers of CWS are not significantly different from mothers of children with SSD and mothers of children with no disorders. Based on these results, having a child who stutters does not appear to be related to poorer perceptions of parenting abilities as measured as a domain. However, this study used a domain-specific assessment of self-efficacy, meaning that the parents reported about how they felt within the general domain of parenting, and did not answer questions that were specific to parenting a child with a communication disorder. Results may be different if assessments of parenting examining specific tasks were included.

### **Future Research**

**Limitations.** The sample size of the current study was too small to run parametric measures, however, the demographic results yielded no significant differences across SES and maternal age levels, allowing the disordered groups to be combined into one CDIS group for comparison, in addition to individual group comparisons. Similar to the suggestions by Gilmore and Cuskelly (2012), it is unknown how many eligible mothers of children with communication disorders chose not to respond to the invitation to complete the survey. Mothers who have low self-efficacy and satisfaction with the parenting role may not have desired to participate in the survey. Therefore, the maternal reports in this study may not be representative of all mothers of children with stuttering or speech sound disorders. Further, a large majority of the children with communication disorders in this study were receiving treatment. Therefore, this study was unable to examine how PSOC scores would have differed among mothers of children with

communication disorders who were not receiving treatment. In addition, it is unknown how overall support through treatment influenced PSOC scores.

**Future directions.** Future directions may examine larger sample sizes to determine causal relationships between perceived PSE and mothers of children who stutter compared to other mother groups. Research may also examine causal relationships between PSE and child treatment status, and fatigue in mothers of CWS and how fatigue may affect PSE. Studies may consider controlling for the type of intervention implemented to examine its relationship with maternal PSE. Future research may also examine the PSE of the fathers of CWS compared to children with SSD and children with no disorders. In addition, studies could examine how mothers whose children have never received treatment would differ from mothers whose children have received treatment. This would provide insights about how treatment impacts parent perceptions of confidence as a parent, knowledge and sense of control in the parenting role, and satisfaction with parenting children who stutter.

## References

- Adams, J., & Weakliem, D. L. (2011). August B. Hollingshead's "Four Factor Index of Social Status": from unpublished paper to citation classic. *Yale Journal of Sociology*, 8(11).
- Andrews, G., & Harris, M. (1964). *The syndrome of stuttering*. London: Heinemann Medical Books.
- Arndt, J., & Healey, E. C. (2001). Concomitant disorders in school-age children who stutter. *Language, Speech, and Hearing Services in Schools*.
- Baker, E., & McLeod, S. (2011). Evidence-based practice for children with speech sound disorders: Part 1 narrative review. *Language, Speech, and Hearing Services in Schools*, 42(2), 102-139.
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, 84, 191–215.
- Bandura, A. (1997). *Self-efficacy: The Exercise of Control*. New York: W.H. Freeman and Company.
- Blood, G. W., Blood, I. M., Tellis, G. M., & Gabel, R. M. (2003). A preliminary study of self-esteem, stigma, and disclosure in adolescents who stutter. *Journal of Fluency Disorders*, 28(2), 143-159.
- Bloodstein, O., & Ratner, N. B. (2008). *A handbook on stuttering* (6th ed.). New York: Thomson Delmar Learning.
- Caplin, D., Austin, J. K., Dunn, D. W., Shen, J., & Perkins, S. (2002). Development of a self-efficacy scale for children and adolescents with epilepsy. *Children's Health Care*, 31, 295-309.

- Coleman, P. K. & Karraker, K. H. (2000) Parenting self-efficacy among mothers of school-age children: conceptualization, measurement, and correlates. *Family Relations*, 49, 13–24.
- Crncec, R., Barnett, B., & Matthey, S. (2010). Review of scales of parenting confidence. *Journal of Nursing Measurement*, 18(3), 210.
- DesJardin, J. L. (2005). Maternal perceptions of self-efficacy and involvement in the auditory development of young children with prelingual deafness. *Journal of Early Intervention*, 27(3), 193-209.
- Erickson, S., & Block, S. (2013). The social and communication impact of stuttering on adolescents and their families. *Journal of Fluency Disorders*, 38(4), 311-324.
- Farmer, A. Y., & Lee, S. K. (2011). The effects of parenting stress, perceived mastery, and maternal depression on parent–child interaction. *Journal of Social Service Research*, 37(5), 516-525.
- Faul, F., Erdfelder, E., Lang, A.-G., & Buchner, A. (2007). G\*Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods*, 39, 175-191.
- Faul, F., Erdfelder, E., Buchner, A., & Lang, A.-G. (2009). Statistical power analyses using G\*Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods*, 41, 1149-1160.
- Felsenfeld, S. (1995). Familial aggregation of phonological disorders: Results from a 28-year follow-up. *Journal Of Speech & Hearing Research*, 38(5), 1091.
- Franken, M. C., & Putker-de Bruijn, D. (2007). Restart-DCM Method. *Treatment protocol developed within the scope of the ZonMW project Cost-effectiveness of the Demands and Capacities Model based treatment compared to the Lidcombe programme of early*

- stuttering intervention: Randomised trial*. Retrieved from <http://www.nedverstottertherapie.nl>
- García-López, C., Sarriá, E., & Pozo, P. (2016). Parental self-efficacy and positive contributions regarding autism spectrum condition: An actor–partner interdependence model. *Journal of Autism and Developmental Disorders*, *46*(7), 2385-2398.
- Giallo, R., Wood, C. E., Jellett, R., & Porter, R. (2013). Fatigue, wellbeing and parental self-efficacy in mothers of children with an autism spectrum disorder. *Autism*, *17*(4), 465-480.
- Gibaud-Wallston, J., & Wandersman, L. P. (1978). *Development and utility of the Parenting Sense of Competence Scale*. Paper presented at the meeting of the American Psychological Association, Toronto.
- Gilmore, L., & Cuskelly, M. (2008). Factor structure of the Parenting Sense of Competence scale using a normative sample. *Child: Care, Health and Development*, *35*, 48-55.
- Gilmore, L., & Cuskelly, M. (2012). Parenting satisfaction and self-efficacy: A longitudinal study of mothers of children with Down syndrome. *Journal of Family Studies*, *18*(1), 28-35.
- Gowen, J. W., Johnson-Martin, N., Goldman, B. D., & Appelbaum, M. (1989). Feelings of depression and parenting competence of mothers of handicapped and nonhandicapped infants: A longitudinal study. *American Journal on Mental Retardation*.
- Gross, D., Fogg, L., & Tucker, S. (1995). The efficacy of parent training for promoting positive parent-toddler relationships. *Research in Nursing & Health*, *18*(6), 489-499.
- 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.

Guitar, B. (2014). *Stuttering: An integrated approach to its nature and treatment* (4th ed.).

Baltimore, MD: Lippincott, Williams and Wilkins.

Guralnick, M. J. (1998) The effectiveness of early intervention for vulnerable children: A developmental perspective. *American Journal on Mental Retardation*, 102, 319-345.

Halpern, L. F., & Mclean Jr, W. E. (1997). Hey mom, look at me!. *Infant Behavior and Development*, 20(4), 515-529.

Hastings, R. P., & Brown, T. (2002). Behavior problems of children with autism, parental self-efficacy, and mental health. *American Journal on Mental Retardation*, 107, 222-232.

Holliday, A. R. (1957). *An empirical investigation of the personality characteristics and attitudes of the parents of children who stutter* (Doctoral dissertation, University of Washington).

Johnson, W. (1942). A study of the onset and development of stuttering. *Journal of Speech and Hearing Disorders*, 7, 251-257.

Johnston, C., & Mash, E. J. (1989). A measure of parenting satisfaction and efficacy. *Journal of Clinical Child Psychology*, 18(2), 167-175.

Jones, M., Onslow, M., Harrison, E., & Packman, A. (2000). Treating stuttering in young children: Predicting treatment time in the Lidcombe Program. *Journal of Speech, Language, and Hearing Research*, 43(6), 1440-1450.

Jones, T. L. & Prinz, R. J. (2005) Potential roles of parental self-efficacy in parent and child adjustment: a review. *Clinical Psychology Review*, 25, 341–363.

Kelman, E., & Nicholas, A. (2008). *Practical intervention for early childhood stammering: Palin PCI approach*. Milton Keynes, United Kingdom: Speechmark.

- Klein, J. F., & Hood, S. B. (2004). The impact of stuttering on employment opportunities and job performance. *Journal of Fluency Disorders, 29*(4), 255-273.
- Langevin, M., Packman, A., & Onslow, M. (2010). Parent perceptions of the impact of stuttering on their preschoolers and themselves. *Journal of Communication Disorders, 43*(5), 407-423.
- Lau, S. R., Beilby, J. M., Byrnes, M. L., & Hennessey, N. W. (2012). Parenting styles and attachment in school-aged children who stutter. *Journal of Communication Disorders, 45*(2), 98-110.
- MacKinnon, S. P., Hall, S., & MacIntyre, P. D. (2007). Origins of the stuttering stereotype: Stereotype formation through anchoring–adjustment. *Journal of Fluency Disorders, 32*(4), 297-309.
- McDearmon, J. R. (1968). Primary stuttering at the onset of stuttering: A reexamination of data. *Journal of Speech and Hearing Research, 11*, 631-637.
- McKinnon, D. H., McLeod, S., & Reilly, S. (2007). The prevalence of stuttering, voice, and speech-sound disorders in primary school students in Australia. *Language, Speech, and Hearing Services in Schools, 38*(1), 5-15.
- Millard, S. K., & Davis, S. (2016). The Palin Parent Rating Scales: Parents' perspectives of childhood stuttering and its impact. *Journal of Speech, Language, and Hearing Research, 59*(5), 950-963.
- Miller, B., & Guitar, B. (2009). Long-term outcome of the Lidcombe Program for Early Stuttering Intervention. *American Journal of Speech-Language Pathology, 18*, 42–49.
- Miller-Heyl, J. M., MacPhee, D., & Fritz, J. (1998). DARE to be you: A family-support, early intervention program. *The Journal of Primary Prevention, 18*(3), 257-285.

- Moncur, J. P. (1952). Parental domination in stuttering. *Journal of Speech and Hearing Disorders, 17*(2), 155-165.
- Oelofsen, N., & Richardson, P. (2006). Sense of coherence and parenting stress in mothers and fathers of preschool children with developmental disability. *Journal of Intellectual and Developmental Disability, 31*(1), 1-12.
- Onslow, M. (2002). Treatment of early stuttering: the Lidcombe Program. *The British Stammering Association*. Retrieved from <https://www.stammering.org/speaking-out/articles/treatment-early-stuttering-lidcombe-program>
- Pit-ten Cate, I. M., Kennedy, C., & Stevenson, J. (2002). Disability and quality of life in spina bifida and hydrocephalus. *Developmental Medicine and Child Neurology, 44*(5), 317-322.
- Plexico, L. W., & Burrus, E. (2012). Coping with a child who stutters: A phenomenological analysis. *Journal of Fluency Disorders, 37*, 275–288.
- Rogers, H., & Matthews, J. (2004). The parenting sense of competence scale: Investigation of the factor structure, reliability, and validity for an Australian sample. *Australian Psychologist, 39*(1), 88-96.
- Sanders, M. R., & Woolley, M. L. (2005). The relationship between maternal self-efficacy and parenting practices: Implications for parent training. *Child: care, health and development, 31*(1), 65-73.
- Scheel, M. J., & Rieckmann, T. (1998). An empirically derived description of self-efficacy and empowerment for parents of children identified as psychologically disordered. *American Journal of Family Therapy, 26*(1), 15-27.

- Shumow, L. & Lomax, R. (2002) Parental self-efficacy: predictor of parenting behaviour adolescent outcomes. *Parenting, Science and Practice*, 2, 127–150.
- Shriberg, L. D., & Gruber, F. A. (1994). Developmental phonological disorders III: Long-term speech- sound normalization. *Journal of Speech & Hearing Research*, 37(5), 1151.
- Shriberg, L. D., Tomblin, J. B., & McSweeney, J. L. (1999). Prevalence of speech delay in 6-year-old children and comorbidity with language impairment. *Journal of Speech, Language, and Hearing Research*, 42(6), 1461-81. Retrieved from [http://library.tcu.edu.ezproxy.tcu.edu/PURL/EZproxy\\_link.asp?http://search.proquest.com.ezproxy.tcu.edu/docview/232347365?accountid=7090](http://library.tcu.edu.ezproxy.tcu.edu/PURL/EZproxy_link.asp?http://search.proquest.com.ezproxy.tcu.edu/docview/232347365?accountid=7090)
- Sofronoff, K. & Farbotko, M. (2002). The effectiveness of parent management training to increase self-efficacy in parents of children with Asperger syndrome. *Autism*, 6(3), 271-286.
- Starkweather, C. W., & Gottwald, S. R. (1990). The demands and capacities model II: Clinical applications. *Journal of Fluency Disorders*, 15(3), 143-157.
- Suresh, R., Ambrose, N., Roe, C., Pluzhnikov, A., Wittke-Thompson, J. K., Ng, M. C. Y., ... Cox, N. J. (2006). New Complexities in the Genetics of Stuttering: Significant Sex-Specific Linkage Signals. *American Journal of Human Genetics*, 78(4), 554–563.
- Teti, D. M., & Gelfand, D. M. (1991). Behavioral competence among mothers of infants in the first year: The mediational role of maternal self-efficacy. *Child development*, 62(5), 918-929.
- Wagnon, M. (2017). The shaping of motherhood: How raising a child who stutters impacts identity. *Rehabilitation, Human Resources and Communication Disorders Undergraduate Honors Theses*. 51.

Yairi, E., & Ambrose, N. G. (2005). *Early childhood stuttering: For clinicians by clinicians*.

Austin, TX: Pro-Ed.

Yaruss, J. S., & Quesal, R. W. (2006). Overall Assessment of the Speaker's Experience of

Stuttering (OASES): Documenting multiple outcomes in stuttering treatment. *Journal of*

*Fluency Disorders*, 31, 90–115.

Table 1

*Characteristics of Mother Groups*

	Mothers of CWS (N = 13)	Mothers of SSD (N = 20)	Mothers of Both Stuttering and SSD (N = 7)	Mothers of CDIS (N = 40)	Mothers of No Disorders (N = 90)
Age <i>M</i> (SD; range)	38.76 (3.89; 30- 45)	37.19 (4.71; 29- 49)	32.36 (2.67; 29-36)	36.96 (4.60; 29- 49)	35.27 (4.22; 23-45)
Marital Status					
Married	12	18	7	37	85
Divorced	1	2	-	3	-
Separated	-	-	-	-	1
Never married	-	-	-	-	4
Number of States Represented	8	6	5	13	13
Occupation <i>M</i> (SD; range)	5.54 (2.7; 1-8)	6.00 (3.05; 0- 9)	3.83 (2.99; 0-7)	5.49 (2.94; 0- 9)	4.84 (3.13; 0-9)
Highest Educational Level					
High school graduate	-	1	-	1	2

Partial college or specialized training	2	3	2	7	6
Standard college or university graduation	5	6	2	13	42
Graduate professional training (graduate degree)	6	10	3	19	40
Hollingshead Index	48.23	43.20	39.43 (14.64;	44.17	43.77
(HHI) <i>M</i> (SD; range)	(11.11; 22-64)	(15.50; 12-62)	9-55)	(14.07; 9-64)	(11.87; 18-61)

Key: Key: CWS=child who stutter; SSD=child with speech sound disorder; Both=child with both stuttering and SSD; CDIS=mothers of children with communication disorders; No Disorders=mothers of children with no disorders; *M*= mean; SD= standard deviation

Table 2

*Child Demographic Characteristics*

	CWS	SSD	Both CWS and SSD	No Disorders
Children $\leq$ 6 years old at home <i>M</i> (SD; range)	1.54 (.519; 1-2)	1.80 (.768; 1- 4)	1.86 (.378; 1-2)	1.75 (.695; 1-4)
Children $>$ 6 years old at home <i>M</i> (SD; range)	1.2 (.447; 1-2)	1.31 (.480; 1- 2)	2.0 (.0; 2-2)	1.68 (.695; 1-4)
Months of Tx <i>M</i> (SD; range)	20 (16.4; 1- 50)	11.47; (13.15; 0- 44)	CWS: 7.3 (7.36; 2-20) SSD: 4.67 (3.79; 2-9)	-
Child Age of Disorder Onset in Months <i>M</i> (SD; range)	34.46 (10.41; 18- 52)	29.00 (15.67; 12-72)	CWS: 37 (8.83; 24-48) SSD: 25.2 (8.89; 12-36)	-
Disorder Severity at Onset <i>M</i> (SD; range)	4.15 (2.3; 1-9)	5.67 (2.57; 1- 9)	CWS: 3.67 (2.94; 1-9) SSD: 3.2 (2.49; 1-7)	-

Current Disorder	3.08 (1.61;	4.50	CWS: 3.17	-
Severity <i>M</i> (SD;	1-6)	(2.28; 1-	(1.6; 1-5)	
range)		8)	SSD: 2.4 (.894;	
			1-3)	
Length of Disorder in	28.85	33.24	CWS: 14.67	-
Months <i>M</i> (SD;	(15.23; 6-	(32.06; 3-	(10.01; 6-30)	
range)	54)	144)	SSD: 20.6	
			(11.52; 6-36)	
Nature of Treatment				
Providing	9	-	1	-
Feedback				
Environmental	7	-	1	-
Changes				
Parent	12	-	2	-
Interaction				
Changes				
Modifying	11	-	4	-
Child's Speech				
Participate in Tx <i>M</i>	2 (1.53; 1-	3.29	CWS: 4.0	-
(SD; range)	5)	(1.57; 1-	(.707; 3-5)	
		5)	SSD: 3.67	
			(1.53; 2-5)	

Observe Tx <i>M</i> (SD; range)	1.92 (1.38; 1-5)	3.12 (1.65; 1- 5)	CWS: 4.2 (.837; 3-5) SSD: 4.0 (1.73; 2-5)	-
Home Practice <i>M</i> (SD; range)	1.62 (.65; 1-3)	2.41 (1.18; 1- 5)	CWS: 2.4 (1.52; 1-5) SSD: 3.0 (1.73; 2-5)	-
Communicate with Clinician <i>M</i> (SD; range)	1.38 (.768; 1-3)	1.82 (.88; 1-4)	CWS: 2.4 (1.67; 1-5) SSD: 2.67 (2.08; 1-5)	-
Communicate with Others <i>M</i> (SD; range)	2.31 (1.18; 1-5)	2.25 (1.13; 1- 4)	CWS: 2.6 (1.14; 1-4) SSD: 3.33 (1.53; 2-5)	-

Key: CWS=children who stutter; SSD=children with speech sound disorder; Both=children with both stuttering and SSD; CDIS=children with communication disorders; No Disorders=children with no disorders

Table 3

*PSOC Mean Scores and Standard Deviations Across Mother Groups*

PSOC Scores <i>M</i> (SD)	Mothers of CWS (N = 13)	Mothers of SSD (N = 16)	Mothers of Both CWS and SSD (N = 7)	Mothers of CDIS (N = 34)	Mothers of No Disorders (N = 90)
Total Score	73.50 (10.56)	72.94 (10.06)	75.67 (7.31)	73.62 (9.61)	73.36 (9.15)
Satisfaction	21.0 (8.37)	22.44 (5.56)	20.86 (9.60)	22.88 (5.19)	20.48 (7.43)
Efficacy	20.46 (7.25)	22.50 (3.43)	18.86 (9.62)	22.29 (3.87)	20.88 (6.79)
Interest	14.23 (4.92)	12.38 (6.54)	13.86 (6.31)	15.41 (2.34)	14.42 (4.65)
Control	7.62 (3.31)	8.12 (2.22)	6.71 (3.4)	8.12 (2.20)	7.67 (2.78)

Table 4

*Spearman Rho Correlations between PSOC Scores and Disorder Severity and Treatment**Characteristics for Mothers with CWS*

	Length of Tx	Treatment Satisfaction	Treatment Effectiveness	Treatment Participation	Onset Severity	Current Severity
PSOC Total Score	-.373	-.446	-.537	-.585*	.109	-.064
PSOC Satisfaction	.021	-.413	-.587*	-.385	.479	-.299
PSOC Efficacy	-.362	-.027	-.195	-.309	-.449	.449
PSOC Control	-.448	-.314	-.450	-.247	.117	.016

\*. Correlation is significant at the 0.05 level (2-tailed).

Table 5

*Spearman Rho Correlations between PSOC Scores and Disorder Severity and Treatment*

*Characteristics for Mothers with Children with SSD*

	Length of Tx	Treatment Satisfaction	Treatment Effectiveness	Treatment Participation	Onset Severity	Current Severity
PSOC Total Score	.001	-.261	-.116	-.054	.031	.067
PSOC Satisfaction	-.138	-.279	-.150	.094	-.172	-.201
PSOC Efficacy	.393	-.424	-.250	-.192	.098	-.022
PSOC Control	.108	.032	.021	.393	.426	.118

No correlation is significant at the .05 level (2-tailed)

Appendix A

Demographics questions

Section One

1. Which gender do you identify with? [closed set]
  - a. Male – if yes, move to end of survey
  - b. Female
2. Date of birth [free response]
3. In what state do you currently live? [drop down selection]
4. What is your marital status? [closed set]
  - a. Married
  - b. Widowed
  - c. Divorced
  - d. Separated
  - e. Never married
5. Your highest level of school completed:
  - a. Less than seventh grade
  - b. Junior high school (9<sup>th</sup> grade)
  - c. Partial high school (10<sup>th</sup> or 11<sup>th</sup> grade)
  - d. High school graduate
  - e. Partial college (at least one year) or specialized training
  - f. Standard college or university graduation
  - g. Graduate professional training (graduate degree)
6. Your occupation: [If teacher, please indicate what grade] [free response]
7. Do you have any children **6 years of age or younger** living with you 50% or more of the time?
  - a. Yes – If yes, please indicate how many children: \_\_\_\_\_
  - b. No
8. Do you have any children **older than 6 years of age** living with you 50% or more of the time?
  - a. Yes – If yes, please indicate how many children: \_\_\_\_\_
  - b. No
9. [Condition: Selects “Yes” for question 8] Do any of your children older than 6 years of age have any disabilities?
  - a. Yes
  - b. No

Section Two

10. Please list the gender and date of birth of all children **6 years of age or younger** living at home with you at least 50% of the time. Indicate if any child has a disability and the disability severity

Gender	DOB [mm/dd/yyyy]	Disability/Disorder	Severity of disability [0-9 scale] 0=no disability 1=extremely mild disability 9=extremely severe disability

[Note: Parents of children with no communication disorders must have at least one child 6 years or younger and no other children with disabilities]

11. Do you have a child 6 years of age or younger who stutters or has a speech sound disorder? [closed set]
  - a. Yes – Stuttering Disorder [go to stuttering questions]
  - b. Yes – Speech Sound Disorder [go to speech sound questions]
  - c. Yes – Both [go to stuttering and speech sound questions]
  - d. No [go to no communication disorder questions]

CONDITION: Parent selects “Yes – Stuttering Disorder” on Question 11

12. What adults live at home with your child who stutters? Select all that apply.
  - a. Mother
  - b. Father
  - c. Other: \_\_\_\_\_
13. What is the highest level of school completed by the **father** of your child 6 years of age or younger who stutters?
  - a. Less than seventh grade
  - b. Junior high school (9<sup>th</sup> grade)
  - c. Partial high school (10<sup>th</sup> or 11<sup>th</sup> grade)
  - d. High school graduate
  - e. Partial college (at least one year) or specialized training
  - f. Standard college or university graduation
  - g. Graduate professional training (graduate degree)
14. What is the occupation of the **father** of your child 6 years of age or younger who stutters? [If teacher, please indicate what grade] [free response]
15. Do you or any of your child’s biological family members stutter? Choose all that apply.
  - a. Mother
  - b. Father
  - c. Maternal Grandmother
  - d. Maternal Grandfather
  - e. Paternal Grandmother
  - f. Paternal Grandfather
  - g. Sibling
  - h. Aunt
  - i. Uncle
  - j. Great-grandparent
  - k. Other:
16. What languages do you use when speaking with your child who stutters? List all that apply. [free response]
17. What languages does your child use when speaking to you? List all that apply. [free response]
18. How old was your child when you first noticed his stuttering difficulties? [years and months]
19. How severe was your child’s stuttering when you first noticed it? [0-9 scale; 0=no disability, 1=extremely mild disability, 9=extremely severe disability]

- 20. How severe is your child’s stuttering right now? [0-9 scale]
- 21. How long has your child been stuttering? \_\_\_years, \_\_\_ months
- 22. Has your child’s stuttering been diagnosed by an ASHA certified speech-language pathologist?
  - a. Yes
  - b. No
  - c. Don’t know
- 23. Please indicate whether your child who stutters has any additional disorders present [choose all that apply]. If yes, please indicate severity.

Disorder	Severity [0-9 Scale]
Speech sound production disorder	
Language disorder	
Learning disorder	
Behavior disorder	
Intellectual Disability	
Hearing Loss	
Physical Disability	
Attention Deficit Hyperactivity Disorder (ADHD)	
No additional disorders	
Other:	

- 24. Has your child received treatment for stuttering? [closed set: Yes or No]
- 25. Is your child currently receiving treatment for stuttering? [closed set: Yes or No]
  - a. If yes:
    - i. Where did/does your child receive treatment? Choose all that apply. [university clinic, private clinic, outpatient clinic, preschool, elementary school, hospital]
    - ii. How many months of treatment has s/he received? [free response]
    - iii. What was the nature of treatment? Choose all that apply.
      - 1. Providing feedback for smooth and stuttered speech (e.g., bumpy speech, smooth speech; Lidcombe Program)
      - 2. Incorporating environmental changes (e.g., providing more structure, reducing time pressure)
      - 3. Changing the way you interact with your child (e.g., asking fewer questions, including generous pauses, using a calm and relaxed speech)
      - 4. Directly modifying your child’s speech by teaching him ways to be smooth (e.g., child uses a slower, more relaxed speech)
    - iv. Please indicate your level of involvement in treatment. [5-point Likert Always – Never]
      - 1. I actively participate in therapy sessions. That is, during therapy sessions, I am involved in the face-to-face interactions with the clinician and my child and engage in therapy activities.
        - a. Likert Scale: Always, Very Often, Sometimes, Rarely, Never

2. I observe my child's therapy.
  - a. Likert Scale: Always, Very Often, Sometimes, Rarely, Never
3. I practice assigned therapy strategies at home with my child.
  - a. Likert Scale: Always, Very Often, Sometimes, Rarely, Never
- v. Please indicate your level of communication about your child's stuttering treatment.
  1. I communicate with my child's clinician.
    - a. Likert scale- A great deal, a moderate amount, occasionally, rarely, never
  2. I talk to others about my child's treatment.
    - a. Likert scale- A great deal, a moderate amount, occasionally, rarely, never
- vi. How effective was/is his stuttering treatment?
  1. Likert scale- extremely, very, moderately, slightly, not at all
- vii. How satisfied are you with your child's stuttering treatment?
  1. Likert scale- extremely, very, moderately, slightly, not at all
- b. If no, continue to self-efficacy scale

CONDITION: Parent selects "Speech Sound Disorder" on Question 11

1. What adults live at home with your child who has speech sound disorder? Select all that apply.
  - a. Mother
  - b. Father
  - c. Other: \_\_\_\_\_
2. What is the highest level of school completed by the **father** of your child 6 years of age or younger who has a speech sound disorder?
  - a. Less than seventh grade
  - b. Junior high school (9<sup>th</sup> grade)
  - c. Partial high school (10<sup>th</sup> or 11<sup>th</sup> grade)
  - d. High school graduate
  - e. Partial college (at least one year) or specialized training
  - f. Standard college or university graduation
  - g. Graduate professional training (graduate degree)
3. What is the occupation of the **father** of your child 6 years of age or younger who has a speech sound disorder? [If teacher, please indicate what grade] [free response]
4. Do you or any of your child's biological family members have a speech sound disorder? Choose all that apply.
  - a. Mother
  - b. Father
  - c. Maternal Grandmother
  - d. Maternal Grandfather
  - e. Paternal Grandmother
  - f. Paternal Grandfather
  - g. Sibling

- h. Aunt
  - i. Uncle
  - j. Great-grandparent
  - k. Other:
5. What languages do you use when speaking to your child who has a speech sound disorder? List all that apply. [free response]
  6. What languages does your child use when speaking to you? List all that apply.
  7. How old was your child when you first noticed his speech sound disorder? [years and months]
  8. How severe was your child’s speech sound disorder (SSD) when you first noticed it? [0-9 scale; 0=no disability, 1=extremely mild SSD, 9=extremely severe SSD]
  9. How severe is your child’s speech sound disorder (SSD) right now? [0-9 scale]
  10. How long has your child had a speech sound disorder? \_\_\_years, \_\_\_\_\_ months
  11. Has your child’s speech sound disorder been diagnosed by an ASHA certified speech-language pathologist?
    - a. Yes
    - b. No
    - c. Don’t know
  12. What was your child’s diagnosis?
    - a. Articulation problem
    - b. Phonological problem
    - c. Don’t know

13. Please indicate whether your child has any additional disorders present [choose all that apply]. If yes, please indicate severity.

Disorder	Severity [0-9 Scale]
Stuttering disorder	
Language disorder	
Learning disorder	
Behavior disorder	
Intellectual Disability	
Hearing Loss	
Physical Disability	
Attention Deficit Hyperactivity Disorder (ADHD)	
No additional disorders	
Other:	

14. Has your child received treatment for his or her speech sound disorder? [closed set: Yes or No]
15. Is your child currently receiving treatment? [closed set: Yes or No]
  - c. If yes:
    - i. Where does/did your child receive treatment? Choose all that apply. [university clinic, private clinic, outpatient clinic, preschool, elementary school, hospital]
    - ii. How many months of treatment has s/he received? [free response]
    - iii. At what level did/does your child work on sounds? Choose all that apply.
      1. Words

2. Sentences
3. Conversation
- iv. What was/is the nature of treatment?
  1. Working speech sounds with lots of repetitions
  2. Practicing exercises such as blowing on horns, wiggling their tongue
  3. Other: \_\_\_\_\_
- v. Please indicate your level of involvement within treatment [5-point Likert scale Always – Never]
  1. I actively participate in therapy sessions. That is, during therapy sessions, I am involved in the face-to-face interactions with the clinician and my child and engage in therapy activities.
    - a. Likert Scale: Always, Very Often, Sometimes, Rarely, Never
  2. I observe my child's therapy.
    - a. Likert Scale: Always, Very Often, Sometimes, Rarely, Never
  3. I practice assigned therapy strategies at home with my child.
    - a. Likert Scale: Always, Very Often, Sometimes, Rarely, Never
- vi. Please indicate your level of communication about your child's speech sound disorder treatment.
  1. I communicate with my child's clinician.
    - a. Likert scale- A great deal, a moderate amount, occasionally, rarely, never
  2. I talk to others about my child's treatment.
    - a. Likert scale- A great deal, a moderate amount, occasionally, rarely, never
- vii. How effective was/is your child's speech sound disorder treatment?
  1. Likert scale- extremely, very, moderately, slightly, not at all
- viii. How satisfied are you with your child's speech sound disorder treatment?
  1. Likert scale- extremely, very, moderately, slightly, not at all
- d. If no, continue to self-efficacy scale

CONDITION: Parent selects "Both" on Question 9

16. What adults live at home with your child who has a stuttering/speech sound disorder?  
Select all that apply.
  - a. Mother
  - b. Father
  - c. Other: \_\_\_\_\_
17. What is the highest level of school completed by the **father** of your child 6 years of age or younger who has a stuttering/speech sound disorder?
  - a. Less than seventh grade
  - b. Junior high school (9<sup>th</sup> grade)
  - c. Partial high school (10<sup>th</sup> or 11<sup>th</sup> grade)

- d. High school graduate
  - e. Partial college (at least one year) or specialized training
  - f. Standard college or university graduation
  - g. Graduate professional training (graduate degree)
18. What is the occupation of the **father** of your child 6 years of age or younger who has a stuttering/speech sound disorder? [If teacher, please indicate what grade] [free response]
19. Do you or any of your child’s biological family members **stutter**? Choose all that apply.
- a. Mother
  - b. Father
  - c. Maternal Grandmother
  - d. Maternal Grandfather
  - e. Paternal Grandmother
  - f. Paternal Grandfather
  - g. Sibling
  - h. Aunt
  - i. Uncle
  - j. Great-grandparent
  - k. Other:
20. What languages do you use when speaking with your child with stuttering/SSD? List all that apply. [free response]
21. What languages does your child use when speaking to you? List all that apply. [free response]
22. How old was your child when you first noticed his stuttering difficulties? [years and months]
23. How severe was your child’s stuttering when you first noticed it? [0-9 scale; 0=no disability, 1=extremely mild disability, 9=extremely severe disability]
24. How severe is your child’s stuttering right now? [0-9 scale]
25. How long has your child been stuttering? \_\_\_ years, \_\_\_ months
26. Has your child’s stuttering been diagnosed by an ASHA certified speech-language pathologist?
- a. Yes
  - b. No
  - c. Don’t know
27. Please indicate whether your child has any additional disorders present [choose all that apply]. If yes, please indicate severity.

Disorder	Severity [0-9 Scale]
Speech Sound Disorder	
Language disorder	
Learning disorder	
Behavior disorder	
Intellectual Disability	
Hearing Loss	
Physical Disability	
Attention Deficit Hyperactivity Disorder (ADHD)	
No additional disorders	

Other:	
--------	--

28. Has your child received treatment for stuttering? [closed set: Yes or No]

29. Is your child currently receiving treatment for stuttering? [closed set: Yes or No]

a. If yes:

- a. Where did/does your child receive stuttering treatment? Choose all that apply. [university clinic, private clinic, outpatient clinic, preschool, elementary school, hospital]
- b. How many months of stuttering treatment has s/he received? [free response]
- c. What was/is the nature of treatment? Choose all that apply.
  - i. Providing feedback for smooth and stuttered speech (e.g., bumpy speech, smooth speech; Lidcombe Program)
  - ii. Incorporating environmental changes (e.g., providing more structure, reducing time pressure)
  - iii. Changing the way you interact with your child (e.g., asking fewer questions, including generous pauses, using a calm and relaxed speech)
  - iv. Directly modifying your child's speech by teaching him ways to be smooth (e.g., child uses a slower, more relaxed speech)
- d. Please indicate your level of involvement in stuttering treatment. [5-point Likert Always – Never]
  - i. I actively participate in therapy sessions. That is, during therapy sessions, I am involved in the face-to-face interactions with the clinician and my child and engage in therapy activities.
    1. Likert Scale: Always, Very Often, Sometimes, Rarely, Never
  - ii. I observe my child's therapy.
    1. Likert Scale: Always, Very Often, Sometimes, Rarely, Never
  - iii. I practice assigned therapy strategies at home with my child.
    1. Likert Scale: Always, Very Often, Sometimes, Rarely, Never
- e. Please indicate your level of communication about your child's stuttering treatment.
  - i. I communicate with my child's clinician.
    1. Likert scale- A great deal, a moderate amount, occasionally, rarely, never
  - ii. I talk to others about my child's treatment.
    1. Likert scale- A great deal, a moderate amount, occasionally, rarely, never
- f. How effective was/is his stuttering treatment?
  - i. Likert scale- extremely, very, moderately, slightly, not at all
- g. How satisfied are you with your child's stuttering treatment?
  - i. Likert scale- extremely, very, moderately, slightly, not at all
- b. If no, continue to speech sound questions

30. Do you or any of your family members have a **speech sound disorder**? Choose all that apply.
- Mother
  - Father
  - Maternal Grandmother
  - Maternal Grandfather
  - Paternal Grandmother
  - Paternal Grandfather
  - Sibling
  - Aunt
  - Uncle
  - Great-grandparent
  - Other:
31. How old was your child when you first noticed his speech sound disorder? [years and months]
32. How severe was your child's speech sound disorder (SSD) when you first noticed it? [0-9 scale; 0=no disability, 1=extremely mild disability, 9=extremely severe disability]
33. How severe is your child's speech sound disorder (SSD) right now? [0-9 scale]
34. How long has your child had a speech sound disorder? \_\_\_years, \_\_\_\_\_ months
35. Has your child's speech sound disorder been diagnosed by an ASHA certified speech-language pathologist?
- Yes
  - No
  - Don't know
36. What was your child's diagnosis?
- Articulation problem
  - Phonological problem
  - Don't know
37. Has your child received treatment for his or her speech sound disorder? [closed set: Yes or No]
38. Is your child currently receiving treatment? [closed set: Yes or No]
- If yes:
    - Where did/does your child receive treatment? Choose all that apply. [university clinic, private clinic, outpatient clinic, preschool, elementary school, hospital]
    - How many months of treatment has s/he received? [free response]
    - At what level did/does your child work on sounds? Choose all that apply.
      - Words
      - Sentences
      - Conversation
    - What was/is the nature of treatment?
      - Working speech sounds with lots of repetitions
      - Practicing exercises such as blowing on horns, wiggling their tongue
      - Other: \_\_\_\_\_

- v. Please indicate your level of involvement in speech sound disorder treatment [5-point Likert scale Always – Never]
  - 1. I actively participate in therapy sessions. That is, during therapy sessions, I am involved in the face-to-face interactions with the clinician and my child and engage in therapy activities.
    - a. Likert Scale: Always, Very Often, Sometimes, Rarely, Never
  - 2. I observe my child's therapy.
    - a. Likert Scale: Always, Very Often, Sometimes, Rarely, Never
  - 3. I practice assigned therapy strategies at home with my child.
    - a. Likert Scale: Always, Very Often, Sometimes, Rarely, Never
- vi. Please indicate your level of communication about your child's speech sound disorder treatment.
  - 1. I communicate with my child's clinician.
    - a. Likert scale- A great deal, a moderate amount, occasionally, rarely, never
  - 2. I talk to others about my child's treatment.
    - a. Likert scale- A great deal, a moderate amount, occasionally, rarely, never
- vii. How effective was/is your child's speech sound disorder treatment?
  - 1. Likert scale- extremely, very, moderately, slightly, not at all
- viii. How satisfied are you with your child's speech sound disorder treatment?
  - 1. Likert scale- extremely, very, moderately, slightly, not at all
- f. If no, continue to self-efficacy scale

CONDITION: Parent selects "None" on Question 9

- 1. What adults live at home with your child? Select all that apply.
  - a. Mother
  - b. Father
  - c. Other: \_\_\_\_\_
- 2. What is the highest level of school completed by the **father** of your child 6 years of age or younger?
  - a. Less than seventh grade
  - b. Junior high school (9<sup>th</sup> grade)
  - c. Partial high school (10<sup>th</sup> or 11<sup>th</sup> grade)
  - d. High school graduate
  - e. Partial college (at least one year) or specialized training
  - f. Standard college or university graduation
  - g. Graduate professional training (graduate degree)
- 3. What is the occupation of the **father** of your child 6 years of age or younger who has a speech sound disorder? [If teacher, please indicate what grade] [free response]

## Appendix B

## Parenting Sense of Competence Scale

[CONDITION: Parent selects “Stuttering Disorder” on Question 10] Instructions: When answering the following questions, think about when you are parenting your child who stutters.

[CONDITION: Parent selects “Speech Sound Disorder” on Question 10] Instructions: When answering the following questions, think about when you are parenting your child who has a speech sound disorder.

[CONDITION: Parent selects “Both” on Question 10] Instructions: When answering the following questions, think about when you are parenting your child who has a stuttering/speech sound disorder.

[CONDITION: Parent selects “None” on Question 10] Instructions: When answering the following questions, think about when you are parenting your child who is 6 years of age or younger.

[Likert Scale: (1) *strongly agree* to (6) *strongly disagree*]

1. The problems of taking care of a child are easy to solve once you know how your actions affect your child, an understanding I have acquired.
2. Even though being a parent could be rewarding, I am frustrated now while my child is at his/her present age.
3. I go to bed the same way I wake up in the morning, feeling I have not accomplished a whole lot.
4. I do not know why it is, but sometimes when I’m supposed to be in control, I feel more like the one being manipulated.
5. My mother/father was better prepared to be a good mother/father than I am.

6. I would make a fine model for a new mother/father to follow in order to learn what she/he would need to know in order to be a good parent.
7. Being a parent is manageable, and any problems are easily solved.
8. A difficult problem in being a parent is not knowing whether you're doing a good job or a bad one.
9. Sometimes I feel like I'm not getting anything done.
10. I meet my own personal expectations for expertise in caring for my child.
11. If anyone can find the answer to what is troubling my child, I am the one.
12. My talents and interests are in other areas, not in being a parent.
13. Considering how long I've been a mother/father, I feel thoroughly familiar with this role.
14. If being a mother/father of a child were only more interesting, I would be motivated to do a better job as a parent.
15. I honestly believe I have all the skills necessary to be a good mother/father to my child.
16. Being a parent makes me tense and anxious.
17. Being a good mother/father is a reward in itself.

Factor structure from Gilmore & Cuskelly (2008):

Satisfaction Subscale items: 2, 3, 4, 8, 9, 16

Efficacy Subscale items: 6, 10, 11, 13, 15

Interest Subscale items: 12, 14, 17

Control Subscale items: 1, 7

### Appendix C

#### Informed Consent Statement in Survey to Mothers with Children with Communication Disorders

You are invited to participate in a study being conducted by Madeline Wagnon under the supervision of Dr. Jennifer Watson in the Davies School of Communication Sciences and Disorders at Texas Christian University.

The purpose of this study is to collect information regarding how mothers view themselves as parents when they have a child who has a communication disorder. Your participation in the following survey will advance our understanding of how to best support families of children who have communication disorders. We estimate that it will take about 15 minutes or less of your time to complete the survey.

Benefits of participating in this survey include the opportunity to reflect on your time as a mother, potentially leading to further insight and understanding. As with any survey, your participation may affect your feelings. Only the researchers will see your responses. No one else, including the child's clinician or clinical supervisor, will view your answers to the survey. Data will be stored on a password-protected hard drive. You may contact the researcher if you wish to learn the study's results.

Your participation in this survey is **entirely voluntary**. You may decline to answer any question and you may withdraw from the survey at any time without penalty. If your child is currently

receiving therapy, your withdrawal **will not** affect your child's current or future status as a therapy recipient.

If you have any questions, please contact Madeline Wagnon at (318) 272-9388 or [m.wagnon@tcu.edu](mailto:m.wagnon@tcu.edu) or Dr. Jennifer Watson at [j.watson@tcu.edu](mailto:j.watson@tcu.edu) or (817) 257-6876.

You are free to contact the investigator by phone or email to discuss the survey. If you have any questions about your rights or are dissatisfied with any part of this survey, you may anonymously contact the Office of Research at (817) 257-7104.

Clicking the "→" arrow below indicates that you have read or been read the information in this consent and agree to participate in this study and have had a chance to ask any questions and they have been answered. You understand that you will be given a copy of this statement upon request.

To complete the survey, click on the "→" arrow below.

## Appendix D

## Informed Consent Statement in Survey to Mothers with Children with No Known Disorders

You are invited to participate in a study being conducted by Madeline Wagnon under the supervision of Dr. Jennifer Watson in the Davies School of Communication Sciences and Disorders at Texas Christian University.

The purpose of this study is to collect information regarding how mothers view themselves as parents. Your participation in the following survey will advance our understanding of how to best support mothers as they embrace their role as parents. We estimate that it will take about 10 minutes or less of your time to complete the survey.

Benefits of participating in this survey include the opportunity to reflect on your time as a mother, potentially leading to further insight and understanding. As with any survey, your participation may affect your feelings. Only the researchers will see your responses. No one else will view your answers to the survey. Data will be stored on a password-protected hard drive. You may contact the researcher if you wish to learn the study's results.

Your participation in this survey is **entirely voluntary**. You may decline to answer any question and you may withdraw from the survey at any time without penalty.

If you have any questions, please contact Madeline Wagnon at (318) 272-9388 or [m.wagnon@tcu.edu](mailto:m.wagnon@tcu.edu) or Dr. Jennifer Watson at [j.watson@tcu.edu](mailto:j.watson@tcu.edu) or (817) 257-6876.

You are free to contact the investigator by phone or email to discuss the survey. If you have any questions about your rights or are dissatisfied with any part of this survey, you may anonymously contact the Office of Research at (817) 257-7104.

Clicking the “→” arrow below indicates that you have read or been read the information in this consent and agree to participate in this study and have had a chance to ask any questions and they have been answered. You understand that you will be given a copy of this statement upon request.

To complete the survey, click on the “→” arrow below.

## Appendix E

## Recruitment Script for Parents of CWS and SSD

Hello,

My name is Madeline Wagnon, and as a speech-language pathology graduate student at Texas Christian University, I am conducting a research study under the supervision of Dr. Jennifer Watson. This study has been reviewed and classified as exempt by the TCU Institutional Review Board. The purpose of the study is to explore how mothers feel about parenting when they have a child who stutters or a child with speech sound disorders. With your help, our study hopes to provide better support for mothers of children with communication problems.

The link below connects to a survey intended for **mothers of children 6 years of age or younger who stutter and/or have a speech sound disorder diagnosed by an ASHA certified speech-language pathologist**. We would greatly appreciate your help by (1) forwarding this message to *clinic directors and/or clinical staff and faculty supervisors* who could send the survey link to potential participants and/or (2) forwarding this message directly to *mothers* who meet the criteria, excluding fathers or any other guardian.

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Dear Mother,

My name is Madeline Wagnon, and as a speech-language pathology graduate student at Texas Christian University, I am doing a research study with the help of my supervisor, Dr. Jennifer Watson. The purpose of our study is to explore how mothers feel about parenting when they have a child who stutters or a child with speech sound disorders. Please help to complete our study by taking the survey in the link below. The survey is looking at how you feel about

parenting. With your help, we hope to provide better support for mothers of children with communication problems.

[survey link]

If you have any questions, please feel free to contact me at [m.wagnon@tcu.edu](mailto:m.wagnon@tcu.edu) or (318) 272-9388 or Dr. Jennifer Watson at [j.watson@tcu.edu](mailto:j.watson@tcu.edu) or (817) 257-6876. Thank you for your help!

Best,

Madeline Wagnon

Graduate Student Clinician

Texas Christian University

Programs were also contacted and recruited by telephone. The language above was used within the conversation to describe the purpose of the study and contacts were encouraged to provide their email to be sent a link to the survey.

## Appendix F

## Recruitment Script for Parents of Children with No Communication Disorders

Hello,

My name is Madeline Wagnon, and as a speech-language pathology graduate student at Texas Christian University, I am doing a research study under the supervision of Dr. Jennifer Watson. This study has been reviewed and classified as exempt by the TCU Institutional Review Board. As a director or staff member at an early learning program, we know you are interested in increasing parents' confidence in their role as parents. We are doing a study to explore how mothers feel about parenting children with and without communication disorders. Please send the following message and survey link to **mothers of children 6 years of age or younger *without* communication disorders**, excluding fathers or any other guardian. Thank you in advance for your interest. We are happy to partner with you in supporting families as they embrace their role as parents!

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Dear Mother,

My name is Madeline Wagnon, and as a speech-language pathology graduate student at Texas Christian University, I am doing a research study with the help of my supervisor, Dr. Jennifer Watson. The purpose of our study is to explore how mothers feel about parenting. Please help to complete our study by taking the brief survey in the link below. The survey is looking at how you feel about parenting. Thank you for your help!

[survey link]

If you have any questions, please feel free to contact me at [m.wagnon@tcu.edu](mailto:m.wagnon@tcu.edu) or (318) 272-9388 or Dr. Jennifer Watson at [j.watson@tcu.edu](mailto:j.watson@tcu.edu) or (817) 257-6876.

Best,

Madeline Wagnon

Graduate Student Clinician

Texas Christian University

Programs, university faculty, students, and friends were also contacted and recruited by telephone. The language above was used within the conversation to describe the purpose of the study and contacts were encouraged to provide their email to be sent a link to the survey.