Consensus Guidelines for The Assessments of Individuals Who Stutter Across the Lifespan

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ABSTRACT

Purpose: This project sought to develop consensus guidelines for clinically meaningful, comprehensive assessment procedures for people who stutter across the lifespan.

Method: Twelve expert clinicians and researchers who have written extensively about stuttering provided detailed descriptions of the type of data that they routinely collect during diagnostic evaluations of preschool children, school-age children, adolescents, and adults who stutter. Iterative content analysis, with repeated input from the respondents, was used to identify core areas that reflect common areas that these experts judge to be important for evaluating stuttering for varying age groups.

Results: Six core areas were identified as common components of a comprehensive evaluation of stuttering and people who stutter. These areas should be included to varying degrees depending upon the age and needs of the client or family. The core areas include: (1) stuttering-related background information; (2) speech, language, and temperament development (especially for younger clients); (3) speech fluency and stuttering behaviors; (4) reactions to stuttering by the speaker; (5) reactions to stuttering by people in the speaker's environment, and (6) adverse impact caused by stuttering.

Discussion: These consensus recommendations can help speech-language pathologists who are uncertain about appropriate stuttering assessment procedures to design and conduct more thorough evaluations, so that they will be better prepared to provide individualized and comprehensive treatment for people who stutter across the life span.

Key words: Stuttering, assessment, lifespan, child, adult, adolescent

INTRODUCTION

Many speech-language pathologists lack confidence in their ability to help people who stutter (e.g., Briley, 2018; Brisk et al., 1997; Byrd et al., 2020; Cooper & Rustin, 1985; Crichton-Smith et al., 2003), a challenge that can adversely affect clinical services (Millard et al., 2010; Siegel, 1982). A number of possible explanations for this discomfort or lack of confidence have been identified, including a lack of specialized training in stuttering, minimal opportunities for clinical practice in graduate programs, low numbers of people who stutter on caseloads, and uncertainty about appropriate clinical methods for the assessment and treatment of stuttering (e.g., Eggers & Leahy, 2011; Kelly et al., 1997; Mallard et al., 1988; Sommers & Caruso, 1995; Tellis et al., 2008; Yaruss, 1999; Yaruss et al., 2017; Yaruss & Quesal, 2002).

One way to overcome such challenges is for clinicians to have access to clear guidelines from trusted sources about what procedures they should follow when evaluating or treating individuals who stutter. Similar guidelines have been published for other communication and swallowing disorders (Cunningham et al., 2019; Espitalier et al., 2018; Kempster et al., 2009; Mei et al., 2018; Patel et al., 2018). A potential roadblock to such efforts, is the vast array of different opinions and philosophies about the nature, assessment, and treatment of stuttering. For example, commonly used stuttering textbooks (e.g., Guitar, 2019; Logan, 2020; Manning & DiLollo, 2018; Shapiro, 2011; Yairi & Seery, 2014) define the characteristics of speech fluency and stuttering differently, recommend different tests and measures, and emphasize the evaluation of different aspects of the stuttering experience. These conflicting recommendations contribute to the difficulties that clinicians face in selecting appropriate assessment strategies and lead to challenges for those seeking to document the need for treatment or to evaluate the outcomes of intervention.

In response to similar issues for many human health conditions, researchers in a variety of health-related fields have moved away from emphasizing differences between approaches, focusing instead on identifying potential *commonalities* in different approaches. For treatment, this effort has sought to identify “common factors” that might reveal the active ingredients that contribute to therapy benefits, regardless of the specific approach to therapy that has been used (e.g., Laska et al., 2014; Wampold & Imel, 2015). This effort, which started in the field of psychology, has found its way to speech-language pathology in general, and to stuttering in particular (Bernstein Ratner, 2006; Botterill, 2011; Byrd & Donaher, 2018; Connery et al., 2019; Manning, 2010; Plexico et al., 2010; Yaruss et al., 2012; Zebrowski & Arenas, 2011). Through this process, clinicians and researchers can highlight similarities in recommended treatment methods, even if the clinicians providing that treatment view stuttering from different perspectives or philosophies.

While this movement toward identifying common factors has primarily focused on similarities across *treatment* approaches, a similar process can be undertaken with different *assessment* approaches. In this clinical focus article, we sought to address several challenges related to the assessment of stuttering by gathering recommendations from expert clinicians and researchers and then seeking to identify common features of those recommendations. Because evaluation procedures may differ across a client’s lifespan, we examined assessment strategies for four distinct age groups of individuals who stutter: preschool children, school-age children, adolescents, and adults. Specifically, the purposes of this project were:

(a) to gather information about the assessment procedures used by a diverse group of speech-language pathologists and researchers with expertise in stuttering for each of four age groups,

(b) to identify commonalities in the reported procedures, and

(c) to use those commonalities to describe a core set of recommended areas that clinicians should consider as they design individual evaluations for individuals who stutter or who may be stuttering.

The ultimate goal of the work was to provide guidance to speech-language pathologists and reduce the uncertainty that they face about assessing stuttering and thereby improve their clinical skills and confidence for working with this population.

METHOD

Participants

Twelve expert clinicians and researchers, all authors on this paper, participated. Two authors (SB and JSY) invited researchers for this study based on four criteria. First, we wanted the group to have documented expertise in stuttering evaluation or treatment, as evidenced by prior published work. Second, we wanted the group as a whole to have expertise across the lifespan. Third, and perhaps most importantly, we wanted the participants to represent different philosophies regarding the nature of stuttering, as evidenced by their published work, presentations, and, when applicable, their lived experiences with stuttering. Finally, we sought participants who would represent different approaches to the treatment of stuttering. The two authors invited 10 additional participants who all agreed to participate. These 12 researchers and clinicians (9 women) had an average of 28.8 (SD = 9.6) years of experience in the field. The group was internationally-based, with five countries represented (Australia, Belgium, the Netherlands, the United Kingdom, and the United States of America).

Materials

Four templates were developed for participants (hereafter respondents) to complete, allowing them to provide information about assessment procedures they use with preschool-aged children, school-aged children, adolescents, and adults who stutter. Participants were asked to complete the templates by 1) identifying tasks, tools, and procedures that they use when assessing persons who stutter for each age group; and 2) specifying what each tool assessed and what specific measures they obtain from each tool. Each contributor completed one template for each age group.

Procedures

The first author sent the blank templates to each repondent via email, and the respondents returned their completed templates to her. The responses were anonymized and put into a spreadsheet to facilitate sorting and categorization.

Thematic Analysis

Consistent with principles that have been documented in the literature (Braun & Clarke, 2006; Chi, 1997; Hill et al., 1997; Syed & Nelson, 2015), we reviewed each of the respondents' anonymized files through an iterative process in which common themes and categories were identified. These themes were reviewed by the original respondents, revised again, and reviewed until a core set of assessment topics and methods was identified and agreed upon by consensus of the group. Following are specific details about how this process was undertaken.

Generating Initial Codes

Two authors (SB and JSY) read through all of the anonymized responses to familiarize themselves with the responses received. They then developed an initial set of codes for categorizing the responses. The code list included key areas identified by the respondents, such as *Speech Fluency, Stuttering Behavior,* and *Awareness, Coping, and Reactions*. Two doctoral students then independently categorized the participants' responses using the initial set of codes. Multiple codes were allowed per response if the coders felt that a given response addressed more than one code/category. The coders were also encouraged to suggest additional codes if they believed this to be necessary; this resulted in the addition of one code. Via a consensus-building process, a third graduate student reviewed the first two coders' codes and resolved any disagreements. This process yielded a set of revised codes that were sent to respondents for verification.

Verifying Codes

Each respondent was sent a copy of the revised codes and a spreadsheet containing their own individual coded responses. Respondents were asked to review their individual responses and the codes assigned to each one to ensure that the coding accurately reflected their response. If they agreed with the code, they ticked the "agree" box in the spreadsheet. If they disagreed with the code, they ticked the "disagree" box and entered a different code in the 'correct code' box. Respondents could also add codes into a box marked "new code." For instances in which a response received more than one code, the respondents were asked to evaluate each code individually. Once their review and coding verification was complete, the respondents sent their spreadsheet with their reviewed and updated codes back to the first author. This process resulted in some minor revisions to the codes, as respondents noted that reviewing their data led them to add additional tasks to their responses. The first author (SB) then updated the spreadsheets with the codes specified by each respondent and sent each respondent their spreadsheet and the revised codes for a final review to ensure that the codes accurately reflected why they performed each task or procedure ("member check"). Codes that remained in disagreement at this point were deleted from the dataset. The resulting dataset contained responses from the 12 respondents listing assessment procedures for preschool and school-aged children, adolescents, and adults who stutter, along with codes identifying the specific aspects of the experience of stuttering that these procedures address.

Creating, Defining, and Verifying Themes

Author SB then combined the coded responses from all respondents into four spreadsheets (one for each age) and sorted the responses by assessment task/procedure. Then, the tasks specified by each respondent were sorted into the appropriate category or categories. Independent verification and validation of the categories were obtained by comparing the respondents' codes for each procedure with the category that it had been placed in. For example, we categorized the Self-Efficacy Scale for Adults who Stutter (SESAS) (Ornstein & Manning, 1985) as being a measure of *personal reactions to stuttering* and *situational and environmental factors*. We then searched the dataset and verified that respondents coded the SESAS as representing these two areas. If the verification revealed another possible code for the SESAS (for example), that categories was then added, as well.

This categorization and verification process led to the creation of seven categories that characterized the tasks and procedures used in stuttering assessment by the 12 participants. The categories were: Personal characteristics; Observer-reports of speech; Self-reports of speech; Personal reactions to stuttering; Environmental reactions to stuttering; Impact of stuttering; and Goals, planning, and outcomes. These seven categories were able to account for all tasks and procedures reported, across all four age groups. Spreadsheets, organized by age and containing all of the tasks/procedures mentioned (regardless of how frequently mentioned), and their corresponding categories, were then sent back to respondents for confirmation and clarification regarding the placement of assessment tasks and procedures within the categorizations/themes. Two respondents expressed reservations about some aspects of the categorizations, particularly the potential overlap between categories (potential overlap between categories was addressed in the next round of the iterative process), as well as questions about what aspects of stuttering the specific procedures might actually be assessing. At this stage the majority of respondents confirmed that the categorizations adequately and accurately accounted for the areas being assessed.

At this stage in the iterative evaluation process, it was clear that some assessment procedures were mentioned by a majority of the respondents, whereas other assessment procedures were less-frequently represented. To identify a core set of procedures that might be viewed as reflecting a consensus, we then sent the spreadsheets to the respondents and asked them to make three lists for each age group. The first list contained the tasks/procedures that the respondent considered to be *core assessments components* that they would always (or almost always) evaluate in an assessment. The second list contained tasks/procedures that the respondent considered to be *additional assessment components* that they felt were important to consider but which were not used with every client. The third list contained the tasks/procedures that the respondent used only *infrequently* or whose use they might question. Respondents were also asked to comment on the themes and to raise any questions or concerns that they had with the themes or tasks listed. These lists were created independently and returned to the first author, who anonymized them for group review. This stage of the iterative process led to some of the seven categories being combined. For example, observer- and self-reports of speech fluency were combined into the category *Speech Fluency and Stuttering Behavior*; personal characterstics and goals and planning were combined into *Stuttering-Related Background* *information*. An additional area was added that separated speech, language, and temperament evaluation into a separate category.

For the final round of review we created four consensus proposals, one for each age group, reflecting the *core assessment components* that participants highlighted. Respondents reviewed these documents, made final comments and corrections, and sent them back to the first author. They also sent copies of the case history questions that they typically used in stuttering assessment so that common topics addressed in case history forms could be identified. One final "respondent check" of the consensus document occurred during the process of preparing the manuscript. At that point, all respondents had the opportunity to review and, ultimately, agree upon the summary of common evaluation procedures. The iterative nature of the review process provided respondents with multiple opportunities for input and revision, as well as the opportunity to carefully consider both their own procedures as well as those recommended by others. This process conveys confidence that the resulting recommendations are well-reasoned and accurate reflections of what areas these experts think are important to assess when evaluating individuals who stutter.

RESULTS

When assessing stuttering there are three perspectives and sources of information to explore. These include the person who stutters, the family (including parents/caregivers and partners), and the clinician. It is the clinician's role to integrate this information from these sources and make recommendations.

Core Assessment Areas Identified by Consensus

Commonly used evaluation procedures and sample data related to stuttering that result from these evaluation procedures are shown in Appendices A through D for preschool children, school-age children, adolescents, and adults age, respectively. Inspection of the appendices reveals that there is a core set of areas that most respondents assess, including: (a) stuttering-related background; (b) speech, language, temperament, and related background information; (c) speech fluency and stuttering behavior; (d) reactions to stuttering by the speaker; (e) reactions to stuttering by people in the speaker's environment; and (f) adverse impact associated with stuttering. This is in addition to more general or non-stuttering-related information that clinicians may wish to collect due to other diagnoses or unique situations, though these aspects of assessment were not analyzed in this stuttering-focused project.

Importantly, the procedures described by respondents were directly related to their goals for the assessment and treatment, which included identifying or verifying the diagnosis of stuttering, determining the appropriateness for treatment, and exploring the direction that treatment might take. The following sections provide general information about these core areas; readers are encouraged to view the specific suggestions for assessment procedures and examples of resulting data as shown in the Appendices.

Area 1: Stuttering-Related Background Information

The first core area identified by respondents is extensive *stuttering-related background information* about the person who stutters and their experiences related stuttering, their major concerns, and their goals for treatment. This background information is obtained most frequently via detailed case history forms and interviews with relevant individuals in the speaker's life. Depending upon the speaker's age, these relevant individuals may include parents, teachers, and other caregivers; significant others; and the speaker themselves. A key components of this process involves giving the client and family members opportunities to answer open-ended questions that allow them to discuss the problems that they may be experiencing and to explore what they would like to gain from the assessment.

Area 2: Speech, Language, Temperament, and Related Background Information

The second core area that reflected strong consensus is the assessment of various aspects of *speech, language, and temperament development.* Respondents indicated that these should routinely be assessed in preschool and school-aged children who stutter; these assessments were recommended to occur only as needed in adolescent and adult clients. There are many methods available to obtain this information, including standardized tests of speech sound development or language, temperament questionnaires for different age groups; direct clinician observation of the client; and interviews with parents and the child or adolescent themselves.

Area 3: Speech Fluency and Stuttering Behavior

The third core assessment area identified by respondents is *speech fluency and stuttering behavior*. Because stuttering is highly variable (Constantino et al., 2016; S.E. Tichenor & Yaruss, 2021), it is important to obtain multiple speech samples across speaking tasks and settings, to determine the nature and the severity of observable stuttering behaviors. Clients can also be asked to rate their severity of stuttering across different situations and settings. Essentially, this part of the assessment seeks to determine whether the speaker is demonstrating observable stuttering behavior and what the speaker does when they stutter. Respondents highlighted the importance of obtaining observations from caregivers, family members, and speakers regarding their perceptions of how stuttering varies across situations (Seth E. Tichenor & Yaruss, 2020). For older clients, the value of speaker self-ratings of severity was emphasized (Guntupalli et al., 2006; Huinck & Rietveld, 2007; Ingham & Cordes, 1997; O'Brian et al., 2004). Again, there are many ways to assess speech fluency and stuttering behavior, including standardized tests, clinician-created rating forms, and severity ratings associated with various stuttering treatment programs; several specific examples are provided in the Appendices.

Interestingly, although there was overall consensus that speech fluency and stuttering behavior should be assessed, there was little consensus about exactly *how* that should be accomplished. For example, only a couple of respondents recommended each specific procedures or test, and no one procedure for assessing speech fluency and stuttering behavior was preferred by the majority of respondents. This suggests that clinicians have flexibility in how they might go about assessing speech fluency and stuttering behavior, though it also highlights a general lack of consensus about the nature of stuttering and its definition (see Bloodstein, et al. 2021).

Area 4: Speakers' Reactions to Stuttering

The fourth core area is the child, adolescent, or adult speaker's *reactions* to stuttering and how those reactions influence communication interaction and confidence. This area also includes exploration of awareness, anticipation, and avoidance, and discussion of coping strategies that have proven successful or unsuccessful in the past. Whereas examining fluency and observable stuttering behaviors (Area 3) relates to what speakers do *when* they stutter, examining reactions to stuttering can also be thought of in terms of what speakers do *because* they stutter (Manning & DiLollo, 2018). This type of information can be obtained via published self-report measures as well as via interview and observation.

Area 5: Reactions to Stuttering within the Environment

The fifth core area involves gaining insight into the speaker's *environment* and how it influences stuttering behavior and the experience of stuttering. Relevant individuals in the environment include family members, teachers, and peers (Beilby et al., 2013; Svenning et al., 2021). Respondents indicated that it is valuable to learn how other people react to the speaker's stuttering and how they have attempted to help the speaker. Inquiries about bullying are also appropriate for school-aged and adolescent clients, and questionnaires are available for this purpose. Questions regarding situations in which speaking is more or less difficult, or where stuttering severity is greater or lesser, can also fall under this area.

Area 6: Adverse Impact Associated with Stuttering

The sixth core area that reflected consensus across respondents is the presence of any *adverse impact* that stuttering has on a speaker's communication, education, employment, and quality of life. As with the other core areas of assessment, the respondents indicated that they use a variety of measures and methods to gather this information, including interview, observation, and the use of standardized tests. This domain of assessment be viewed in terms of how stuttering affects a person's life, including the choices and decisions that they might make or have made (or not) because of their stuttering—or because of their reactions or other people's reactions to stuttering. Thus, this aspect of assessment is designed to gather information about the *consequences* of living with stuttering.

Other Areas

There were a few clinical observations and testing procedures that were mentioned by a small number respondents but used only rarely or not at all by others. Examples include testing for adaptation and consistency, stimulability, and trial treatment. Because of limited consensus about these potential components of the assessment process, they are not further detailed in this paper.

DISCUSSION

This project was designed to identify specific strategies for assessing individuals who stutter across the lifespan that represent the consensus opinion and practices of established experts. Input was sought from a group of 12 clinicians and researchers from five countries whose prior writings suggested that the group as a whole would reflect a variety of perspectives and opinions about stuttering. The consensus process followed the principles of thematic analysis, with the goal of ensuring that core assessment areas were identified in a bottom-up, organic manner that reflected the opinions of the group. Throughout the project, the developing list of core assessment areas and procedures was refined and confirmed through an iterative process that gave all respondents the opportunity to clarify and revise their input until they expressed agreement with the representation of their recommended procedures.

Core Assessment Areas for Evaluating Stuttering and People Who Stutter

The resulting set six core assessment areas are: (1) *stuttering-related background information;* (2) *speech, language, temperament, and related background information;* (3) *speech fluency and stuttering behavior;* (4) *the speaker's reactions to stuttering;* (5) *the reactions to stuttering of those in the speaker's environment;* and (6) *adverse impact associated with stuttering.* As summarized in Appendices A through D, these areas reflect the main content or topic areas that these expert respondents consider in developing assessment plans. Examples of specific assessment tools or procedures that respondents use to assess each area are also provided in the Appendices.

The results of this project provide some important insights into the assessment practices of clinicians and researcher with expertise in stuttering who represent a wide range of theoretical and empirical viewpoints. Regardless of those differences, it was clear that these respondents do share some commonalities in their approaches to assessment with persons who stutter. As reflected in the six core areas, all respondents consider background information (Areas 1 and 2); speech behavior (Area 3); the reactions of the speaker and of other people (Areas 4 and 5); and the combined impact of these components on the life of the speaker who stutters (Area 6).

Another way of viewing the commonalities in the various recommendations of the respondents is through the lens of the World Health Organization's *International Classification of Functioning, Disability, and Health* (ICF) model (World Health Organization, 2001). The ICF describes the experience of conditions such as stuttering in terms of body function and structure, activities and participation, and personal and environmental context. Mapping the core areas identified in this study to the components of the ICF reveals that all respondents recommended assessment of factors related to body function and structure (Areas 1, 2, 3), personal context (Area 4), environmental context (Area 5), and activities and participation (Area 6). This congruence is not surprising, given that the ICF was developed to provide a comprehensive view of conditions such as stuttering (Seth E. Tichenor & Yaruss, 2019; Yaruss & Quesal, 2004). Still, it is notable that these expert clinicians and researchers independently and collectively recommended assessment areas that align with this widely used model for describing life experiences. This highlights the importance of taking a broad view of stuttering and recognizing that the experience of stuttering involves more than just the production of stuttered speech.

The Importance of Individualized Assessment

Although several components of the assessment process were highlighted, all experts repeatedly emphasized throughout this project that their selection of specific assessment areas and tools or procedures must be *individualized* and tailored to each client's or family's unique needs. Specific assessment plans must consider each client's experience with stuttering, and the weighting of each component of the assessment (and, if indicated, the resulting treatment) must be guided by information provided by speakers and their families. All respondents also emphasized that assessment should lead to mutually agreed-upon goals for treatment and a jointly determined definition of what will constitute a positive treatment outcome.

The assessment tasks and procedures presented here are meant as a *guide* for clinicians who are working with persons who stutter and their families. Depending on each individual clinician's work setting, it may not be possible or practical to complete all of the tasks mentioned. Instead, the results from this study and consensus panel should be viewed as a high-level overview of *areas to consider* when clinicians carry out an assessment with a person who stutters. Our recommendation is for clinicians to try to complete at least one measure from each core area of assessment that appears to be relevant for a particular client. Doing so will give clinicians a broader understanding of a client's experience of stuttering. It will also help the clinician identify areas that may need to be addressed through treatment and make it possible for the clinician to flexibly document multiple types of treatment outcomes.

We wish to highlight some key considerations that clinicians should take into account in their assessments. First, the focus of this consensus effort was to identify areas that might be assessed in a clinical evaluation of stuttering, but a clinical perspective is not the only way to approach stuttering. A growing number of people who stutter and practitioners are also starting to view stuttering from a social rather than a medical model of disability (Bailey et al., 2015; Campbell et al., 2019). From such a viewpoint, an assessment might focus less on the difficulties experienced by the person who stutters and more on the mismatch between the person who stutters and the communication environment. Certainly, the role of the environment was one of the core assessment areas identified by our expert respondents. However, our field is still learning how to address stuttering (and other differences) within a social framework, and it is not yet clear how the evaluation of stuttering might be viewed from this perspective.

Regardless of the viewpoint that one takes about the nature of stuttering, and regardless of the age of the speaker, the person who stutters must be a critical contributor to the assessment process, in part because people who stutter may have widely differing experiences (S. E. S. E. Tichenor & Yaruss, 2019) and because they will know best what goals they seek (Bothe & Richardson, 2011; Sønsterud et al., 2020). They know themselves and their stuttering best; they therefore have important insights about their stuttering that must be taken into account during the analysis of assessment results and in the development of intervention plans. Finally, results from this study demonstrate clearly that a well-rounded assessment of individuals who stutter must consider more than just speech fluency or observable stuttering. This involves measuring the speaker's affective, behavioral, and cognitive reactions to stuttering, as well as the extent of the impact that stuttering has on the speaker's life and the role that the environment plays in the speaker's experiences of stuttering. It can also be useful to assess the impact of stuttering on a speaker's family members (Adriaensens et al., 2017; Beilby, 2014). Because assessments are individualized and tailored to each client's needs, each of the six core areas that we identified may not receive "equal weight" in every assessment. The specific assessment plan will necessarily depend upon each client's lived experience with stuttering, and the weighting of each component of the assessment (and, if indicated, the resulting treatment) will be guided by information provided by speakers and their families. Ultimately, the assessment process should lead to mutually agreed-upon goals for treatment and a jointly determined definition of what will constitute a positive treatment outcome.

Limitations and Future Directions

The purpose of this project was to identify common components and procedures that might be used in a comprehensive evaluation of stuttering and people who stutter based on input from experts with a range of viewpoints and perspectives about stuttering. Still, it was not possible to include all possible viewpoints. Thus, there are likely to be some expert clinicians or researchers who would advocate for different assessment components or procedures. This is especially likely to be true with respect to specific tests or measures that different individuals might collect. In the Appendices, we have endeavored to provide examples of tests and measures that reflect each of the difference components of the broader assessment process, but readers are encouraged to recognize that different authorities might make different choices for these tests. Fortunately, the broad consensus that we achieved in this study suggests that the key aspects of the assessment process have been successfully identified, but future research may help to further clarify details about the specific core areas that clinicians can evaluate or the specific tests and procedures that they might employ. In the meantime, the common areas identified across these expert respondents provide a comprehensive framework and starting point for clinicians seeking to design assessment sessions with persons who stutter. Clinicians--regardless of their amount of training in stuttering--might plan assessment sessions by considering whether each of the six core areas identified in this project is relevant for the particular client.

Future research can also address remaining challenges facing clinicians who work with people who stutter, such as how to define and measure stuttering severity and how severity might relate to the experience or impact of stuttering, how listener-based measures of the experiences or behaviors related to stuttering might relate to speaker-based measures, and how the results of the assessment relate to treatment planning. Meanwhile, the common areas identified across these expert respondents provide a framework and starting point for clinicians seeking to design comprehensive assessment sessions with persons who stutter.

Conclusion

Despite various philosophical differences in how people perceive stuttering, the 12 expert clinicians and researchers who participated in this study were able to identify a set of common areas that should be considered in a comprehensive assessment of stuttering. It is our hope that the convergence of opinions across these 12 experts will help other clinicians to feel more confident that they are using appropriate methods in their work with individuals who stutter across the lifespan. While differences and questions certainly remain, the authors and respondents share a continued hope that our field can continue to improve the individualized, holistic options we can offer to people who stutter and their families. Consensus regarding a comprehensive assessment that examines a variety of key aspects of the experience of stuttering is a valuable and meaningful place to start.

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Appendix A
Early Childhood Stuttering Assessment (ages ~2 to ~6)

Commonly recommended procedures and sample data to be collected for six core areas of assessment for young children who stutter, ages approximately 2 to 6.

Evaluation Procedures

- Case history forms for the caregivers, including parents, teachers, and other family members, as appropriate
- Interviews with the child and caregivers
- Observation of caregiver/child interaction
- Observation of the child's speech in various speaking situations
- Screening and testing, as needed, of the child's language, speech, temperament, hearing, and related abilities
- Observation and testing of the child's speech fluency and stuttering behavior, reactions to stuttering, and impact of stuttering
- Risk factor analysis (examining data from various aspects of the assessment to hypothesize about child's risk for continuing to stutter)[1]

Sample Data for Area 1: *Stuttering-Related Background Information*

- Caregivers' view of the problem in general and main concerns
- Caregivers' report of concomitant concerns and other diagnoses
- Caregivers' report about the development of stuttering, including family history of persistence and recovery, time since onset and developmental course, and other speech or language issues
- Caregivers' perceptions of prior therapy for stuttering or other concerns
- Caregivers' knowledge and experiences related to stuttering, including beliefs about causal, eliciting, and reinforcing factors for stuttering (e.g., Palin Parent Rating Scales [Palin PRS][2])
- Caregivers' goals for stuttering treatment (e.g., Solution-Focused Brief Therapy [SBFT][3] scaling)
- Child's perceptions and current knowledge about stuttering
- Child's readiness for change and goals for treatment (e.g., SBFT scaling)
- Assessment and progress reports from prior treatment, if applicable

Sample Data for Area 2: *Speech, Language, Temperament, and Related Background Information*

- Caregiver's views about the child's development, including cognitive and social-emotional development, behavior, self-regulation abilities, perfectionistic tendencies, and coping skills
- Clinician's observations of the child's communication and related skills
- Scores on screenings and tests, as needed, of child's language development, speech sound production skills, and temperament (e.g., *Child Behavior Checklist* [CBCL][4], *Child Behavior Questionnaire* [CBQ][5])
- Scores on screenings and tests of related factors, including anxiety (e.g., *Spence Children's Anxiety Scale*[6]), as appropriate

Sample Data for Area 3: *Speech Fluency and Stuttering Behavior*

- Caregivers' observations and perceptions of fluency and stuttering, including types of disfluencies, physical tension, secondary characteristics, and severity (e.g., Palin PRS, Severity Ratings [SR][7])
- Caregivers' observations and perceptions of and factors that affect fluency and stuttering in various speaking situations
- Child's perceptions and self-ratings of speech, fluency, and stuttering, including types of disfluencies, physical tension, secondary characteristics, and severity, in various speaking situations, as possible based on child's cognitive development
- Clinician's data on speech, fluency, and stuttering (e.g., frequency / percent of syllables stuttered [%SS], type, duration, and severity (e.g., SEV[8]) of disfluencies; physical tension; speaking rate; naturalness[9]; other speech characteristics) in different situations
- Scores on tests and measures of speech fluency and stuttering (e.g., S*tuttering Severity Instrument* [SSI][10], *Test of Childhood Stuttering* [TOCS][11])

Sample Data for Area 4: *Child's Reactions to Stuttering*

- Caregivers' observations of child's affective, behavioral, and cognitive reactions to stuttering (e.g., embarrassment, anxiety, shame, fear, avoidance, word substitution)
- Child's report of reactions to stuttering and coping responses
- Scores on tests of child's reactions to stuttering and attitudes about communication (e.g., KiddyCAT[12])

Sample Data for Area 5: *Reactions to Stuttering Within the Environment*

- Caregivers' reactions to stuttering, degree of concern about stuttering, satisfaction with the child's communication, perceptions of how stuttering impacts the caregivers and family (e.g., Palin PRS)
- Caregivers' observations of the reactions of others, including peers and family members

Sample Data for Area 6: *Adverse Impact Associated with Stuttering*

- Caregivers' perceptions of whether and how much stuttering affects the child's willingness or ability to speak, participation in social and educational activities, and quality of life. (e.g., Palin PRS)
- Child's perceptions of whether and how much stuttering affects willingness or ability to speak, participation in social and educational activities, quality of life

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Appendix B
School-Age Stuttering Assessment (ages ~6 to ~12)

Commonly recommended procedures and sample data to be collected for six core areas of assessment for school-age children who stutter, ages approximately 6 to 12.

Evaluation Procedures

- Case history forms for the child and caregivers, including parents, teachers, and other family members, as appropriate
- Interviews with the child and caregivers
- Observation of caregiver/child interaction
- Observation of the child's speech in various speaking situations
- Screening and testing, as needed, of the child's language, speech, temperament, hearing, and related abilities
- Observation and testing of the child's speech fluency and stuttering behavior, reactions to stuttering, and impact of stuttering

Sample Data for Area 1: *Stuttering-Related Background Information*

- Caregivers' view of the problem in general and main concerns
- Caregivers' report of concomitant concerns and other diagnoses
- Caregivers' report about the development of stuttering, including family history of persistence and recovery, time since onset and developmental course, and other speech or language issues
- Caregivers' perceptions of prior therapy for stuttering or other concerns
- Caregivers' knowledge and experiences related to stuttering, including beliefs about causal, eliciting, and reinforcing factors for stuttering (e.g., *Palin Parent Rating Scales* [Palin PRS][1])
- Caregivers' goals for stuttering treatment (e.g., Solution-Focused Brief Therapy [SBFT][2] scaling)
- Child's perceptions and current knowledge about stuttering
- Child's perceptions of prior therapy for stuttering or other concerns
- Child's level of concern, readiness for change, and goals for treatment (e.g., SBFT scaling)
- Assessment and progress reports from prior treatment, if applicable

Sample Data for Area 2: *Speech, Language, Temperament, and Related Background Information*

- Caregiver's views about the child's development, including cognitive and social-emotional development, behavior, self-regulation abilities, perfectionistic tendencies, and coping skills
- Clinician's observations of the child's communication and related skills
- Scores on screenings and tests, as needed, of child's language development, speech motor skills, speech sound production skills, and temperament (e.g., *Child Behavior Checklist* [CBCL][3])
- Scores on screenings and tests of related factors, including anxiety (e.g., *Spence Children's Anxiety Scale*[4]), as appropriate

Sample Data for Area 3: *Speech Fluency and Stuttering Behavior*

- Caregivers' observations and perceptions of fluency and stuttering, including types of disfluencies, physical tension, secondary characteristics, and severity (e.g., Palin PRS[1])
- Caregivers' observations and perceptions of and factors that affect fluency and stuttering in various speaking situations
- Child's perceptions and self-ratings of speech, fluency, and stuttering, including types of disfluencies, physical tension, secondary characteristics, and severity, in various speaking situations
- Clinician's data on speech, fluency, and stuttering (e.g., frequency / percent of syllables stuttered [%SS], type, duration, and severity (e.g., SEV[5]) of disfluencies; physical tension; speaking rate; naturalness[6]; other speech characteristics) in different situations
- Scores on tests and measures of speech fluency and stuttering (e.g., *Speech Situation Checklist-Speech Disruption* [SSC-SD][7], S*tuttering Severity Instrument* [SSI][8], *Test of Childhood Stuttering* [TOCS][9])

Sample Data for Area 4: *Child's Reactions to Stuttering*

- Caregivers' observations of child's affective, behavioral, and cognitive reactions to stuttering (e.g., embarrassment, anxiety, shame, fear, avoidance, word substitution)
- Child's report of reactions to stuttering and coping responses
- Child's use of speech and stuttering management strategies
- Scores on tests of child's reactions to stuttering and attitudes about communication (e.g., *Behavior Checklist* [BCL][6], *Communication Attitudes Test* [CAT][6], *Speech Situation Checklist-Emotional Response* [SSC-ER][6], *Overall Assessment of the Speaker's Experience of Stuttering-School-Age* [OASES-S][10])

Sample Data for Area 5: *Reactions to Stuttering Within the Environment*

- Caregivers' reactions to stuttering, degree of concern about stuttering, satisfaction with the child's communication, perceptions of how stuttering impacts the caregivers and family (e.g., Palin PRS)

- Caregivers' observations of the reactions of others, including peers and family members
- Child's perception of the reactions of others (e.g., experience of bullying)

Sample Data for Area 6: *Adverse Impact Associated with Stuttering*

- Caregivers' perceptions of whether and how much stuttering affects the child's willingness or ability to speak, participation in social and educational activities, and child's quality of life. (e.g., Palin PRS)
- Child's perceptions of whether and how much stuttering affects willingness or ability to speak, participation in social and educational activities, quality of life
- Scores on tests of adverse impact and quality of life (e.g., BCL, OASES-S)

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Appendix C
Adolescent Stuttering Assessment (ages ~13 to ~18)

Commonly recommended procedures and sample data to be collected for six core areas of assessment for adolescents who stutter, ages approximately 13 to 18.

Evaluation Procedures

- Case history forms for the adolescent and caregivers, including parents, teachers, and other family members, as appropriate
- Interviews with the adolescent and caregivers
- Observation of the adolescent's speech in various speaking situations
- Screening and testing, as needed, of the adolescent's language, speech, temperament, hearing, and related abilities
- Observation and testing of the adolescent's speech fluency and stuttering behavior, reactions to stuttering, and impact of stuttering

Sample Data for Area 1: *Stuttering-Related Background Information*

- Caregivers' view of the problem in general and main concerns
- Caregivers' report of concomitant concerns and other diagnoses
- Caregivers' report about the development of stuttering, including family history of persistence and recovery, time since onset and developmental course, and other speech or language issues as relevant
- Caregivers' perceptions of prior therapy for stuttering or other concerns
- Caregivers' knowledge and experiences related to stuttering, including beliefs about causal, eliciting, and reinforcing factors for stuttering (e.g., *Palin Parent Rating Scales* [Palin PRS][1])
- Caregivers' goals for stuttering treatment (e.g., Solution-Focused Brief Therapy [SBFT][2] scaling)
- Adolescent's perceptions and current knowledge about stuttering
- Adolescent's perceptions of prior therapy for stuttering or other concerns
- Adolescent's degree of concern, readiness for change, and goals for treatment (e.g., SBFT scaling)
- Assessment and progress reports from prior treatment, if applicable

Sample Data for Area 2: *Speech, Language, Temperament, and Related Background Information*

- Caregiver's views about the adolescent's development, including cognitive and social-emotional development, behavior, and coping skills

- Clinician's observations of the adolescent's communication and related skills
- Scores on screenings and tests, as needed, of child's language development, speech sound production skills, and temperament (e.g., *Child Behavior Checklist* [CBCL][3])
- Scores on screenings and tests of related factors, including anxiety (e.g., *Spence Children's Anxiety Scale*[4]), as appropriate

Sample Data for Area 3: *Speech Fluency and Stuttering Behavior*

- Caregivers' observations and perceptions of fluency and stuttering, including types of disfluencies, physical tension, secondary characteristics, factors affecting variability and severity in different speaking situations (e.g., Palin PRS[1])
- Adolescent's perceptions and self-ratings of speech, fluency, and stuttering, including types of disfluencies, physical tension, secondary characteristics, factors affecting variability and severity, in various speaking situations
- Clinician's data on speech, fluency, and stuttering (e.g., frequency / percent of syllables stuttered [%SS], type, duration, and severity (e.g., SEV[5]) of disfluencies; physical tension; speaking rate; naturalness[6]; other speech characteristics) in different situations
- Scores on tests and measures of speech fluency and stuttering (e.g., *Speech Situation Checklist-Speech Disruption* [SSC-SD][7], *Stuttering Severity Instrument* [SSI][8])

Sample Data for Area 4: *Adolescent's Reactions to Stuttering*

- Caregivers' observations of child's affective, behavioral, and cognitive reactions to stuttering (e.g., embarrassment, anxiety, shame, fear, avoidance, word substitution)
- Adolescent's report of reactions to stuttering and coping responses
- Adolescent's use of speech and stuttering management strategies
- Situational speech-related anxiety hierarchy / avoidance hierarchy
- Scores on tests of adolescent's reactions to stuttering and attitudes about communication (e.g., *Behavior Checklist* [BCL][6], *Communication Attitudes Test* [CAT][6], *Speech Situation Checklist-Emotional Response* [SSC-ER][6], *Overall Assessment of the Speaker's Experience of Stuttering-Teen* [OASES-T][9])

Sample Data for Area 5: *Reactions to Stuttering Within the Environment*

- Caregivers' reactions to stuttering, degree of concern about stuttering, satisfaction with the child's communication, perceptions of how stuttering impacts the caregivers and family (e.g., Palin PRS)
- Caregivers' observations of the reactions of others, including peers and family members
- Adolescent's perception of the reactions of others (e.g., experience of bullying)

Sample Data for Area 6: *Adverse Impact Associated with Stuttering*

- Caregivers' perceptions of whether and how much stuttering affects the child's willingness or ability to speak, participation in social and educational activities, and child's quality of life. (e.g., Palin PRS)
- Adolescent's perceptions of whether and how much stuttering affects willingness or ability to speak, participation in social and educational activities, quality of life
- Scores on tests of adverse impact and quality of life (e.g., BCL, OASES-T)

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Appendix D
Adult Stuttering Assessment (ages ~18 and up)

Commonly recommended procedures and sample data to be collected for six core areas of assessment for adults who stutter, ages approximately 18 and above.

Evaluation Procedures

- Case history forms for the adult and significant others, as appropriate
- Interviews with the adult and significant others, as appropriate
- Observation of the adult's speech in various speaking situations
- Observation and testing of the adult's speech fluency and stuttering behavior, reactions to stuttering, and impact of stuttering

Sample Data for Area 1: *Stuttering-Related Background Information*

- Adult's report of stuttering onset and relevant history
- Adult's perceptions and current knowledge about stuttering
- Adult's perceptions of prior therapy for stuttering or other concerns
- Adult's readiness for change and goals for treatment (e.g., Solution-Focused Brief Therapy [SBFT][1] scaling)
- Adult's current goals for therapy
- Assessment and progress reports from prior treatment, if applicable

Sample Data for Area 2: *Speech, Language, Temperament, and Related Background Information*

- Clinician's observations of the adult's communication and related skills
- Scores on screenings and tests of related factors, including Fear of Negative Evaluation (FNE[2]), Self-Efficacy Scaling for Adults who Stutter (SESAS)[3] as appropriate

Sample Data for Area 3: *Speech Fluency and Stuttering Behavior*

- Adult's perceptions and self-ratings of speech, fluency, and stuttering, including types of disfluencies, physical tension, secondary characteristics, factors affecting variability, and severity in various speaking situations
- Clinician's data on speech, fluency, and stuttering (e.g., frequency / percent of syllables stuttered [%SS], type, duration, and severity (e.g., SEV[4]) of disfluencies; physical tension; speaking rate; naturalness[5]; other speech characteristics) in different situations
- Scores on tests and measures of speech fluency and stuttering (e.g., *Speech Situation Checklist-Speech Disruption* [SSC-SD][6], *Stuttering Severity Instrument* [SSI][7])

Sample Data for Area 4: *Adult's Reactions to Stuttering*

- Adult's report of reactions to stuttering and coping responses
- Adult's use of speech and stuttering management strategies
- Situational speech-related anxiety hierarchy / avoidance hierarchy
- Scores on tests of adult's reactions to stuttering and attitudes about communication (e.g., *Behavior Checklist* [BCL][5], *Communication Attitudes Test* for Adults [BigCAT][5], *Speech Situation Checklist-Emotional Response* [SSC-ER][5], *Overall Assessment of the Speaker's Experience of Stuttering-Teen* [OASES-A][8], *Self-Stigma of Stuttering Scale* [4S][9], *Unhelpful Thoughts and Beliefs about Stuttering [UTBAS-6]*[10], *Wright-Ayer Stuttering Self-Rating Profile* [WASSP][11])

Sample Data for Area 5: *Reactions to Stuttering Within the Environment*

- Significant others' reactions to stuttering and perceptions about how stuttering affects both the speaker and themselves
- Speaker's perceptions of the reactions of others (e.g., experience of discrimination)

Sample Data for Area 6: *Adverse Impact Associated with Stuttering*

- Speaker's perceptions of whether and how much stuttering affects willingness or ability to speak, participation in social and educational activities, quality of life
- Scores on tests of adverse impact and quality of life (e.g., BCL, OASES-A, WASSP)

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