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# My Client Knows That He's About to Stutter: How Can We Address Stuttering Anticipation during Therapy with Young People Who Stutter?

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## ABSTRACT

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Stuttering anticipation is endorsed by many people who stutter as a core aspect of the stuttering experience. Anticipation is primarily a covert phenomenon and people who stutter respond to anticipation in a variety of ways. At the same time as anticipation occurs and develops internally, for many individuals the “knowing” or “feeling” that they are about to stutter is a primary contributor to the chronicity of the disorder. In this article, we offer a roadmap for both understanding the phenomenon of anticipation and its relevance to stuttering development. We introduce the *Stuttering Anticipation Scale* (SAS)—a 25-item clinical tool that can be used to explore a client’s internal experience of anticipation to drive goal development and clinical decision making. We ground this discussion in a hypothetical case study of “Ryan,” a 14-year-old who stutters, to demonstrate how clinicians might use the SAS to address anticipation in therapy with young people who stutter.

**KEYWORDS:** Stuttering, anticipation, Stuttering Anticipation Scale, clinical decision making, stuttering treatment

**Learning Outcomes:** As a result of this activity, the reader will be able to (1) define stuttering anticipation and discuss its clinical relevance; (2) identify anticipation and responses to it in young people who stutter; (3) evaluate anticipation in young people who stutter using the Stuttering Anticipation Scale (SAS); and (4) implement (at least) three strategies that target anticipation in young people who stutter.

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Our charge for this special issue was to pose a question commonly asked by speech–language pathologists (SLPs) at stuttering conferences and to develop a response. We decided to take a different route in that we chose a question that should be asked as part of every stuttering assessment protocol: Do you know that you are going to stutter before you actually do? This question probes the primarily covert phenomenon of stuttering anticipation (from here, *anticipation*), which for many of our clients is an integral part of the stuttering experience. Because it frequently leads to unobservable behavioral consequences, anticipation can be difficult to identify, measure, and target in therapy. And, at the same time as it occurs below the surface, for many people the “knowing” or “feeling” that they are about to stutter is a primary contributor to the chronicity of the disorder.

In this article, we argue for the relevance of anticipation in the diagnosis and treatment of stuttering, and present ways in which clinicians can access and address the phenomenon with their clients who stutter. We begin with a description of the nature of anticipation and how it impacts people who stutter. Next, we present data that demonstrate the pervasiveness of anticipation in children who stutter (CWS) and provide a clinical tool, based on those data, to assist clinicians in identifying anticipation and responses to it. Finally, we use a case study to illustrate clinical decision-making strategies for addressing anticipation in therapy.

### WHAT IS ANTICIPATION AND WHY DOES IT MATTER?

Anticipation is the cognitive sense that a moment of overt stuttering is imminent, given that speech is initiated as planned (e.g., without delaying, stalling, circumlocuting). Implicit in this definition is the assumption that stuttering events begin *before* stuttering behaviors overtly manifest themselves as repetitions, audible/in audible sound prolongations (or “blocks”), and/or avoidance. This view has its roots in the so-called Iowa Approach hallmarked by Johnson and Williams—that overt stuttering events are responses to some (presently unknown) underlying impairment.<sup>1,2</sup> More

specifically, anticipation can be described as one’s awareness that something has already gone wrong in the speech–language planning and/or production system. From this perspective, the speaker who anticipates stuttering has a choice; he can choose to ignore this awareness and continue speaking in the way he originally planned, or he can react to it by delaying, stalling, or substituting or rearranging words (i.e., circumlocuting) to avoid overtly stuttering in that moment.

Anticipation occurs on varying timescales, from short-term, momentary anticipation to a longer-term, looming sense of impending stuttering.<sup>3,4</sup> Short-term anticipation is more specific and focused, as when a person *knows* that she is going to stutter on the first sound or syllable of her name when asked. Longer-term anticipation is less specific, as when a person who is preparing to give a speech knows that he is going to stutter but does not know the particular word/syllable on which stuttering will occur.

Knowing that one is about to stutter is often closely associated in time with autonomic nervous system arousal (i.e., the fight or flight reaction), and ultimately results in either speech-specific or more global anxiety. Over time, while anticipation and anxiety can co-occur, they remain separate but interdependent processes. That is, anticipation involves awareness on a cognitive level (e.g., knowing that something has broken down in the system), whereas anxiety is an emotional response to anticipation, which includes learned negative associations with certain sounds, syllables, or words.<sup>5</sup> Ultimately, these associations likely trigger the physiological changes in autonomic nervous system activity that have been shown to precede moments of stuttering and include changes in heart rate,<sup>6,7</sup> elevated skin conductance,<sup>7,8</sup> and longer visual fixations.<sup>9,10</sup>

If one considers that anticipation is not just salient to the overall experience of stuttering but also a source of attempts to prevent or “hide” moments of stuttering (i.e., alter speech in some way as to make stuttering covert), then it follows that clinicians should attempt to understand its place in the constellation of cognitive, affective, and behavioral factors that comprise stuttering. As SLPs, we are trained to focus on the observable speech behaviors that characterize stuttering (i.e.,

sound and syllable repetitions and prolongations) and use them as diagnostic markers and indicators for clinical decision making. If anticipation and a speaker's subsequent response lead to more covert stuttering, then relying too heavily on observable behaviors for these purposes can lead to an underestimation of the frequency of stuttering events and the weight of the internal experience of stuttering.

### **HOW OFTEN DO PEOPLE WHO STUTTER ANTICIPATE STUTTERING?**

Early research showed that adults who stutter (AWS) predicted occurrences of overt stuttering with high accuracy (>85%).<sup>11-13</sup> However, using prediction as a proxy for measuring anticipation may underestimate the extent of anticipation because (1) there may not always be enough time to overtly indicate that stuttering is imminent during continuous speech production and (2) the act of predicting itself may change behavior thereby reducing overt stuttering. More recently, Jackson et al.<sup>3</sup> used subjective measures to determine the extent of anticipation in AWS using a five-point Likert scale. All 30 AWS in that sample reported experiencing anticipation at least "sometimes," and nearly 80% reported experiencing anticipation "often" or "always," suggesting that most, if not all, AWS anticipate stuttering at least some of the time. Generally, there seems to be a renewed interest over the past few years in studying anticipation as a critical component of stuttering and the stuttering experience in AWS.<sup>14-17</sup>

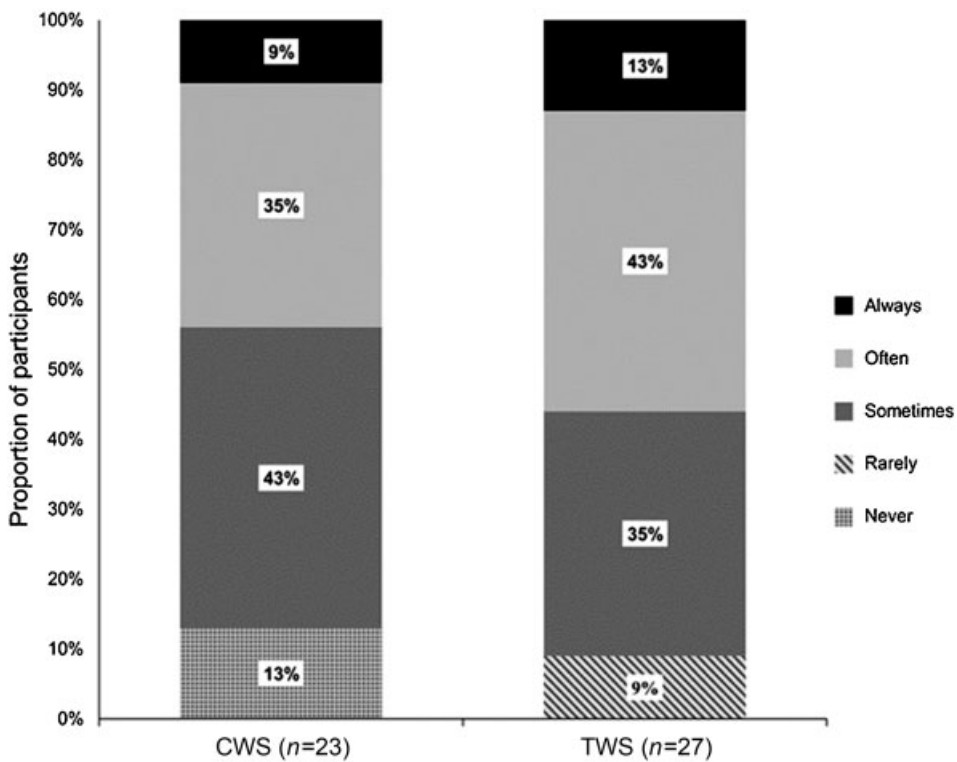
There is limited evidence of anticipation in CWS. Early work showed that 45% of 10- to 11-year-olds and 38% of 8- to 9-year-olds reported anticipating "sometimes,"<sup>18</sup> suggesting that as a group, CWS also anticipate stuttering but less so than AWS. It is likely, however, that these results underestimate the extent of anticipation in CWS. For example, in some cases, children may lack the necessary awareness to identify that they are anticipating stuttering—that is, a child may not "know what they know" until they are required to examine it. In an earlier study, we assessed anticipation in CWS and teenagers who stutter (TWS). Using the same approach as Jackson et al.,<sup>3</sup> we asked participants to estimate

how often they anticipate stuttering using a five-point Likert scale. Our preliminary data indicated that the vast majority of CWS ( $n = 20/23$ ) and TWS ( $n = 25/27$ ) anticipate stuttering at least "sometimes." Fig. 1 shows the proportion of CWS and TWS who anticipated stuttering "never," "rarely," "sometimes," "often," and "always."

To explore the impact of anticipation on people who stutter, Jackson et al.<sup>3</sup> conducted a qualitative analysis of the different ways in which AWS report that they respond to anticipation. Stalling or hesitating while speaking was a common response, along with attempting to use a therapy strategy (e.g., easy or smooth speech initiation), looking away from their conversational partner, or circumlocuting. Interestingly, study participants characterized anticipation as being both harmful and helpful. For example, it was endorsed that anticipation can be harmful when it leads to anxiety, freezing, and avoidance, but helpful when it elicits use of a therapy strategy perceived as productive (e.g., disclosure, easy onset). Thus, a reasonable therapeutic goal is to support adaptive and minimize maladaptive responses to anticipation, considering the client's values and readiness to change when selecting target behaviors. To facilitate clinician insight into their clients' experiences with anticipation, particularly how they respond to anticipation, we developed a clinical tool that can be used to help guide joint decision making about therapeutic goals related to anticipation.

### **THE STUTTERING ANTICIPATION SCALE**

The Stuttering Anticipation Scale (SAS; Appendix A) is a clinical tool that provides a measure of anticipation in both a global sense and related to specific behaviors produced in response to anticipation. As shown in Appendix A, the SAS begins with a brief description of anticipation to ensure a common understanding of the construct. Next, the client is asked for a global estimate of how often he anticipates stuttering, using a five-point Likert scale (never, rarely, sometimes, often, always). The 25 questions that follow are based on the 25 most common responses to anticipation from Jackson et al.<sup>3</sup> For example, 80% of the participants from



**Figure 1** Proportion of children who stutter (CWS) and teenagers who stutter (TWS) in the sample who never, rarely, sometimes, often, and always anticipate stuttering.

that study reported that they “switch words” in response to anticipation. Accordingly, the SAS includes the question, “How often do you switch words that you think you will stutter on?” In its current form, each question on the SAS is rated on a seven-point Likert rating scale (1—never; 2—almost never; 3—infrequently; 4—sometimes; 5—often; 6—almost always; 7—always). A strength of the SAS is that it does not have to be administered in a particular format, and the clinician can adapt the tool to best suit the client’s needs. For example, the clinician can alter the wording, clarify certain questions as needed, and omit irrelevant questions if the clinician determines that this would be beneficial for the client. For research purposes, we have converted the SAS to an online format where each item is rated on a visual analog scale (available by request).

The SAS was developed based on responses from AWS, but we have found it to be a useful clinical and research tool for CWS and TWS as well. To informally assess its feasibility with these younger speakers, we interviewed 10

CWS between 9 and 12 years of age to explore their personal experiences with anticipation and to obtain feedback about the relevance of the items on the SAS among this age group. The CWS in this sample demonstrated that they comprehended the construct of anticipation as well as the individual questions, as evident by their explanations as to why they chose *yes* or *no* for the questions on the scale. To further test the appropriateness of the SAS with children who stutter across a range of ages, from elementary school to high-school age speakers, we administered the SAS to 23 CWS (9–12 years old) and 27 TWS (13–17 years old). We found that at least a third of the participants across both age groups rated each of the 25 items greater than 15 (out of 100 on a visual analog scale). While somewhat arbitrary, we interpreted a score of 15 to mean that the participants purposefully dragged the slider to indicate that they engaged in the related response type, at least to a minimal degree. This suggested that all of the SAS questions were relevant to at least a subset of CWS and TWS.

## A CASE STUDY: RYAN

In the following sections of this article, we describe strategies that clinicians can use to assess and target anticipation in therapy with CWS and TWS. To demonstrate practical ways that the SAS can be used in a clinical setting, we embed our discussion of strategies within the context of a hypothetical case study. “Ryan” is a 14-year-old male whose stuttering was first noticed by his parents when he was in preschool (4 years of age). He subsequently received therapy for stuttering in elementary school, focused on reducing his speaking rate and using speech modification strategies (e.g., *easy onset*), in the therapy room. When Ryan entered middle school, he was dismissed from therapy because the clinician in his new school determined that his stuttering did not impact his academic performance. Recently, Ryan’s parents brought him to a private clinic and stated that although “he doesn’t stutter much, stuttering is taking a big toll on him emotionally and socially.”

## ASSESSMENT

The clinician conducted a multidimensional assessment examining both the overt and covert characteristics of Ryan’s stuttering. He received a rating of “mild” based on results from the Stuttering Severity Instrument – Fourth Edition (SSI-4).<sup>19</sup> In conversational speech, Ryan produced an average of four stuttering-like disfluencies (SLDs) per 100 words, and the most frequent disfluency type he produced was sound/syllable repetition that averaged 0.750 seconds in duration. Associated behaviors that accompanied the production of these disfluencies included visible muscle tension in the lips and jaw and loss of eye contact.

To provide a measure of the impact of stuttering, Ryan completed the Overall Assessment of the Speaker’s Experience with Stuttering (OASES-T)<sup>20</sup> and received a “moderate to severe” total impact rating. After noticing the disparity between Ryan’s stuttering severity and total impact ratings, the clinician initiated a follow-up conversation with Ryan and his parents to learn more about his experiences with stuttering. During that

conversation, Ryan said that he stutters “more than people realize.” He added that, although he is “really good at hiding stuttering,” he feels inauthentic (“not like myself”) when he does so and becomes frustrated with himself when he doesn’t “say what I want to say.” The clinician interpreted this as evidence that Ryan may be producing unobservable, maladaptive anticipatory responses to an awareness of impending stuttering—or anticipation, and decided to examine and explore this possibility.

## Assessing Anticipation

Before administering the SAS, the clinician used the protocol detailed in Appendix B to introduce the topic of anticipation and to elicit conversation about Ryan’s personal experiences with anticipation. Initially, Ryan did not demonstrate an understanding of anticipation, so the clinician provided a definition (no. 2 from Appendix B) and analogies/examples (no. 3 and no. 4 from Appendix B). After these steps, Ryan reported that he “often” anticipates when he will stutter, but sometimes stuttering “sneaks up on me.” He described feelings of nervousness, throat tension, and sweaty hands as “signs” that he is about to stutter. He reported that when he *knows* that he will stutter, he switches words, looks away from the person he is talking to, and “infrequently” *tries* to use a speech tool. He said that on a few occasions, he has pretended not to hear what a conversational partner said to him to avoid responding (and potentially stuttering). After this brief discussion, Ryan completed the SAS. His completed form is in Appendix C.

After Ryan completed the SAS, the clinician asked relevant follow-up questions to learn more about his experiences with anticipation. In general, these conversations can occur during the initial assessment (if time permits) or later as part of the therapeutic process. Here, we highlight three possible approaches clinicians can use to generate follow-up discussion based on a client’s SAS responses. The three approaches we detail are not exhaustive, and clinicians are encouraged to adapt their follow-up questions to the level and needs of each individual client.

### Using the SAS to Generate a Therapeutic Discussion

First, Ryan's clinician identified the SAS items that received the highest and lowest scores and then used these specific items as entry points for further discussion. For example, Ryan indicated that he "always" switches words that he thinks he will stutter on (item no.1).

- To better understand his motivation for engaging in word switching, the clinician asked Ryan, "Why do you think you switch your words when you feel as though you're going to stutter?" Ryan responded that he switches words to avoid stuttering and that this makes him feel "bad" because he does not say exactly what he wants to say. He further reported that in cases where he anticipates stuttering when preparing to say a particular word, he often substitutes a "safe" word (i.e., one that he *feels* he can say without stuttering). The clinician noted that Ryan's response about word switching was likely associated with responses to other questions on the SAS (e.g., talking around a word [item no. 6], not saying exactly what you want to say [item no. 18]). Ryan reported that he is "sometimes embarrassed" about switching words because the alternate word is usually less representative of what he actually means. Ryan expressed that using the words that he wants to use is important to him because it would "feel better." Ryan further stated that saying the words that he wants to say would also improve his overall ability to communicate because he would be "showing the real me."
- To understand the context of Ryan's word switching, the clinician prompted Ryan with, "Tell me about a time when you switched your words." Ryan said he was recently telling his friends about something he watched on YouTube. He said, "I saw this really cool video on ... the video site..." One of his friends responded, "Dude, do you mean YouTube?" and his other friends laughed. The clinician might have followed up with a request for Ryan to think of other things he might have done or said in that instance (including saying "YouTube" and stuttering) and what the likely outcomes of each response might be. This accounting of response options can lead to an exploration of the "worst," "best," and "likely" scenarios and the thoughts and feelings associated with each. Finally, the clinician might have also asked Ryan, "In what situations would you say you switch your words the most/least?"
- To investigate how his interactions could be different if he did not engage in these behaviors, the clinician asked Ryan, "How might your interactions be different if you didn't switch your words?" Ryan responded that he would "feel much better" about his communication and that his listeners would know what he "really" wanted to say.
- Second, the clinician gently pointed out and asked Ryan questions about inconsistent responses from the SAS. Inconsistent responses are when a client either (1) rates two seemingly opposite behaviors very similarly or (2) rates two seemingly similar behaviors very differently. For example, Ryan reported that he "often" looks *away from* (item no. 17) and *right at* the person (item no. 19) he is talking to when he thinks he is about to stutter.
- To understand Ryan's inconsistent responses related to maintaining eye contact, the clinician prompted him with, "I noticed you said that you often look away from the person you're talking to when you think you're about to stutter, and you also often look right at them when you think you're about to stutter. Tell me more about that." Ryan responded that he does both, but that he is unsure why. The clinician followed up, "Are there specific people or situations in which it's easier or harder to look right at the person when you think you're about to stutter?" Ryan said that his teacher is easier to look at while he's talking to her, and his peers are harder. When asked, "What about those specific people or situations that make it easier/harder to look right at the person when you think you're about to stutter?" Ryan responded that his peers are more likely to laugh when they see him stutter, and "less likely to understand."
- To explore Ryan's feelings about eye contact during stuttering, the clinician asked Ryan how it made him feel when he looked away as opposed to right at the person when he anticipated stuttering. Ryan said that when

he looks away, he feels like he is “hiding or running away from stuttering,” and when he maintains eye contact he feels really nervous. The clinician asked Ryan how this situation could be improved, and he responded, “I want to look right at the person, but it would help if I wasn’t so nervous when I did.”

Third, the clinician facilitated a discussion to generate potential therapy goals that were personally relevant to Ryan. She started this discussion by asking, “If you could change one behavior on the SAS list, which one would it be and why?” Initially, Ryan was unsure about how to respond.

- To determine the behaviors that were most relevant to Ryan, the clinician presented him with a list of the five things he endorsed as his most frequent responses when anticipating stuttering, and asked to discuss each of them individually to explore options for change, adding, “Let’s talk about these one by one to figure out if these are things you would like to work on.”

- “What are the pros and cons of ... (e.g., switching your words, looking away, using speech tools)?”

- “How important is it to you that you change ... (e.g., switching your words, looking away, using speech tools)?” For this discussion, Ryan was asked to rate importance from 1 to 5, with 1 being “not important at all” and 5 being “the most important it could be.”

- “How confident are you that you could change ... (e.g., switching your words, looking away, not using speech tools)?” A five-point rating scale was also used in this discussion, with 1 being “not at all confident” and 5 being “the most confident I could be.”

Through this discussion, Ryan stated that he would like to be able to use speech tools more frequently when he anticipates stuttering. The clinician probed further and determined that, because his motivation appeared high, working on implementing light contacts to ease into moments of anticipated stuttering could be a productive goal to pursue during therapy. The clinician noticed

that, although Ryan reported he knows how to use light contacts, he “almost never” does based on his SAS response (item no. 11).

- To better understand the discrepancy between Ryan’s knowledge about speech tools and how to use them (high) and his actual use of them (low), the clinician asked him “what would be different if you were using speech tools more frequently?” Ryan responded to this question by stating that the tools would “work when I’m outside the therapy room—now they don’t.” When asked why this was the case, Ryan responded that he was unsure, but added that “it’s hard to remember to use an easy start when the person I’m talking to is thinking that I’m stupid because of my speech.” When she asked if he believed these thoughts were helpful, Ryan responded, “probably not.”

## TREATMENT

The clinician used the approaches outlined earlier (probing high and low responses, exploring inconsistent responses, and gauging relative importance) to engage Ryan in a follow-up discussion about his responses to the SAS. Next, we describe how the clinician targeted three behaviors that were important to Ryan in therapy. The behaviors described below are three of many possible behaviors that could be appropriate to address in therapy.

### Word Switching

To target word switching in the early stages of therapy, the clinician probed why it was important to Ryan that he uses the words that he wants to use. Ryan reported that he sometimes gets “weird looks” and people, particularly his friends, often misunderstand what he is trying to say when he word switches. Ryan expressed that using the words he intends to is important because doing so may minimize these types of negative reactions. Next the clinician prompted Ryan to develop a list of “feared” words, or words that he anticipates he will stutter on (e.g., “Can you think of some words that you usually stutter on?” or “Some people have a hard time saying their name—is that one that’s hard for you?”) Ryan identified a list of ten feared words.



The clinician incorporated the words on this list into the topic of conversation with Ryan; Ryan was instructed to word switch “as he usually does,” but to self-monitor and inform the clinician when he did by raising his hand. The clinician also checked in with Ryan from time to time during this exercise to ask if he word-switched. This exercise helped Ryan develop an objective awareness of when he uses word switching as an avoidance strategy.

The clinician then introduced the concept of pseudostuttering, or “fake stuttering.” This strategy allowed Ryan to produce disfluent speech with a sense of control and helped desensitize him to the moment of stuttering. The clinician and Ryan took turns pseudostuttering while producing words on the “feared” list. Initially, Ryan was somewhat apprehensive to pseudostutter, though the clinician’s models (i.e., demonstrations of pseudostuttering) and overall supportive/understanding demeanor mitigated some of this anxiety. If Ryan was unwilling to begin this goal by pseudostuttering on his feared words, the clinician may have also considered reducing the difficulty by having him pseudostutter on nonfeared words first, then working his way up to feared words. It was also important for the clinician to turn this into a “fun” activity (e.g., “I bet I can stutter longer than you can”; “Let’s see who can stutter the longest on the word, ‘YouTube’”). The clinician then engaged Ryan in conversation, incorporating words on the “feared” word list throughout. Ryan was instructed to pseudostutter on each of these words in conversation. Through structured desensitization, these exercises ultimately contributed to Ryan’s ability to use the words he wanted to use (even though he might stutter while saying them) and significantly reduced Ryan’s fear of stuttering on each of these words.

Finally, the clinician engaged Ryan in conversation using words from the same feared word list, but this time, he was instructed to say the words that he intended without word switching, even if it would result in stuttering. To increase accountability and self-monitoring skills, Ryan was asked to identify/mark each time he used a feared word. Interestingly, most of these words were produced fluently, which may have been due to talking openly about his fears, desensitization exercises, or pseudostutte-

ring (note that the clinician did not directly target fluency with Ryan).

### Eye Contact

Ryan indicated that, when he knows he is going to stutter, he looks away from his listener and feels “embarrassed” for doing so. He said that increasing eye contact during moments of stuttering would be a “very helpful and important” goal for therapy because it could improve his confidence and his relationships with his peers (e.g., “I would feel more comfortable saying what I want to say!”)

To target maintenance of eye contact, the clinician and Ryan first discussed the importance of effective overall communication skills, particularly maintaining eye contact. The clinician facilitated this discussion with Ryan by watching several YouTube videos of various typically fluent speakers and identifying effective communication skills that they observed. They agreed that maintaining eye contact demonstrates confidence and lets the listener know that you are engaged. To help better understand his decision-making process and also facilitate objectivity in discussing his emotional responses to anticipation, the clinician asked Ryan if he had ideas about why he looks away when he anticipates stuttering. Ryan explained that he looks away because he is afraid that his listener will laugh at him when he stutters. The clinician verbalized her understanding and acknowledged that looking at someone during a moment of stuttering could be very scary, especially because there have been times in Ryan’s past when people have smiled or laughed when he stuttered. In this way, the clinician is indicating that breaking eye contact during a moment of stuttering is an understandable response and thus normalizing its use. To further probe this response, the clinician asked, “Are there any other reasons, besides stuttering, that a person might smile or laugh while you are talking?” Ryan expressed that another reason someone might laugh when he is speaking could be because that person thought of something funny, not related to Ryan at all. This line of questioning gently challenged Ryan’s assumptions about listener’s reactions. These steps made it easier for Ryan to talk about

anticipation and associated fears and to identify anticipation “in the moment.”

The clinician then incorporated a mirror to support Ryan’s ability to identify instances of looking away from his conversational partner while engaging in conversation. First, the clinician and Ryan signaled (by raising a hand) when each of them looked away while conversing with each other (the clinician exhibited this behavior on purpose). Because anticipation is primarily covert, the clinician occasionally checked in with Ryan to determine whether he was actually anticipating an upcoming stutter when he looked away, (e.g., “Did you look away that time because you thought you were going to stutter or was there another reason?”) The clinician began at the conversation level because Ryan demonstrated both the cognitive flexibility and understanding of avoidance behaviors to do so.

The clinician then transitioned to helping Ryan identify instances of looking away independently (e.g., “You’re really aware when you’re about stutter before you do—I think you’re ready to identify when you look away on your own!”). With this awareness, Ryan was then able to work on modifying this behavior. The clinician again engaged Ryan in conversation, this time with the goals of (1) maintaining eye contact during instances in which he previously would have looked away, and also identifying these instances by signaling or tallying. Throughout this exercise, the clinician provided encouraging and supportive feedback (e.g., “This is really hard, and it’s brave of you to look at me when you’re stuttering”). The clinician used a structured, hierarchical approach to target eye contact, later inviting other individuals into therapy as well as setting up structured homework assignments that involved family members and friends.

### Speaking Strategies

Ryan reported that, although he knows about speech strategies, he “almost never” tries to use them because anticipation itself makes it extremely difficult, if not impossible, for him to do so. Ryan described, “...all that I can think about during a block is the feeling of being stuck,” or the loss of control associated with stuttering, particularly during the anticipation period. Ryan expressed that it would be helpful for him to be

able use the strategies more often than he has learned during therapy. He also acknowledged that thinking about being stuck may be counterproductive to using speaking strategies.

To target the use of therapy strategies, particularly light contacts, the clinician first facilitated a discussion with the goal of helping Ryan identify thoughts and feelings that likely serve as obstacles to implementing strategies when he is anticipating stuttering. For example, the clinician asked Ryan, “Why do you think it’s so hard to implement a speaking strategy when you know that you are going to stutter?” Ryan responded that he becomes worried about how the listener is going to respond to his potential stuttering. The cognitive load associated with worrying is making difficult for Ryan to focus on altering speech. Later in their discussion, Ryan also acknowledged that his fear of his listeners’ reactions is causing him to focus on these feelings and subsequently “lock up.” The clinician determined that by addressing these feelings through desensitization and other cognitive approaches, Ryan may be better equipped to change his speech behaviors during moments of anticipation accompanied by potentially strong emotional responses.

Pseudostuttering, as described earlier, is one way to help Ryan become desensitized to stuttering and thereby free up some of the cognitive resources that were previously being allocated toward anxiety, fear, etc. To further desensitize Ryan to the experience of the stuttering event and to increase bodily and proprioceptive awareness (particularly of the speech system), the clinician focused on increasing Ryan’s ability to identify moments of stuttering anticipation. Starting with the same feared word list that was used previously, Ryan and the clinician took turns identifying when they anticipated stuttering (the clinician feigned anticipation) by raising a hand during “anticipation.” Ryan and the clinician took turns describing how they were feeling and what they were thinking about during anticipation (e.g., “I got a knot in my stomach,” “I tried to think of a way to prevent stuttering.”) This exercise progressed to a conversational level, during which Ryan and the clinician continued to signal their anticipation. Since the pace of conversation is more rapid than single-word reading, Ryan and the clinician also

checked in from time to time to ask if they missed/forgot to signal anticipation (e.g., “I thought I noticed a slight hesitation there; were you anticipating?”). This exercise provided Ryan with a sense of agency because the role of “the expert” was shared between both him and the clinician.

After Ryan demonstrated the ability to identify moments of anticipation in real time, the clinician introduced light contacts, which is a widely used strategy that focuses on reducing articulatory tension and potentially volume at speech onset. This strategy was particularly applicable to Ryan because he demonstrated high tension levels in his lips during bilabial sounds (/b/, /p/) and between his tongue and alveolar ridge during lingua-alveolar sounds (/t/, /d/), as described by Ryan. After demonstrating the strategy, Ryan practiced using it on simple (nonfeared) words. The clinician chose to begin with nonfeared words because it is easier to change speech behaviors when emotional arousal is low and the speaker experiences a sense of control over his speech mechanism. In hierarchical form, Ryan progressed from implementing light contacts during reading and conversation, first with nonfeared and then feared words. Once Ryan demonstrated the ability to incorporate light contacts during the therapy sessions, others were invited to participate in their practice (e.g., parents, siblings, and friends) and outside practice schedules with these individuals were planned and implemented.

Through consistent exposure to stuttering through pseudostuttering, identification, and experimenting with ways to change speech production, Ryan was able to actively reduce his emotional awareness and increase his behavioral awareness of what he does when he stutters. In this way, he learned how to *respond* to anticipation as opposed to *reacting* to it.

## CONCLUSION

The pervasiveness of anticipation in those who stutter and the importance of targeting this phenomenon during therapy were highlighted in this article. When treating this population, clinicians should be aware of the likelihood

that anticipation is playing a significant role in their clients’ stuttering, particularly in terms of how their clients are reacting to anticipation—and how these reactions shape stuttering behavior. We provided the readers with a clinical tool, the SAS, which can be used to learn about the client’s experience of anticipation, to identify the (often subtle) adaptive and maladaptive ways in which the client responds to anticipation, and to guide clinical decision making. We then presented Ryan, a 14-year-old male who stutters, to demonstrate how a clinician might assess anticipation and learn more about Ryan’s experiences with stuttering anticipation. Finally, we used Ryan’s assessment and SAS scores to demonstrate how a clinician could target three specific behaviors during treatment that were personally relevant to Ryan. The therapeutic approaches and strategies described earlier can be used to facilitate change in several behaviors. For example, pseudostuttering can be used to desensitize the client to stuttering and anticipation, support the identification of behaviors, and facilitate the use of physical strategies such as light contacts. The clinician is encouraged to study different approaches, be flexible with what is introduced and targeted during therapy, and ultimately use what works for each client on an individual basis.

## DISCLOSURE

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**APPENDIX A**

**Stuttering Anticipation Scale (SAS)**

Many people who stutter know that they are going to stutter before they actually do. This is called "anticipating stuttering." For example, if you are about to say your name or phone number or favorite food and know that you will stutter when saying it, you are anticipating stuttering.

**How much do you anticipate stuttering?** (circle one)    Never    Rarely    Sometimes    Often    Always

People who stutter do different things when they anticipate stuttering. Each of the following statements is something that people who stutter may do when they anticipate stuttering. As you read each statement, think about how often you do these things and circle a number 1-7 that shows how often you currently do these things. There are no right or wrong answers. Please answer each item as honestly as you can.

		Never	Almost never	Infrequently	Sometimes	Often	Almost always	Always
1.	How often do you switch words that you think you will stutter on? .....	1	2	3	4	5	6	7
2.	How often do you slow down your speech when you think you are about to stutter? .....	1	2	3	4	5	6	7
3.	How often do you try to speak faster when you think you are about to stutter? .....	1	2	3	4	5	6	7

*Continue on next page*

	Never	Almost never	Infrequently	Sometimes	Often	Almost always	Always
4. How often do you move other parts of your body, like your head or arms, when you think you are about to stutter? .....	1	2	3	4	5	6	7
5. How often do you take an extra breath when you think you are about to stutter? .....	1	2	3	4	5	6	7
6. How often do you talk around a word you think you will stutter on? ....	1	2	3	4	5	6	7
7. How often do you swallow on purpose when you think you are about to stutter? .....	1	2	3	4	5	6	7
8. How often do you try to "relax" when you think you are about to stutter? .....	1	2	3	4	5	6	7
9. How often do you stall or pause when you think you are about to stutter? .....	1	2	3	4	5	6	7
10. How often do you change the topic of what you are talking about when you think you are about to stutter? .....	1	2	3	4	5	6	7
11. How often do you try to use a speech tool or strategy when you think you are about to stutter? .....	1	2	3	4	5	6	7
12. How often do you leave a speaking situation when you think you are about to stutter? .....	1	2	3	4	5	6	7
13. How often do you change the volume of your voice, like get louder or softer, when you think you are about to stutter? .....	1	2	3	4	5	6	7
14. How often do you use words like "um" or "uh" or "like" when you think you are about to stutter? .....	1	2	3	4	5	6	7
15. How often do you try to fake stutter when you think you are about to stutter? .....	1	2	3	4	5	6	7
16. How often do you tell the person you're talking to that you stutter when you think you are about to stutter? .....	1	2	3	4	5	6	7
17. How often do you look away from the person you're talking to when you think you are about to stutter? .....	1	2	3	4	5	6	7

*Continue on next page*

	Never	Almost never	Infrequently	Sometimes	Often	Almost always	Always
18. How often do you say exactly what you want to say even when you think you are going to stutter? .....	1	2	3	4	5	6	7
19. How often do you look right at the person you are talking to when you think you are about to stutter? .....	1	2	3	4	5	6	7
20. How often do you interrupt the person you are talking to or talk before it's your turn when you think you are about to stutter? .....	1	2	3	4	5	6	7
21. How often do you let someone else speak for you when you think you are about to stutter? .....	1	2	3	4	5	6	7
22. How often do you try to push or force the word out when you think you will stutter on it? .....	1	2	3	4	5	6	7
23. How often do you keep quiet when you think you will stutter? .....	1	2	3	4	5	6	7
24. How often do you text or message someone instead of talking, when you think you will stutter? .....	1	2	3	4	5	6	7
25. How often do you pretend to be doing something else when you think you are about to stutter? .....	1	2	3	4	5	6	7

**Appendix B Steps for Engaging a Client in Conversation about Anticipation**

1. Introduce the concept of anticipation  
*"Today we are going to talk about something called anticipation. Do you have any ideas about what the word 'anticipation' means or what it means to 'anticipate' something?"*  
 If child does not demonstrate an understanding of anticipation, proceed to 2. If child demonstrates an understanding of anticipation, proceed to 5
2. Define the word anticipation. It may be helpful to have the word "anticipation" written on a piece of paper with the definition on the back to use as a visual aid  
*"Anticipation is when you know something is going to happen before it even happens"*
3. Provide an analogy to help the child understand the concept of anticipation  
*"Think about basketball. Anticipation is like the feeling you have when you know that your shot is going to go in as soon as the ball leaves your hands. You anticipate that it's going to go in. You just know it"*
4. Discuss anticipation in the context of stuttering  
*"Some kids have told me that they know they are going to stutter before they actually do; they anticipate stuttering. Do you ever anticipate your stuttering? Tell me about that"*
5. Ask relevant follow-up questions  
*"How do you know when you are about to stutter?" "How often do you anticipate stuttering?"  
 "What are some things that you do when you anticipate that you are about to stutter?"*
6. Introduce the SAS  
*"I have a list of things that some people who stutter do when they anticipate stuttering. I want you to look at each item and, if you have ever done what is described, mark how much. You might have done all of them or you might have done none of them. Any answer is okay"*

**APPENDIX C**

**Stuttering Anticipation Scale (SAS)**

Many people who stutter know that they are going to stutter before they actually do. This is called “anticipating stuttering.” For example, if you are about to say your name or phone number or favorite food and know that you will stutter when saying it, you are anticipating stuttering.

**How much do you anticipate stuttering?** (circle one) Never Rarely Sometimes **Often** Always

People who stutter do different things when they anticipate stuttering. Each of the following statements is something that people who stutter may do when they anticipate stuttering. As you read each statement, think about how often you do these things and circle a number 1-7 that shows how often you currently do these things. There are no right or wrong answers. Please answer each item as honestly as you can.

- |   |          |              |                     |                     |                  |              |                      |               |
|---|----------|--------------|---------------------|---------------------|------------------|--------------|----------------------|---------------|
|   |          | <i>Never</i> | <i>Almost never</i> | <i>Infrequently</i> | <i>Sometimes</i> | <i>Often</i> | <i>Almost always</i> | <i>Always</i> |
| 1. How often do you switch words that you think you will stutter on? .....  | 1        | 2            | 3                   | 4                   | 5                | 6            | <b>7</b>             |               |
| 2. How often do you slow down your speech when you think you are about to stutter?  | 1        | 2            | <b>3</b>            | 4                   | 5                | 6            | 7                    |               |
| 3. How often do you try to speak faster when you think you are about to stutter?  | <b>1</b> | 2            | 3                   | 4                   | 5                | 6            | 7                    |               |
| 4. How often do you move other parts of your body, like your head or arms, when you think you are about to stutter? ..... | 1        | 2            | 3                   | <b>4</b>            | 5                | 6            | 7                    |               |
| 5. How often do you take an extra breath when you think you are about to stutter? .....                                   | 1        | <b>2</b>     | 3                   | 4                   | 5                | 6            | 7                    |               |
| 6. How often do you talk around a word you think you will stutter on? ....  | 1        | 2            | 3                   | 4                   | <b>5</b>         | 6            | 7                    |               |
| 7. How often do you swallow on purpose when you think you are about to stutter?   | 1        | <b>2</b>     | 3                   | 4                   | 5                | 6            | 7                    |               |
| 8. How often do you try to “relax” when you think you are about to stutter?   | 1        | 2            | 3                   | 4                   | <b>5</b>         | 6            | 7                    |               |
| 9. How often do you stall or pause when you think you are about to stutter?   | 1        | 2            | 3                   | <b>4</b>            | 5                | 6            | 7                    |               |
| 10. How often do you change the topic of what you are talking about when you think you are about to stutter? .....        | 1        | 2            | 3                   | 4                   | <b>5</b>         | 6            | 7                    |               |

*Continue on next page*

- |   | Never | Almost never | Infrequently | Sometimes | Often | Almost always | Always |
|---|-------|--------------|--------------|-----------|-------|---------------|--------|
| 11. How often do you try to use a speech tool or strategy when you think you are about to stutter? .....                                  | 1     | 2            | 3            | 4         | 5     | 6             | 7      |
| 12. How often do you leave a speaking situation when you think you are about to stutter? .....  | 1     | 2            | 3            | 4         | 5     | 6             | 7      |
| 13. How often do you change the volume of your voice, like get louder or softer, when you think you are about to stutter? .....           | 1     | 2            | 3            | 4         | 5     | 6             | 7      |
| 14. How often do you use words like "um" or "uh" or "like" when you think you are about to stutter? .....                                 | 1     | 2            | 3            | 4         | 5     | 6             | 7      |
| 15. How often do you try to fake stutter when you think you are about to stutter? .....   | 1     | 2            | 3            | 4         | 5     | 6             | 7      |
| 16. How often do you tell the person you're talking to that you stutter when you think you are about to stutter? .....                    | 1     | 2            | 3            | 4         | 5     | 6             | 7      |
| 17. How often do you look away from the person you're talking to when you think you are about to stutter? .....                           | 1     | 2            | 3            | 4         | 5     | 6             | 7      |
| 18. How often do you say exactly what you want to say even when you think you are going to stutter? .....                                 | 1     | 2            | 3            | 4         | 5     | 6             | 7      |
| 19. How often do you look right at the person you are talking to when you think you are about to stutter? .....                           | 1     | 2            | 3            | 4         | 5     | 6             | 7      |
| 20. How often do you interrupt the person you are talking to or talk before it's your turn when you think you are about to stutter? ..... | 1     | 2            | 3            | 4         | 5     | 6             | 7      |
| 21. How often do you let someone else speak for you when you think you are about to stutter?  | 1     | 2            | 3            | 4         | 5     | 6             | 7      |
| 22. How often do you try to push or force the word out when you think you will stutter on it? .....                                       | 1     | 2            | 3            | 4         | 5     | 6             | 7      |
| 23. How often do you keep quiet when you think you will stutter? .....  | 1     | 2            | 3            | 4         | 5     | 6             | 7      |
| 24. How often do you text or message someone instead of talking, when you think you will stutter? .....                                   | 1     | 2            | 3            | 4         | 5     | 6             | 7      |
| 25. How often do you pretend to be doing something else when you think you are about to stutter? .....                                    | 1     | 2            | 3            | 4         | 5     | 6             | 7      |