# Chapter 3

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## Changing Public Attitudes toward Stuttering

### Introduction

For decades, the general public has perpetuated inaccurate assumptions about the personality, intellect, and competency of people who stutter (St. Louis, 2015; Walden & Lesner, 2018; Woods & Williams, 1976). As a result, people who stutter often confront stigma and discrimination which pervade various aspects of their lives – their academic performance, emotional well-being, relationships, employment, and overall quality of life (e.g., Boyle & Blood, 2015; Boyle & Fearson, 2018; Briley, Gerlach, & Jacobs, 2021; Gabel, 2015; Craig, 2010).

Researchers around the world have worked to better understand the emergence, evolution, and nature of public attitudes to stuttering, with the goal of creating a more tolerant and supportive environment for people who stutter (see St. Louis, 2015 for a review). Although important nuances and complicated relationships exist, the extant stuttering attitude literature can boil down to two important findings: (1) Negative stuttering attitudes abound worldwide; and (2) They emerge at a young age.

We are at a critical yet exciting crossroads in stuttering attitude research. Now that we better understand the epidemiology of stuttering attitudes, the stuttering support community – people who stutter, researchers, clinicians, health professionals, and stuttering allies – must work together to achieve lasting change. Important strides have already been taken, but we still have a long way to go. This chapter provides seven practical, evidence-based steps about how you can plan, implement, and evaluate an effective stuttering intervention program.

### *STEPS FOR STUTTERING ATTITUDE CHANGE INTERVENTION PLAN*

**STEP 1.**    Consider the "big picture"

**STEP 2.**    Understand the "attitude ABC" framework and its applicability to stuttering

**STEP 3.**    Understand your audience in the context of public stuttering attitudes

**STEP 4.**    Measure your audience's stuttering attitudes

**STEP 5.**    Understand principles of attitude change and their applicability to stuttering

### *IMPLEMENT*

**STEP 6.**    Select and implement attitude change intervention

### *EVALUATE*

**STEP 7.**    Evaluate program efficacy and permanency of attitude change


Note that most steps that we will discuss deal with planning and evaluating – not *doing*. We typically place so much energy and importance on active implementation that we overlook the most critical element of successful programs – *planning*. The seven steps outlined in this chapter are not intended to be "prescriptive," but rather to provide a guide in your efforts to improve stuttering attitudes. They can be adapted for child and adult audiences, which we will explain throughout the chapter. Keep in mind that stuttering attitude change is not an "end game" – changing a culture of negative or misinformed stuttering attitudes is a process. We must engage in the hard work that is necessary. Let's get started.


## STEP 1: Consider the "big picture"

### Overview

The planning stages are conceptual and involve thinking about the "big picture." There are a lot of decisions, large and small, that need to be considered. We urge you to take the time you need to think, to brainstorm, and to develop a plan of action. We understand that planning is going to be unique to each undertaking, so here we will offer some "big picture" questions for your consideration.

| Big Picture Questions for Consideration | Possible Responses |
|---|---|
| Who is the target audience? | *Children, adolescents, adults?* |
| What is the ultimate goal of the program? | *A prevention campaign to raise awareness about stuttering and people who stutter? An intervention program to lessen the effects of teasing and bullying toward a specific individual who stutters?* |
| Who will be involved in (or with whom will you consult about) program content and implementation? | *The speech and language therapist, teachers, a counselor, a special educator, the administration? A person who stutters?* |
| What is the size of the audience? | *Individual instruction, small groups, a class, a large group?* |
| Where will it take place? | *A clinic setting, a classroom, a group room, an online platform?* |
| What type of programming will you use? | *Something novel that you develop? Something that already exists?* |
| What are your constraints? | *Time, money, number of people to assist you?* |
| How will you determine if change was achieved? | *A one-time pre-post measure, focus groups, observations of peer interactions toward a peer who stutters? Long-term follow up?* |
| What challenges do you foresee and how can they be addressed? | *Participant attrition, disengagement, technological glitches, etc.* |

Try this brief exercise. Let's imagine you completed a stuttering attitude intervention, and you are satisfied with how it went. What specific evidence do you have for the program's success? What went smoothly? What would you change? Walk through the program step by step. Sometimes imagining the end can help in planning the beginning.

## STEP 2: Understand the "attitude ABC" framework and its applicability to stuttering

### The attitude framework

In order to provide a context of attitude change, we must start with the basics: what is an *attitude*? We commonly use the term to describe one's disposition (e.g., he has a positive attitude), but within the social sciences (and for the purposes of this chapter), the term is a bit more complex. One can hold an attitude toward just about anything – tangible objects (e.g., home decor, cars, technology devices, food), abstract concepts and social issues (e.g., immigration, global warming, politics), in-

dividuals (e.g., oneself, teacher, peers), and people categorized by groups (e.g., race, sexual orientation, religion) (Bohner & Wänke, 2002). We will broadly refer to all of these attitude objects as *phenomena*.

Stemming from the seminal work of Allport (1954), the term *attitude* is an umbrella term encompassing (1) An affective component (how one feels about a phenomenon), (2) A behavioral component (how one reacts toward a phenomenon) and (3) A cognitive component (what one knows or thinks about a phenomenon). Importantly, the affective and cognitive components typically influence one's behavior, but their strength of influence is not always equal. Collectively, we will refer to the affective, behavioral, and cognitive components as the "attitude ABC" framework.

Let's momentarily take a detour from stuttering and apply this framework to an experience that most people around the world shared in 2020 to 2022: wearing masks to reduce the spread of the COVID-19 virus. When you think about wearing a mask in public, what is your attitude? Maybe you *feel* like it is inconvenient and annoying (the affective component) but, you *know* it can curb the transmission of the virus (the cognitive component). You *behave* accordingly and choose to wear a mask when you are in public (behavioral component). In this example, the *cognitive* component has a stronger influence on your behavior than the affective component.

Now let's consider an alternate example in which the affective component has the greater influence on the behavior: eating dessert. When you think about eating your favorite dessert – ice cream, cookies, cake, or maybe a second helping of dinner – what is your attitude? Maybe you have a strong sense of joy because dessert brings you pleasure (the affective component). Even though you *know* it may be unhealthy (the cognitive component), you choose to have dessert every evening meal (the behavioral component). Maybe you don't even think and just eat (an absence of the cognitive component altogether). In this scenario, the affective component outweighed the cognitive component.

We must be clear that attitudes in and of themselves are not a bad thing. In fact they serve to help us make sense of the world and how we operate in it (Bohner & Wänke, 2002). Attitudes can be positive or negative, informed or uninformed, and expressed or suppressed. If a person has a strong opinions – either favorable or unfavorable – it is referred to as *bias*. Emotional bias is classified as *prejudice*, and cognitive biases are classified as *stereotypes*. The danger is when negative bias becomes behaviorally manifest. This is *discrimination* (Fiske, 2021).

There has been a great deal of interest pertaining to if and how the aforementioned constructs of attitudes can be applied to children. Although many questions remain unanswered, research has repeatedly shown that attitudes emerge in one's early development (Aboud, 1988). It is important to understand attitudinal development in children against the backdrop of their overall development. Based on the

work of Jean Piaget and colleagues, children are in an egocentric stage of cognitive development until approximately age 7 (Piaget & Cook, 1952). This means that they rely on their own perspective of how they experience the world and therefore lack advanced skills to take the perspective of others. In turn, their reactions to novel stimuli can be largely driven by their immediate "knee-jerk" feelings of fear, discomfort, and uncertainty (i.e., the affective component). Social psychologist Derman-Sparks (1989) coined the term, "pre-prejudice" for this behavior. Importantly, children's pre-prejudice can be mitigated by others in their immediate environment.

Let's illustrate. A 4-year-old child is at the grocery store with his mother and sees a gentleman with a prosthetic leg using a walker. The child, who has never before seen orthopedic devices, immediately becomes fearful and clings to his mother. The mother acknowledges the child's uncertainty and explains the purpose of orthopedic devices in a positive way. In doing so, she mitigated the child's "pre-prejudice" by validating the child's emotion and providing matter-of-fact information. This scenario also illustrates that having a word for something is not compulsory for having an attitude towards it. Even though the child did not know the word "prosthesis," he still constructed an unfavorable attitude towards it. It also illustrates that attitudes towards something can simultaneously emerge with one's first-time exposure to it.

As with the scenario above, it is not uncommon for young children's initial attitudes to diverge from that of their family or social unit. As children mature, however, they gain more social experiences and their ability to take on another person's perspective improves. Their classification systems become increasingly more flexible, and they are able to appraise phenomena (e.g., individuals) based on various attributes or traits (Abrams, Rutland, Cameron, & Marques, 2003; Killen & Rutland, 2011). In addition, they become more attuned to conventional social norms and prevailing beliefs. By middle childhood (approximately age 11) children's attitudes may assimilate to those held by people in their close familial and social circles (Abrams & Rutland, 2008).

Simply put, attitudes are complicated. But, if we dissect attitudes using the "Attitude ABC" framework (the affective, behavioral, and cognitive components), we can gain clarity about how they operate.

## ABCs of stuttering attitudes

Let's come back to our topic at hand: stuttering. By applying the "Attitude ABCs" to stuttering, we can develop an intervention that evokes meaningful and lasting attitude change. So, how does this framework apply?

| ABCs of stuttering attitudes | |
|---|---|
| The affective component | *This refers to how a listener feels about stuttering or the person who stutters. A listener who is unfamiliar with stuttering or the stuttering speaker might feel uncomfortable, awkward, confused, surprised, or curious. A listener with more familiarity, however, might feel neutral. The feeling remains a visceral experience to only that listener.* |
| The cognitive component | *This component is quite robust; it encompasses what a listener knows or believes to be true about stuttering (even if those beliefs are not accurate) as well as what they believe about the people who stutter (e.g., personality traits). The distinction between the disorder itself (i.e., stuttering) and the person with the disorder (i.e., the person who stutters) is extremely important, as these two constructs can be very different. A listener might believe stuttering is caused by nerves, anxiety, or a psychological problem, but be very accepting of people who stutter. By contrast, a listener might know that stuttering has neurophysiological and genetic underpinnings, but still believe people who stutter are nervous, shy, or anxious.* |
| The behavioral component | *This refers to how a listener outwardly reacts to the stuttering speaker. Reactions can be intentionally harmful or hurtful (e.g., teasing, bullying, social distancing) or unsupportive (e.g., finishing words, saying "slow down"). This is another important distinction – being intentionally harmful or hurtful and being unsupportive due to ignorance are not the same thing. We must carefully consider this distinction when attitude change is discussed.* |

Consider this scenario. A 10-year-old child who stutters is bullied by his non-stuttering peers. They call him "weird" and tell him "you can't say anything right." They socially exclude him from activities and laugh at him when he speaks. The child's parents, speech and language therapist, and school counselor work together to develop a plan to address the bullying. They determine that the non-stuttering peers need to better understand stuttering as a disorder, how to be a supportive listener, and require a refresher on the school's anti-bullying policy. The speech and language therapist and counselor co-teach the lesson, which covers stuttering as well as other human differences. The speech and language therapist provides concrete information about stuttering causes (cognitive component) and teaches the class helpful responses when talking to a person who stutters (behavioral component). The counselor validates feelings of confusion and curiosity about human differences (affective component) and reinforces the importance of tolerating and respecting others. In this scenario, the speech and language therapist and school counselor

used the Attitude ABC framework to provide meaningful intervention. We will continue to discuss how this approach can be useful in attitude change programming.

### STEP 3: Understand your audience in the context of public stuttering attitudes

**Overview**

Before intervening, it is quite helpful to understand your audience within the broader context of general public attitudes. This exercise might sound futile, but it is not. We are learning that attitudes change throughout the course of one's life, which in turn, can influence how and when we intervene. In addition, we also must understand the preferences of people who stutter as we would nott want to change stuttering attitudes based on false assumptions. It is beyond the scope of this chapter to detail all of the non-intervention studies examining attitudes from children through adults, but we will attempt to highlight particularly relevant findings.

**Evolution of stuttering attitudes**

There has been a recent and growing interest in measuring the stuttering attitudes of young non-stuttering children. Results from studies have been fascinating. A seminal study by Langevin, Packman, and Onslow (2009), showed that some nonstuttering preschool children acted unfavorably toward their stuttering peers during periods of free play based on qualitative observations. Seeking to further explore this using a quantitative approach, we (the chapter authors) initiated a series of studies to investigate the attitudes of young non-stuttering children. In the first study, we measured and compared the attitudes of American preschool and kindergarten children (Weidner, St. Louis, Burgess, & LeMasters, 2015). Two important findings emerged. First, as a group, children held favorable thoughts and feelings toward people who stutter, but unfavorable attitudes toward the disorder of stuttering itself. As would be expected, their knowledge about the causes of stuttering was quite low, and they lacked general knowledge of helpful listener supports. Second, the preschool group held significantly worse stuttering attitudes than the kindergarten group. Separated by an average of only 1.7 years, how could this be? This study opened more questions than it answered. Seeking clarity, we collaborated with Turkish colleagues to determine if culture was somehow an influential factor. The study was replicated with Turkish preschoolers, and we compared the results between the Turkish and American preschool groups (Weidner, St. Louis, Nakıscı, & Özdemir, 2017). Once again, the

results fascinated us; the stuttering attitudes between the Turkish and American groups were almost identical. The question persisted – why, despite differences in children's culture, sex, and family socio-economic status were preschoolers' stuttering attitudes so similar? Perhaps children's cognitive development was at play. Shifting attention to this new *developmental* variable, we included children from preschool through 5th grade (ranging from 4.7 to 10.5 years) as well as their parents (Glover, St. Louis, & Weidner, 2019). Bearing on theories about the influence of social-cognitive development on attitudes described earlier, we expected some fluctuation of attitudes in early development with a general upward trajectory. And that is precisely what occurred. Children in preschool held the least positive stuttering attitudes, whereas the fifth graders had the most positive attitudes. Positive stuttering attitudes dipped slightly around 2nd grade, suggesting some fluctuation in early development. And the parents' attitudes? Regardless of the age of their child, parents' attitudes remained constant and stable. Interestingly, the attitudes of the fifth-grade children and the parents were quite similar. This finding confirmed previous research in Turkey in which stuttering attitudes among 6th grade children seemed to converge with their nuclear and expanded familial units and neighbors (Özdemir, St. Louis, & Topbaş, 2011). Most recently, Weidner, Junuzovic-Zunic, & St. Louis (2020) investigated the stuttering attitudes of kindergarten through sixth grade children and their parents in Bosnia & Herzegovina (B&H). Like the American groups, the stuttering attitudes among the B&H children followed a very similar trajectory, with the youngest cohort holding the worst or least informed attitudes, and the oldest cohort holding the most positive or informed attitudes. Also like the American parents, attitudes among the B&H parents were not influenced by the age of their child.

Negative stuttering or uninformed attitudes persist throughout elementary school-age years (Hartford & Leahy, 2007), adolescence (Cobb, Daniels, & Panico, 2019; Evans, Healey, Kawai, & Rowland, 2008; Flynn & St. Louis, 2011) and of course, through adulthood. St. Louis maintains an immense database on adult stuttering attitudes which includes results from over 16,000 respondents using a standard measure, the *Public Opinion Survey on Human Attributes–Stuttering* (St. Louis, 2015), which will be detailed later. As described in St. Louis et al. (2020), noteable salient findings have emerged from this body of literature. Most importantly, negative stuttering attitudes among adults exist worldwide and transcend variables including sex, age, income, religion, health, and life priorities. Unlike in children, however, differences in adults' national identity can be associated with their stuttering attitudes. In general, adults have limited experience with stuttering, which can possibly explain their lack of knowledge about stuttering causes or how to sensitively respond to people who stutter. In fact, adults may encourage

people who stutter to "relax" or "slow down." Our current understanding about the evolution of stuttering attitudes from children through adults provides the following evidenced-based justification for the following:

1.  Attitude intervention is justified for persons across different age groups and cultures.
2. Intervention efforts can – and should – begin in one's early development.
3. The content of an intervention should strongly emphasize the cognitive and behavioral components of a stuttering attitude (i.e., knowledge about stuttering and how to respond to a person who stutters).

**What people who stutter want**

The content included in attitude change programming needs to be driven by what the audience needs to know, but it also needs to be informed by what people who stutter actually want. For years, we just *assumed* what people who stutter prefer. It was not until recently that researchers took efforts to objectively measure and document their preferences. Logical? We think so. Here, we will cover just that, so you can ensure your intervention is sensitive to the needs and preferences of children and adults who stutter.

In 2015, St. Louis developed a survey for people who stutter to rate their opinions on the supportiveness of listener supports, the *Personal Appraisal of Supports for Stuttering–Adult* (*PASS-Ad*). Versions of the same instrument were later developed for children who stutter and their parents (*PASS–Ch, PASS–P,* St. Louis & Weidner, 2015a,b). For all versions, respondents rate the degree to which they perceive the supportiveness of various listener actions, such as "Wait to let me say what I want," "Make a joke about stuttering," or "Help me by trying to finish the words I stutter on." In addition, they also rate support received from various groups, such as speech-language pathologists (the American term for speech and language therapists), peers, parents, or famous people who stutter. St. Louis, Irani, Gabel, Hughes, Langevin, Rodriguex, Scaler Scott, & Weidner (2017) rank-ordered the various supports as reported by 148 adults who stutter. The three most helpful responses included: (1) "Maintain normal eye contact with me while we talk," (2) "Wait to let me say what I want," and (3) "Ask me to help him/her with his/her own stuttering." The three least helpful responses included: (1) "Help me by trying to finish words I stutter on," (2) "Tell me how I should feel about stuttering" (3) "Put some 'faked' stuttering into his/her own speech when we talk." A followup study of stuttering adults from Poland, Lebanon, Slovakia, and the Czech Republic quite closely replicated these American results (St. Louis, Węsierska, Saad Merouwe, Melhem, Dezort, & Laciková, 2019).

Recently, these studies were extended to children and their parents in the United States, Poland, Norway, and Slovakia (Weidner et al., 2021; Weidner, Węsierska, St. Louis, & Scaler-Scott, 2019; Węsierska, St. Louis, & Weidner, 2019). As reported by 151 children from those countries, the three most helpful listener supports included: (1) "Be patient" (2) "Maintain normal eye contact," and (3) "Include me." They rated (1) "Laugh at me," (2) "Use the term *stutterer*," and (3) "Ignore me" as the three least helpful supports. Reports from 271 of their parents echoed children's preferences of "Being patient" and "Maintaining eye contact," and also included "Knowing how to react." Parents rated "Laughing at my child," "Finishing my child's words," and "Pitying my child" as the least helpful supports. All groups who completed the *PASS* (i.e., adults who stutter, children who stutter, and parents of children who stutter), rated "Speech-language pathologists" among the most supportive groups and "Classmates" among the least helpful. With that, speech-language pathologists have a responsibility to be active agents of change, especially when it involves changing peer attitudes.

There is an important caveat we must mention. Although these studies can broadly guide inventions based on the preferences of people who stutter as a group, *PASS* results also revealed that many supports were highly individualized. As such, if the intention of the intervention is to support *one* individual who stutters, it is imperative that the person who stutters be involved in its content development. The preferences of that individual can be obtained through use of the *PASS*, through semi-structured questions, or a combination of both. In sum, although we can glean some general preferences of what people who stutter perceive to be helpful or not, we must be sensitive to their individual needs and preferences before making any sweeping generalizations.

## STEP 4: Measure your audience's stuttering attitudes

### Overview

Generally speaking, we understand the evolution of stuttering attitudes, but what about the attitudes of your particular target audience? By measuring your audience's stuttering attitudes, you are able to (1) Identify gaps in stuttering knowledge and skills, thus informing the best stuttering attitude intervention; and (2) Compare pre- and post-metrics to determine the efficacy of the intervention. We recognize that the approach of measuring stuttering attitudes will greatly depend on a number of factors – respondents' age, the ease of interpreting results, and of course, time. Thankfully, you don't have to reinvent the wheel. We will describe the adult

and child versions of the leading stuttering attitude survey, *Public Opinion Survey on Human Attributes–Stuttering* (*POSHA–S*) (St. Louis, 2011; Weidner & St. Louis, 2014), as well as supplemental open-ended questions. These tools can be quite useful in measuring stuttering attitudes and guiding your intervention.

## Survey

The *POSHA–S* is well established as the leading instrument to measure public attitudes towards stuttering (See St. Louis, 2015 for a review). Its widespread use emerged out of the *International Project on Attitudes Toward Human Differences*, an initiative that seeks to "Understand and improve public attitudes toward stuttering and other stigmatizing human conditions worldwide through objective measurement" (St. Louis, 2010). The initiative has involved contributions from a consortium of international collaborators representing nearly 50 countries. A recent child version, the *POSHA–S/Ch* (Weidner & St. Louis, 2014), has expanded the scope of this research to children in order to better explain the emergence and evolution of stuttering attitudes. As a result of these collective epidemiological efforts, we better understand the epidemiology of stuttering attitudes – what they are, how widespread they are, when they emerge, variables that influence them, and so on.

   The *POSHA–S* and *POSHA–S/Ch* provide an impression of respondents' stuttering attitudes on a -100 to +100 scale, in which 0 is neutral and higher scores indicate more positive stuttering attitudes. Individual items are rated on a scale of 1 to 3 reflecting choices of "no," I don't know," or "yes." . For adults, a definition of stuttering can be included or not, as research has shown that a definition has little effect on the *POSHA–S* summary scores (St. Louis et al., 2011; St. Louis, Sønsterud, et al., 2016 ). For children, however, the inclusion of a stuttering definition and example of stuttering is compulsory. The *POSHA–S/Ch* includes a short video featuring two stuttering cartoons and a short definition of stuttering. Doing so provides a context for the subsequent survey items.

   On both surveys, individual items are grouped into component scores (i.e., Traits/ Personality, Help From, Cause, Potential, Accommodating/Helping, Social Distance/ Sympathy, and either one or two components related to experience). These are averaged into either a Beliefs or a Self Reactions subscore. These two Subscores are averaged into an Overall Stuttering Score, which provides a general impression of respondents' stuttering attitude. The *POSHA–S* survey design is particularly valuable because it permits interpretation within the attitude ABC framework. For example, items in the Social Distance/Sympathy component (e.g., "If I were talking with a person who stutters, I would feel impatient [not want to wait while the per-

son stutters]") align with the affective aspect of attitudes; items in the Cause component (e.g., "I believe stuttering is caused by genetic inheritance") align with the cognitive aspect of attitudes; and items in the Accommodating/Helping component (e.g., "If I were talking with a person who stutters, I would tell the person to 'slow down' or 'relax'"), align with the behavior aspect of attitudes.

In addition to providing information about the nature of respondents' attitudes, both versions of the survey also include a demographic section (a parent completes the demographic section for child respondents). Items generally relate to respondents' age, sex, experience with or exposure to stuttering, education level, and so on. We strongly encourage you to obtain demographic information, as these items can be further examined as influential variables.

The adult survey can be administered using either paper-and-pencil or online versions (St. Louis, 2012). To date, the child version has most often been administered orally by an administrator, but proficient readers can also complete it independently using a paper-and-pencil copy or online (St. Louis, Myers, Flick Barnes, Saunders, Hall, & Weidner, 2019).

## Open-ended questions

Open-ended questions about stuttering and impressions of people who stutter might also be considered to gather baseline data. This approach provides respondents with an opportunity to explain or justify their responses instead of, or in addition to, simply responding "Yes," "No," or "I don't know" to a fixed set of survey questions. For the *POSHA–S* studies, open-ended responses have primarily been carried out to supplement quantitative survey data, which is what we recommend. For example, Glover and colleagues (2019) asked children ranging from kindergarten through 5th grade, "What does the word stuttering mean?" As expected, children's ability to accurately define the word improved with age. None of the preschool or kindergarten children accurately defined stuttering. Children frequently responded, "I don't know" but occasionally offered some fascinating attempts such as "[Stuttering means] dinosaur." By 4th and 5th grade, more than half of the children generated an accurate response such as, "It means when you repeat what you say many times... sometimes you take a while to say a word." Gleaning qualitative information via individual meetings or focus groups can provide a deeper understanding about the origin of respondents' stuttering attitudes and be used to further inform intervention content.

**STEP 5: Understand the principles of attitude change and their applicability to stuttering**

**Overview**

You now have a solid understanding about *why* attitude change is needed, and *what* we need to consider in our attitude change programs. Now we need to address, "*How is attitude change achieved?*" This occurs when science (i.e., our evidence about the ABCs of stuttering attitudes and principles of attitude change) meets art (i.e., creative expression of a unique attitude change program). Effective programs might look "cute" and "effortless," but evidence must drive the content. We want to avoid oversimplifying content, and we also want it to be age- appropriate. Sometimes that is a difficult to achieve, so you must use your clinical judgment when striking this balance. As we go through this section, we will highlight basic principles of attitude change and apply those principles to stuttering attitude change programs.

**Principles of Attitude Change and their Applicability to Stuttering**

*1. Intervention does not need to be fancy, but it must be interesting and meaningful.*

We want to let you in on a secret: attitude change interventions do not require fancy materials, an abundance of time, or even funding. So long as you have the *knowledge*, the actual program can be carried out quite simply. That said, be sure to identify and maximize the resources that are available to you. This might include the expertise of a school counselor, the perspective of a teacher, or the support from parents or administrators. Maybe you know a person who stutters who is willing to share their story. Perhaps your facility has a social media page on which you can livestream your lesson or post information (e.g., facts, activities, etc). Maybe you have access to materials that will facilitate active engagement, such as art supplies. We believe that you can create a good intervention using what you have. Being re-sourceful *is* being creative.

The key to an effective intervention is "hooking" your audience (which can still be achieved even if you do not have a lot of resources) and making it *meaningful*. At least three recent publications have strongly emphasized the importance of a match between the intervention and the audience (Abdalla, 2015; St. Louis, Węsierska, & Polewczyk, 2018; St. Louis et al., 2020). They provide evidence that whatever you plan needs to be interesting, otherwise your audience members might not care to learn anything. This is obviously going to be influenced by the age of your audience members, but other logistical factors (such as the time of day you are providing the

intervention) should also be considered. School-aged children will probably not be hooked by a video featuring puppets, but perhaps a documentary featuring other school-aged children who stutter would be of interest. An adolescent audience might find a formal presentation to be boring, but might be motivated to watch a documentary. Similarly, an adult audience might not want (or have time) to read textbook information about stuttering, but they might be keen to meet a person who stutters. If you can't hook your audience, it will make attitude change very challenging.

### 2. It is OK to use the "S" word!

Historically, stuttering has been – and in many cases still is – a taboo topic, and many people (including clinicians!) are uncomfortable using the word *stuttering* (Byrd, Werle, & St. Louis, 2020). In order to change one's attitude, we must reduce the stigma and mystery that surrounds it. Sometimes this means confronting our own bias or knowledge gaps. A famous American children's television show host, Fred Rogers (1969), stated, "Anything that is mentionable is manageable." As instruments of change, we must *mention* stuttering in a supportive way in order to manage the stigma that often accompanies it. Based on our current understanding of stuttering, we are confident that talking about it in a supportive way does not exacerbate negative attitudes towards it or worsen a speaker's actual stuttering. In addition, commenting on differences is OK for all audiences, so long as it is done without judgment or bias. After all, "Children learn prejudice from prejudice – not from learning about diversity" (Derman-Sparks & Edwards, 2010, p. 4).

In practical application, our language to describe stuttering should be matter of fact. We cannot be afraid to use the word *stuttering*, especially with older children and adults. Sometimes younger children benefit from a term that is more concrete and child friendly, such as "bumpy" or "stretchy" speech, but this is different from avoiding using the word stuttering. If you are uncomfortable saying the word *stuttering*, try saying it aloud 10 times right now.

### 3. Improve the audience's "cognitive" component about the stuttering disorder.

In Step 1, we mentioned that there is an important distinction between the disorder of stuttering and people who stutter. This is where that becomes important. We will first focus on stuttering as a disorder. Does the audience know what stuttering is and what causes it? If not, start here. If maybe, start here. If yes, start here anyway. We must be sure our audience has a good grasp on the topic, and that their knowledge is from the same informed source. To this end, St. Louis and colleagues (2020) confirm, "Successful interventions to improve stuttering attitudes are likely to... contain

sufficient information about the disorder. Conversely, unsuccessful interventions are likely to...contain either insufficient or excessive information." (p. 14).

Information about stuttering should include a basic definition, causes and characteristics, and even "fun facts." How you do this will depend on the level of your audience and should be informed by the baseline measurement from Step 2, but some examples are offered below.

| Example responses to address the cognitive component of the stuttering disorder for different age groups | |
|---|---|
| Young children | *Stuttering is what happens when a person's words or sounds bounce l-l-l-ike this, or stretch liiiiike this, or when no words or sounds come out l--ike this. Stuttering happens because they were born that way. It is not bad to stutter, it is just different!* |
| School-aged children | *Stuttering is a difference in the way a person talks. Sounds or words might repeat, stretch, or get stuck. People who stutter might experience effort when they are talking. Stuttering can be genetic or caused by a difference in how the brain works when talking. Stuttering is not caused by nerves or anxiety. Many famous people stutter!* |
| Adolescents and adults | *Stuttering is a disruption in the forward flow of speech, or one's fluency. There are different types of stuttering including repetitions (repeating a sound, word, or phrase), prolongations (stretching a sound), or block (where no sound comes out at all). Research suggests that stuttering can be linked to genetics or neurophysiology (how the brain works when speaking). Stuttering is not caused by nervousness or anxiety, although those factors may exacerbate stuttering in some situations. Stuttering is more prevalent in males than females and typically begins in childhood.* |

### 4. Improve the audience's "cognitive" component about people who stutter.

One of the most important aims of attitude intervention is to neutralize beliefs that people who stutter are anxious, nervous, shy, unintelligent, withdrawn, incompetent, and so on. We can address those misconceptions by offering information about the traits, personality, and potential of people who stutter (see examples below).

| Example responses to address the cognitive component about people who stutter for different age groups | |
|---|---|
| Young children | *Even though people who stutter talk in a different way, that does not mean they are bad or nervous or shy. It has nothing to do with how smart they are. People who stutter can do all the same things other people can do. They like to play and have fun! Stuttering is what makes them different. And differences make us special.* |

| Example responses to address the cognitive component about people who stutter for different age groups | |
|---|---|
| School-aged children | *Stuttering does not define a person who stutters. It is one unique trait. Stuttering has nothing to do with a person's intelligence. People who stutter can do all the same things other people can do. It is just one part of who they are.* |
| Adolescents and adults | *Many people believe people who stutter are nervous, anxious, shy, or less intelligent. This is not true. Stuttering is simply a difference in speaking fluency and is independent of intellect and life potential.* |

### 5. Improve the audience's "affective" component.

Based on principles of *Cognitive Behavioral Therapy*, feelings can only be controlled by an individual, which are usually tied to their thoughts (Beck, 2019). This means the affective component is closely intertwined with the cognitive component. Although others can influence one's feelings about a phenomenon (stuttering or people who stutter) by improving the cognitive component, changing one's affect ultimately comes from within the individual.

It is important to remember that each listener might have a different emotion and/or a different intensity of any given emotion. In addition, how one feels is not always expressed in how one behaves. Thus, we don't want to assume how a person feels or tell them how to feel. If you are not sure, it's OK to ask, "How did listening to that person's stuttering make you feel?" Avoid being accusatory, such as "You were rude when that person stuttered!" or telling a listener how to feel such as, "You should feel comfortable!". Instead, try using phrases such as "I noticed," "It seems," or "Maybe." Keep in mind that young children often express their feelings using rigid emotional classifications such as, "mad," "sad," "happy," or "scared." Accordingly, we might need to teach them nuanced feeling words such as, "confused," "curious," and "uncomfortable." Activities intended to build one's empathy and perspective taking skills can also be beneficial. For example, you might role-play various scenarios (e.g., depicting teasing and bulling) or ask the audience provoking questions (e.g., what would you do, how would you feel, etc.). Addressing the affective component can take finesse and practice, but some suggestions are offered below.

| Example responses to address the affective component for different age groups | |
|---|---|
| Young children | *I noticed your eyes got big and you walked away when you heard that person talk. Maybe you felt uncomfortable. It is OK to have questions when someone sounds different than you! That means you are curious!* |

| Example responses to address the affective component for different age groups | |
|---|---|
| School-aged children | *When you heard that person stutter, it seemed like you were a little annoyed because it took them a while to say their message. Maybe it just surprised you because the way they talked was unexpected. That's understandable.* |
| Adolescents and adults | *It is common for listeners to have initial feelings of uncertainty or confusion when listening to a person stutter. Understanding stuttering and the stuttering speaker can sometimes help listeners feel differently and more prepared to respond in a supportive way.* |

*6. Improve the audience's "behavioral" component toward stuttering and people who stutter.*

Non-stuttering listeners may often respond in unsupportive ways simply because they do not know how to be helpful! You can teach both helpful and unhelpful listener supports so the audience understands what to do and what to avoid. Teaching helpful responses must be explicit and based on evidence (see step 3), but it is fairly straight-forward.

| Example responses to address the behavioral component for different age groups | |
|---|---|
| Young children | *It is a good choice to be nice to people who stutter. Be patient and do not walk away! Their feelings might get hurt if you laugh or finish their words when they are talking.* |
| School-aged children | *When talking to someone who stutters, it is most helpful to be patient. It is not helpful to look away, finish their words, or tell them to "slow down."* |
| Adolescents and adults | *It is helpful for listeners to be patient and maintain normal eye contact when talking to someone who stutters. Avoid finishing their words or saying, "slow down." In many cases, those responses can actually be more unhelpful than helpful.* |

### STEP 6: Select and implement attitude change intervention

If you made it to this part of the chapter, congratulations! We are finally in the "action" stage – selecting and implementing the program. By this point, you have probably decided if you want to create your own program, implement an existing program, or perhaps adapt existing materials to your specific needs. Several stuttering attitude change studies have been carried out with different methodologies – and

different results. A retrospective study by St. Louis and 21 co-authors reported on the outcomes of 29 intervention studies (St. Louis et al., 2020). We will mention the most efficacious methodologies and programs here, and the Appendix includes a summary table of all the intervention studies we know of that used some kind of comparative measure, in almost all cases with a pre- and post-test using the same measure. We will mention the most efficacious methodologies and programs here. Early studies used a variety of measures, but most intervention studies in the past decade have used the *POSHA–S*.

We will describe some of the programs. It is important to remember, however, that opportunities for attitude change are often spontaneous and unplanned, so we will address how to appropriately respond to unexpected "teachable moments."

**Effective programs, materials, and approaches**

The *Teasing and Bullying: Unacceptable Behavior* (*TAB*) program (Langevin, 2000) was among the first formal stuttering attitude change programs. This program is geared toward school-aged children with the aim to improve their attitudes toward peers with disabilities, with emphasis on peers who stutter. It is comprised of six lessons which help children identify and address teasing and bullying, learn about human differences, and develop improved self-esteem (Langevin, 2000). Results from field testing with over 600 children, revealed its efficacy improving children's attitudes toward stuttering as well as teasing and bullying (Langevin & Prasad, 2012).

The *InterACT* program (Weidner, 2015) is an educational program designed to improve the stuttering attitudes of young children ranging from preschool through early school-aged years. It is comprised of puppetry-based videos, small group discussion, and an activity book which is implemented during two 30-minute lessons. The content of the program teaches children about stuttering (i.e., causes and characteristics), people who stutter (i.e., traits and potential), and practical skills of how to interact with a person who stutters within the larger context of human differences. Weidner, St. Louis, & Glover (2018) provide more details about the program. The *InterACT* program is available in English, Polish, and Turkish with additional translations underway (as of August, 2022). The *InterACT* program has been used in studies involving 80 young American and Polish children with encouraging results (Weidner et al., 2018; Węsierska, Weidner, & St. Louis, 2021). English or Polish versions of the *POSHA–S/Child* were used to measure children's stuttering attitudes before and after the program. In both the American and Polish groups, children's stuttering attitudes significantly improved. Children made particular gains in their knowledge about stuttering and people who stutter, and about their reactions toward them.

Additional methodologies, often involving film or media, are also worth mentioning. The movie *The King's Speech* had a significant improvement on the stuttering attitudes among college-aged students (Kestenbaum & Khnonov, 2011). The movie provides an emotionally compelling account of King George's struggles and triumphs in dealing with stuttering during a tumultuous period of Britain's history. Similarly, the documentary *MTV True Life: I Stutter* (Schneider, 2007) significantly improved the stuttering attitudes of high school students (Flynn & St. Louis, 2011). The documentary follows three young adults who stutter, and highlights the impact of stuttering on aspects of their everyday lives. Informational workshops that emphasize basic facts about stuttering can also be quite effective (e.g., St. Louis, et al., 2018; Coleman, Weidner, & Damron, 2014), but there are no known standard materials for such workshops. Finally, several studies have shown the positive effect of learning about the lived stories of stuttering from people who stutter (either face-to-face or via other mediums) especially when humor is involved (Flynn & St. Louis, 2011; Nelson, 2020).

We reiterate that there is not one specific means to improving attitudes. So long as your intervention is strongly rooted in evidence and interesting to the target audience, you will be well-positioned to evoke stuttering attitude change.

### Attitude change during "teachable moments"

We can plan and plan, but sometimes opportunities for attitude change happen when we least expect – we call these "teachable moments." Sometimes these moments can catch us off guard, and we end up dismissing the moment or saying something incomplete or inaccurate. If you need time to think about your response, that's OK! Revisit the conversation when you are better prepared. Here, we offer a "formula" that will help you listen to questions with a theoretical ear and respond accordingly.

| Listening and responding with a theoretical ear | |
|---|---|
| Listen | *What was the verbatim statement or question?* |
| "Translate" the message | *Messages that come across as "rude" or "insensitive" often have a deeper purpose. Objectively "translate" the message in order to pinpoint what the speaker is really trying to convey.* |
| Identify the ABC | *Based on your translation, you can better determine if the intended purpose of the message was primarily affective, behavioral, cognitive, or a combination.* |

| Listening and responding with a theoretical ear | |
|---|---|
| Construct your response | *What does the speaker need to know or understand – information about stuttering, people who stutter, or how to respond to people who stutter? Let the attitude ABCs guide the content of your response.* |
| Communicate your response | *Validate the person's thoughts and/or feelings using positive language.* |

Let's pretend you are confronted with different situations in which you must quickly address insensitive or inaccurate comments made by a non-stuttering person. Some examples follow about how you can use the formula to respond in an appropriate way. We will use the name "John" to refer to the person who stutters.

| Scenario 1: Responding to a non-stuttering teenager in a social setting | |
|---|---|
| Teenager states | *"Every time I try to talk to talk to John, I feel so awkward!"* |
| Translate the message | *John doesn't talk like me, and it makes me feel uncomfortable.* |
| Identify the ABC | *Affective component* |
| Construct your response | *Acknowledge the teen's feeling and reframe it.* |
| Communicate your response | *"You notice that John stutters and you feel uncertain how to react. That's OK. You can ask John how to be a supportive listener."* |

| Scenario 2: Responding to a non-stuttering adult coworker in a professional setting | |
|---|---|
| Coworker states | *"I don't want John working on my team because his stuttering will limit his ability to give presentations and talk to clients."* |
| Translate the message | *People who stutter are less capable of doing various tasks.* |
| Identify the ABC | *Cognitive (regarding beliefs of people who stutter).* |
| Construct your response | *Provide information about stuttering and people who stutter.* |
| Communicate your response | *"Stuttering has nothing to do with a person's intelligence, potential, or competency. Even though he stutters he can still give presentations and talk to clients. He is smart, capable, and a valuable team member."* |

| Scenario 3: Responding to a non-stuttering child in a school setting | |
|---|---|
| Child states | *"I don't want to play with John because he sounds funny."* |
| Translate the message | *I don't know how to interact with a person who stutters.* |
| Identify the ABC | *Behavioral* |
| Construct your response | *Provide practical skills about how to respond in a sensitive way while also pointing out common ground and the benefit of inclusion.* |
| Communicate your response | *"It might take John longer to talk sometimes, but it's a good choice to play with someone even if they are different than you. It's nice to wait patiently when he is talking. You both like riding bikes. You can meet a new friend!"* |

## STEP 7: Evaluate program efficacy and permanency of attitude change

Let's imagine you went through all of the aforementioned steps and implemented your attitude change program. Congratulations! Before breathing your sigh of relief, there is one more step: determining if your efforts were effective. As we outlined in Step 1, the evaluative step will be largely dependent on your goals and approach, as well as your constraints. Although we will not prescribe ways in which to evaluate the program, it should involve similar procedures to those laid out in Step 4: *Measuring your audience's stuttering attitudes.* Doing so will provide you with reliable pre-post comparisons. For example, if you used the *POSHA–S/Ch* to measure stuttering attitudes at baseline, use that same instrument again after the intervention. You also will need to decide (1) How quickly you wish to measure attitudes following the program; and (2) If you want to track permanency of their attitudes over time. For the latter, we recommend measuring stuttering attitudes immediately or within a few days following the intervention. Permanency of attitudes can be tracked across time intervals that you decide, but keep in mind that participant attrition might be high. St. Louis and Flynn (2018) measured stuttering attitudes of a target audience seven years following the intervention, with less than 50% attrition (Flynn & St. Louis, 2011). Encouragingly, participants' attitude improvement was maintained! More studies about the permanency of attitude change, as well as the direct effect of attitude change programming on the lives of people who stutter, would be an extremely valuable extension of this line of research.

Attitude change programming is in a constant state of refinement, so it is very important that you not only evaluate whether or not your goals of attitude change were achieved, but also identify areas of improvement for future iterations of the program. Below, we outline some post-implementation questions for your consideration.

| Post-Intervention Questions for Consideration | Possible Responses |
|---|---|
| What were the primary challenges in planning the program? | *Coordinating schedules, support from teachers or administrators* |
| When implementing the program, when was the audience most engaged? Least engaged? | *Least engaged during the movie, most engaged during the discussion* |
| Did you notice any interesting behavior or reactions among your audience members? | *Laughing, distraction, disengagement, etc.* |
| What resources would enhance the delivery of the program? | *A bigger screen, more time, more home carryover activities, etc.* |

## Conclusion

Throughout this chapter, we walked you through seven steps which will equip you with the knowledge and skills to be an agent of stuttering attitude change. Nearly all stuttering attitude research has pointed to the need for attitude improvement, and now it is up to us – the stuttering support community – to answer that call. Through implementing a stuttering attitude change program, you have the potential to lessen the effects of stuttering stigma and improve the lives of people who stutter. Have courage to be that person, and have fun doing it!

## Multiple choice questions

1. The "Attitude ABC" framework is comprised of:
    a) Assessment, Behavioral, Cognitive components
    b) Affective, Bias, Cognitive components
    c) Affective, Behavioral, Cognitive components
    d) Affective, Behavioral, Communication components
2. Recent research has shown that negative or misinformed stuttering attitudes emerge as early as:
    a) Preschool years
    b) School-aged years
    c) Adolescence
    d) Adulthood

3. All of the following are appropriate components to include in a stuttering attitude program *except*:
    a)  Current information about the causes of stuttering
    b)  Helpful and unhelpful listener responses
    c)  Strategies to improve the fluency of a person who stutters
    d)  Information about the traits, personality, and potential of people who stutter
4. Which of the following have been shown to be components of effective stuttering attitude change interventions?
    a)  Engaging the audience
    b)  Making information meaningful to the audience
    c)  Presenting sufficient and accurate information
    d)  All of the above
5. Based on current research, which of the following best describe/s what people who stutter consider to be helpful listener supports?
    a)  Saying "slow down"
    b)  Being patient
    c)  Maintaining natural eye contact
    d)  B & C
    e)  All of the above

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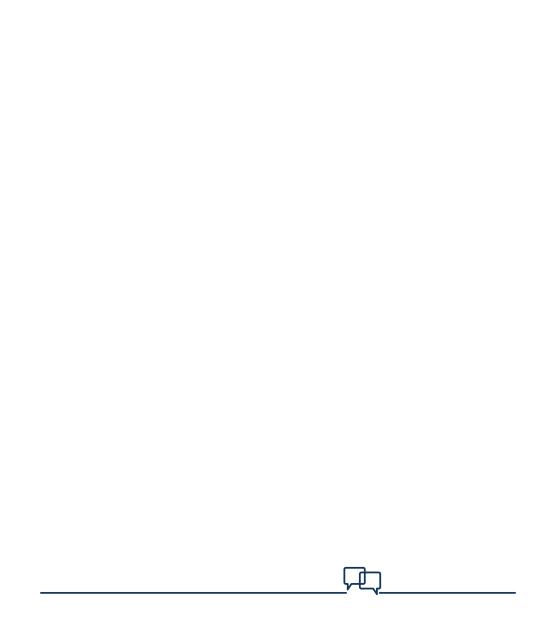
Table 1: Appendix

| Reference(s) | Intervention | Sample Size | Participants | Country | Language of POSHA-S and Intervention | Mean Age (yr) | Males (%) Females (%) | |
|---|---|---|---|---|---|---|---|---|
| Langevin (1997) | Participants attended the *Teasing and Bullying: Unacceptable Behavior (TAB)* Program, delivered by teachers, in the classroom. It consisted of a 14-min video and a teacher's manual with seven units designed to deal with teasing and bullying, with a total time of 1 3/4-hr. | 73 | 4th, 5th, and 6th graders | Canada | en | ~10–12 | — | |
| Langevin & Prasad (2012) | Participants attended the *Teasing and Bullying: Unacceptable Behavior* (TAB) Program (excluding the module on building positive relationships), delivered by teachers in the classroom, over a 3–4 wk period and requiring a total of 4 hr. | 608 | 3rd-6th graders | Canada | en | 9.7 | 54% 46% | |
| McGee, Kalinowski, & Stuart (1996) | Participants watched the *Voices to Remember* video (Bondarenko, 1992b) in their classroom. | 36 | High school students | USA | en | 18.2 | 50% 50% | |
| Leahy (1994) | Participants attended one academic year (40 hr) of exposure to stuttering through lectures, research, and direct clinical practica with stutterers. | 17 | 3rd & 4th yr undergrad SLP students | Ireland | en | — | — | |
| Snyder (2001) | A: About half of the participants watched a 20-min segment of *Speaking of Courage* (Bondarenko, 1992a). B: The other half of the participants watched a 20-min *Effects of Altered Auditory Feedback at Fast and Normal Speaking Rates* (Keith & Kuhn, 1996). | 55 | SLP graduate students | USA | en | 25.3 | 2% 98% | |
| Delaney (2001) | A: Eight participants observed stuttering 5x/wk for 30 wk and participated in an adult stuttering therapy group. B: Ten participants received no fluency training or experience. | 18 | 2nd-year SLP students without training in stuttering | Wales | en | — | — | |
| Mayo, Mayo, Gentry, & Hildebrandt (2008) | Participants watched a shortened segment (about 30 min) of the *Speaking of Courage* video (Bondarenko, 1992a) in their classroom. | 43 | General university students | USA | en | — | 35% 65% | |
| Reichel & St. Louis (2004, 2007) | Participants attended a full 32-hr graduate course in fluency disorders, including emotional intelligence, multiculturalism, and multidisciplinary modules. | 69 | SLP graduate students | USA | en | 27.7 | 4% 96% | |
| Flynn & St. Louis (2009) | Participants listened in their classroom to a 30-min oral presentation by stutterer on stuttering information and personal stories, some humorous, some serious. | 39 | High school students | USA | en | 15.6 | 36% 64% | |
| Chandrabose, St. Louis, Pushpavathi, & Raoof (2010) | Participants listened to a 40-min custom presentation on stuttering information in a classroom and clinical setting. | 64 | Education university students | India | kn | ~20.0 | 39% 61% | |
| Kestenbaum & Khnonov (2011) | Participants watched the 2-hr *The King's Speech* movie (Kings Speech, 2015) in a theatre. | 51 | General university students | USA | en | 23.5 | 37% 63% | |
| Flynn & St. Louis (2011) | Participants listened in their classroom to a 45-min oral presentation by stutterer on stuttering information and personal stories, some humorous, some serious. | 40 | High school students | USA | en | 16.3 | 35% 65% | |
| Flynn & St. Louis (2011) | Participants in their classroom watched the 45-min MTV *I Stutter video* (Schneider, 2007) featuring the stories of three university students and young adults who stuttered. | 43 | High school students | USA | en | 16.2 | 44% 56% | |

| % Stuttering | % Knowing No Stutterers | Pre | Post | Difference/Change | Number in Control Group | Pre | Post | Difference/Change | Change in Experimental Group | Change in Control Group |
|---|---|---|---|---|---|---|---|---|---|---|
| — | — | *Peer Attitudes Toward Stuttering Children (PATSC-40):139, 146, 139* | *PATSC-40: 20, 20, 24* | *119, 126, 115* | — | — | — | — | Positive | — |
| 0% | 67% | *Peer Attitudes Toward Children Who Stutter (PATCS): 3.54* | *PATCS: 3.83* | *0.29* | — | — | — | — | Positive | — |
| 0% | 31% | Woods & Williams (1976) 25-item semantic differential scale | Woods & Williams (1976) 25-item semantic differential scale | *Significantly worse on withdrawn, reticent, and fearful* | — | — | — | — | Negative | — |
| — | — | 11-item semantic differential scale | 11-item semantic differential scale (13 of 17 students) | *No statistics but worse ratings for nervous, tense, and reticent but better ratings on pleasant, quiet, and extroverted* | — | — | — | — | Negative and Positive | — |
| — | — | 50-item Clinicians' Attitudes Toward Stuttering (CATS) | *CATS* | *A: Operant programs effective higher B: Stuttering easy to modify higher, stuttering due to multiple coexisting factors lower, no primary stuttering higher* | — | — | — | — | Little Change | — |
| 0% | — | 54-item Attitude Toward Stuttering scale and an 11-item semantic differential scale on stuttering & a 9-item on communication | No Post: A compared with B | *Attitudes: Differences between A & B: A higher on responses of stutterer to his own stuttering; Semantic differential scales: No differences for stuttering or communication* | — | — | — | — | Little Change and Positive | — |
| | — | 25-item semantic differential scale | 25-item semantic differential scale | *Positive shifts on 8 items: cooperative, pleasant, emotionality, intelligent, flexible, open shy, and daring* | — | — | — | — | Positive | — |
| 0% | 19% | 0 | 12 | *12* | — | — | — | — | Positive | — |
| 0% | 59% | 10 | 16 | *6* | — | — | — | — | Positive | — |
| — | — | 8 | 9 | *1* | — | — | — | — | Little Change | — |
| 2% | 8% | 21 | 32 | *11* | — | — | — | — | Positive | — |
| 0% | 25% | 19 | 44 | *25* | — | — | — | — | Very Positive | — |
| 2% | 30% | 18 | 33 | *16* | — | — | — | — | Very Positive | — |

| Reference(s) | Intervention | Sample Size | Participants | Country | Language of POSHA-S and Intervention | Mean Age (yr) | Males (%) Females (%) | |
|---|---|---|---|---|---|---|---|---|
| Flynn & St. Louis (2011) | Participants listened in their classroom to a 20-min oral presentation by stutterer about stuttering and personal stories after watching the MTV *I Stutter video* (Schneider, 2007) featuring three stutterer's stories. | 43 | High school students | USA | en | 16.2 | 44% 56% | |
| Gottwald Warner, Hartley, Fraas, Hawver, & St. Louis (2011) | Participants watched individually a 12-min custom video on stuttering information and stories of stutterers in a lab. | 10 | Teachers | USA | en | 37.9 | 10% 90% | |
| Gottwald et al. (2011) | Participants watched individually a 12-min custom video on stuttering information and stories of stutterers in a lab. | 18 | SLP students | USA | en | 19.4 | 0% 100% | |
| Gottwald et al. (2011) | Participants individually watched individually a 12-min custom video on stuttering information and stories of stutterers in a lab. | 10 | SLPs | USA | en | 44.1 | 0% 100% | |
| Holcombe & Eisert (2013) | Experimental: Participants individually in a lab read a one-page sheet on stuttering information and causes and watched a 2-min video clip & video of a stutterer discussing his stuttering difficulties. Control: Participants individually in a lab read a one-page sheet on managing stress and its causes and watched a 2-min video of a fluent speaker talking about overcoming bullying. | 24 | General university students | USA | en | 20.5 | 61% 39% | |
| St. Louis & Enoch (2012); St. Louis, Williams, Ware, Guendouzi, & Reichel (2014); St. Louis, Przepiórka, et al. (2014) | Participants were enrolled in the 7-week segment of an undergraduate course devoted to the nature and treatment of stuttering. | 21 | Under-graduate and graduate SLP students | USA | en | 21.9 | 5% 95% | |
| Abdalla & St. Louis (2014) | Experimental: Participants in a classroom watched a 17-min video on stuttering information and three stutterers discussing problems with stuttering in school. Control: No intervention. | 51 | Education university students | Kuwait | ar | 20.3 | 0% 100% | |
| Abdalla & St. Louis (2014) | Experimental: Participants in a classroom watched a 17-min video on stuttering information and three stutterers discussing problems with stuttering in school. Control: No intervention. | 54 | Teachers | Kuwait | ar | 38.6 | 100% 0% | |
| Gottwald, Kent, St. Louis, & Hartley (2014) | Participants watched individually a 12-min custom video on stuttering information and stories of stutterers in a lab. | 19 | University professors | USA | en | 56.9 | 35% 65% | |
| Reichel & St. Louis (2011); Junuzović-Žunić ,Weidner, Reichel, Cook, St. Louis, & Ware. (2015) | Participants attended a full 32-hr graduate course in fluency disorders, including a multidisciplinary module. | 17 | SLP graduate students | USA | en | 24.5 | 12% 88% | |
| Beste-Guldborg, St. Louis, & Shorts (2015) | Participants Interviewed an adult stutterer or parent of stutterer for about 30 min while being enrolled in 13 weeks (about 40 hr) of graduate coursework in fluency disorders. | 18 | SLP graduate students | USA | en | 22.9 | 0% 100% | |
| Beste-Guldborg et al. (2015) | Participants Interviewed an adult stutterer or parent of stutterer for about 30 min while being enrolled in 13 weeks (about 40 hr) of graduate coursework in fluency disorders. | 52 | SLP graduate students | USA | en | 23.9 | 0% 100% | |
| Junuzović-Žunić et al. (2015) | Participants attended their first 45-hr undergraduate course in fluency disorders, | 27 | SLP under-graduate students | Bosnia & Herzegovina (B & H) | bs sr hr | 22.9 | 4% 96% | |
| Kuhn & St. Louis (2015) | In their classroom with a teacher present, participants watched the 15-min Stuttering Foundation's *Stuttering: For Kids by Kids* video (The Stuttering Foundation, 2017). | 36 | Middle school students | USA | en | 12.7 | 56% 44% | |

| % Stuttering | % Knowing No Stutterers | Pre | Post | Difference/Change | Number in Control Group | Pre | Post | Difference/Change | Change in Experimental Group | Change in Control Group |
|---|---|---|---|---|---|---|---|---|---|---|
| 2% | 30% | 33 | 43 | 9 | — | — | — | — | Positive | — |
| 10% | 30% | 40 | 52 | 11 | — | — | — | — | Positive | — |
| 0% | 11% | 28 | 37 | 9 | — | — | — | — | Positive | — |
| 0% | 0% | 56 | 56 | 1 | — | — | — | — | Little Change | — |
| 0% | 21% | 22 | 32 | 10 | 23 | 20 | 22 | 2 | Positive | Little Change |
| 0% | 38% | 33 | 46 | 14 | — | — | — | — | Positive | — |
| — | — | -14 | 14 | 28 | 48 | -9 | -9 | 0 | Very Positive | Little Change |
| — | — | -8 | -8 | 0 | 49 | -13 | -12 | 1 | Little Change | Little Change |
| 10% | 30% | 35 | 48 | 13 | — | — | — | — | Positive | — |
| 0% | 18% | 24 | 36 | 12 | — | — | — | — | Positive | — |
| 0% | 28% | 32 | 56 | 24 | — | — | — | — | Very Positive | — |
| 0% | 35% | 40 | 53 | 13 | — | — | — | — | Positive | — |
| 0% | 11% | 26 | 33 | 7 | — | — | — | — | Positive | — |
| 0% | 25% | 14 | 19 | 5 | — | — | — | — | Little Change | — |

| Reference(s) | Intervention | Sample Size | Participants | Country | Language of POSHA-S and Intervention | Mean Age (yr) | Males (%) Females (%) | |
|---|---|---|---|---|---|---|---|---|
| Kuhn & St. Louis (2015) | In their cafeteria with only the investigator present, participants watched the 15-min Stuttering Foundation's *Stuttering: For Kids by Kids* video (The Stuttering Foundation, 2017). | 12 | Middle school students | USA | en | 13.0 | 43% 57% | |
| Junuzović-Žunić et al. (2015) | Participants attended their second 45-hr undergraduate course on fluency disorders (stuttering therapy), which included practicum treatment of stutterers. | 27 | SLP under-graduate students | Bosnia & Herzegovina (B & H) | bs sr hr | 23.2 | 4% 96% | |
| Spears Hudock, Rasdell-Hudock, Altieri, Vereen, & St. Louis (2015) | Participants watched a video demonstrating how to stutter and completed an assignment of pseudostuttering in public, requiring about 60 min. | 13 | SLP graduate students | USA | en | 31.3 | 8% 92% | |
| Węsierska, Błachnio, Przepiórka, & St. Louis (2015) | Experimental: Participants watched a 45-min Powerpoint presentation on stuttering information. Control: No intervention. | 50 | High school students | Poland | pl | 16.9 | 34% 66% | |
| Węsierska, et al. (2015) | Experimental: Participants watched a 45-min Powerpoint presentation on stuttering information. Control: No intervention. | 16 | General university students | Poland | pl | 20.4 | 13% 87% | |
| Węsierska, et al. (2015) | Experimental: Participants watched a 48-min Polish adaptation of the British Broadcasting Company video *Kid's Speech*. Control: No intervention. | 37 | High school students | Poland | pl | 17.9 | 35% 65% | |
| Węsierska, et al. (2015) | Experimental: Participants watched a 48-min Polish adaptation of the British Broadcasting Company video *Kid's Speech*. Control: No intervention. | 26 | General university students | Poland | pl | 21.9 | 0% 100% | |
| Stork & Johnson (2016) | Participants Interviewed an adult stutterer or parent of stutterer for about 30 min while being enrolled in 1 week of graduate coursework in fluency disorders. | 27 | SLP graduate students | USA | en | 26.0 | 11% 89% | |
| Bolton et al. (2017) | Participants attended a 4-hr interactive workshop on stuttering information and classroom management. | 20 | Teachers | UK | en | 39.6 | 5% 95% | |
| St. Louis & Flynn (2018) | Seven years earlier, participants had listened in their classroom to a 45-min oral presentation by a stutterer about stuttering and personal stories or after watching the 45-min MTV *I Stutter* video (Schneider, 2007) featuring three stutterer's stories followed by a 20-min oral presentation by the same stutterer. | 36 | Young adults | USA | en | 23.0 | 26% 74% | |
| St. Louis, Węsierska, & Polewczyk (2018) | Participants attended a 2-hr workshop on informational and emotional aspects of stuttering featuring one stuttering specialist and one leader of a self help group. | 132 | Teachers | Poland | pl | 40.7 | 6% 94% | |
| St. Louis, et al. (2018) | Participants attended a 15-wk course (about 23 hr) on stuttering with involving a variety of assignments, notably to (a) interview a stutterer, (b) attend a self help group, and (c) attend an additional 2-hr workshop designed for teachers. | 75 | General university students | Poland | pl | 23.2 | 0% 100% | |
| Weidner, St. Louis, & Glover (2018) | Participants watched two puppet videos about stuttering and inclusion; participated in guided small group discussions, and filled out and took home a coloring/activity book about the *InterACT* Program (Weidner, 2015) for a total of about 1 hr. | 37 | Preschool students | USA | en | 4.9 | 38% 62% | |
| Chu (2021) (Personal communication) | Participants watched an 8-min online video in a school room featuring diagnosis and management of stuttering; impact on one's life; and a personal sharing by a stutterer. | 48 | Teachers | Malaysia | en | 38.4 | 19% 81% | |
| Williams, Tetnowski, St. Louis, & Aarstad (2019) | Experimental: Participants listened to and interacted with an SLP, who, with a 10-min Powerpoint presentation, covered seven brief segments regarding the nature, diagnosis, and management of stuttering, as well as classroom tips for teachers. Control: No intervention. | 16 | Education university students | USA | en | 21.5 | 0% 100% | |

| % Stuttering | % Knowing No Stutterers | Pre | Post | Difference/Change | Number in Control Group | Pre | Post | Difference/Change | Change in Experimental Group | Change in Control Group |
|---|---|---|---|---|---|---|---|---|---|---|
| 0% | 8% | 24 | 21 | -4 | — | — | — | — | Little Change | — |
| 0% | 7% | 33 | 37 | 5 | — | — | — | — | Little Change | — |
| 0% | 23% | 38 | 40 | 3 | — | — | — | — | Little Change | — |
| 4% | 22% | 8 | 11 | 2 | 24 | 11 | 10 | -1 | Little Change | Little Change |
| 0% | 25% | 23 | 26 | 3 | 23 | 18 | 21 | 3 | Little Change | Little Change |
| 3% | 32% | 13 | 12 | -1 | 24 | 11 | 10 | -1 | Little Change | Little Change |
| 0% | 31% | 26 | 25 | -1 | 23 | 18 | 21 | 3 | Little Change | Little Change |
| 4% | 33% | 32 | 46 | 14 | — | — | — | — | Positive | — |
| 0% | 10% | 30 | 54 | 24 | — | — | — | — | Very Positive | — |
| 3% | 14% | 17 | 38 | 21 | — | — | — | — | Very Positive | — |
| 0% | 30% | 25 | 44 | 19 | — | — | — | — | Very Positive | — |
| 0% | 37% | 17 | 55 | 38 | — | — | — | — | Very Positive | — |
| 0%* | 92%* | 3 | 15 | 12 | — | — | — | — | Positive | — |
| 2% | 21% | 19 | 20 | 1 | — | — | — | — | Little Change | — |
| 0% | 19% | 29 | 49 | 20 | 19 | 30 | 38 | 8 | Very Positive | Positive |

| Reference(s) | Intervention | Sample Size | Participants | Country | Language of POSHA-S and Intervention | Mean Age (yr) | Males (%) Females (%) | |
|---|---|---|---|---|---|---|---|---|
| Williams et al. (2019) | Experimental: Participants listened to and interacted with an SLP and a stutterer, who, with a 10-min Powerpoint presentation, covered seven brief segments regarding the nature, diagnosis, and management of stuttering, as well as classroom tips for teachers. The stutterer presented three of seven segments. Control: No intervention. | 14 | Education university students | USA | en | 22.0 | 7% 93% | |
| Azios, Kunda, Irani, & St. Louis (2020) | Participants in a phonetics class watched a short introductory video clip on stuttering (before completing pre-tests) and then, over four weeks, four inspirational videos of stuttering speakers and one nonstuttering speaker (total = 53 min) discussing how one imperfections or stuttering can be viewed as part of one's life and can be overcome. Videos were followed by discussions within the class. | 27 | 1st year SLP under-grad-uate students | USA | en | 23.6 | 4% 96% | |
| Hearne et al. (2020) | Participants read an online fact sheet about stuttering and watched an online 20-min Michael Palin Center video *Wait, wait I'm not finished yet...* | 25 | Primary teachers | New Zealand | en | 38.1 | 0% 100% | |
| Nelson (2020) | Experimental: Participants listened to two interviews of stutterers talking about difficulties with their stuttering and how to react to a stutter, combined into a 30 min podcast. Control: Participants read silently for about 14 min the transcript of the two stuttering interviews in the podcast with stutterings shown orthographically. | 21 | General university students | USA | en | 21.0 | 39% 61% | |
| Węsierska, Weidner, & St. Louis (2021) | Participants watched two puppet videos about stuttering and inclusion; participated in guided small group discussions, and filled out and took home a coloring/activity book about the *InterACT* Program (Weidner, 2015). | 43 | Preschool students | Poland | pl | 6.7 | 57% 43% | |
| Mean: | | 35 | | | | 24.5 | | |
| * Characteristic of parents | | | | | | | | |

| % Stuttering | % Knowing No Stutterers | Pre | Post | Difference / Change | Number in Control Group | Pre | Post | Difference / Change | Change in Experimental Group | Change in Control Group |
|---|---|---|---|---|---|---|---|---|---|---|
| 0% | 36% | 29 | 43 | 14 | 19 | 30 | 38 | 8 | Positive | Positive |
| 4% | 15% | 41 | 46 | 5 | — | — | — | — | Little Change | — |
| 0% | 28% | 26 | 42 | 16 | — | — | — | — | Very Positive | — |
| 0% | — | 31 | 40 | 9 | 18 | 24 | 26 | 2 | Positive | Little Change |
| 2%* | 65%* | -3 | 10 | 13 | — | — | — | — | Positive | — |
| 1.4% | 24.3% | 22.5 | 33.4 | 11.0 | 27 | 14.0 | 16.5 | 2.5 | | |
| | | | | | | | | | Very Positive 10 (21%) | |
| | | | | | | | | | Positive 20 (43%) | Positive 2 (20%) |
| | | | | | | | | | Little Change 14 (30%) | Little Change 8 (80%) |
| | | | | | | | | | Negative & Positive 1 (2%) | |
| | | | | | | | | | Little Change & Positive 1 (2%) | |
| | | | | | | | | | Negative 1 (2%) | |