

Speech-Language Pathologists' Perceptions of Persons Who Stutter Before and After Speech Therapy

Matthew R. Anderson and Andrew Stuart*

Department of Communication Sciences and Disorders, East Carolina University, Greenville, NC, USA

Abstract: *Background and Aim:* It has been well established that the general public and speech-language pathologists (SLPs) perceive persons who stutter (PWS) in a negative manner. SLPs' perceptions of PWS, before and after the completion of speech therapy, were examined. Their perceptions were contrasted with those of persons with aphasia (PWA) and a typical normal speaker.

Methods: SLP participants ($N = 188$) completed bipolar adjectives/semantic differential test scales. Each participant completed three scales (i.e., one for the normal speaker, PWS, and PWA).

Results: SLPs perceived PWS and PWA significantly more negatively (e.g., more guarded, nervous, shy, tense, anxious, withdrawn, reticent, avoiding, introverted, and self-derogatory) than a normal speaker ($p < .002$). PWS were perceived more negatively (e.g., uncooperative, shy, self-conscious, tense, anxious, avoiding, emotional, and careless) than PWA before therapy ($p < .002$). There were no significant differences in perceptions between PWA and PWS after therapy ($p > .002$). While the perception of numerous scale items improved for PWS and PWA after therapy, many were still significantly different than the normal speaker ($p < .002$).

Conclusions: The findings of the present study suggest SLPs perceive PWS and PWA in a negative light. While perceptions of clients improve following therapy, some negative stereotypes remain relative to a typical normal speaker.

Keywords: Stuttering, aphasia, therapy, perception, stereotype, speech-language pathologist.

INTRODUCTION

It is well established that persons who stutter (PWS) are perceived in a negative manner. They are typically considered to be more quiet, reticent, guarded, avoiding, introverted, passive, self-derogatory, anxious, tense, nervous, afraid, and more sensitive relative to fluent speakers. This negative stereotype is pervasive – it has been demonstrated among the general public [1-3], college students [4, 5], store clerks [6], teachers [7, 8], and vocational rehabilitation counselors [9]. It is also evident among those who stutter [10, 11], parents of PWS [12-14], and speech-language pathologists (SLPs) [2, 15-21].

Past studies that have examined the perceptions of PWS held by SLPs have not looked at the effect of therapy. That is, what are the perceptions held by SLPs of PWS before and after the completion of speech therapy? In other words, do SLPs negative perceptions of PWS change following therapy? Considering, for example, that treatment of stuttering is successful and SLPs express treatment to be clinically gratifying [22], one could suggest that perceptions of one's client would change following therapy. The purpose of the present study was to examine this speculation.

Additionally, SLPs' perceptions of PWS were contrasted with those of persons with aphasia (PWA). PWA were chosen as a study population as they present with another fluency related speech disorder. Further, SLPs play a significant role in the screening, assessment, diagnosis, and treatment of PWS and PWA. Provision of services, to both PWS and PWA, falls within the scope of practice for SLPs [e.g., 23-27]. Perceptions of both PWS and PWA were compared with a typical normal speaker. Three main lines of query were: Do SLPs perceive patients with different communication disorders similarly (i.e., PWS versus PWA)? Do the perceptions of patients with different communication disorders differ before and after therapy among SLPs? What are the perceptions of patients with different communication disorders compared to a typical normal speaker?

METHOD

Participants

The participants were SLPs attending the North Carolina Speech Hearing and Language Association (NCSHLA) Spring Convention in 2015. The number of individuals attending the NCSHLA Convention was approximately 400. Attendees at the NCSHLA Convention were predominately female due to the high ratio of females in the field of speech-language pathology. Two hundred and twelve SLPs responded to a request to participate.

*Address correspondence to this author at the Department of Communication Sciences and Disorders, Mail Stop 668, East Carolina University, Greenville, NC 27858-4353, USA; Tel: 1-252-744-6095; Fax: 1-252-744-6109; E-mail: stuarta@ecu.edu

Table 1: Mean Bipolar Differential Scale Item Values and Standard Error (in parentheses) For The Normal Speaker, Person Who Stutter (PWS), and Person With Aphasia (PWA) Before and After Therapy

Scale	Speaker				
	Normal	PWS		PWA	
		Before Therapy	After Therapy	Before Therapy	After Therapy
Open/Guarded	2.9 (.1)	5.7 (.1)	3.8 (.1)	5.4 (.1)	4.0 (.1)
Nervous/Calm	4.8 (.1)	2.7 (.1)	4.0 (.1)	2.9 (.1)	4.1 (.1)
Cooperative/Uncooperative	2.8 (.1)	3.2 (.1)	3.0 (.1)	3.9 (.1)	3.1 (.1)
Shy/Bold	4.4 (.1)	2.6 (.1)	3.7 (.1)	3.4 (.1)	3.8 (.1)
Friendly/Unfriendly	2.8 (.1)	3.2 (.2)	3.0 (.1)	3.7 (.1)	3.2 (.1)
Self-conscious/Self-assured	4.6 (.1)	2.0 (.1)	3.6 (.2)	2.5 (.1)	3.4 (.1)
Tense/Relaxed	4.9 (.1)	2.1 (.1)	3.9 (.1)	2.9 (.1)	3.8 (.1)
Sensitive/Insensitive	3.6 (.1)	2.7 (.1)	3.3 (.1)	3.1 (.1)	3.3 (.1)
Anxious/Composed	4.8 (.1)	2.2 (.1)	4.0 (.1)	2.7 (.1)	3.7 (.1)
Pleasant/Unpleasant	2.9 (.1)	2.9 (.1)	2.8 (.1)	3.7 (.1)	3.1 (.1)
Withdrawn/Outgoing	4.8 (.1)	2.7 (.1)	4.0 (.1)	2.9 (.1)	3.7 (.1)
Quiet/Loud	4.2 (.1)	2.6 (.1)	3.7 (.1)	2.8 (.1)	3.5 (.1)
Intelligent/Dull	3.1 (.1)	2.7 (.1)	3.0 (.1)	3.4 (.1)	3.0 (.1)
Talkative/Reticent	3.3 (.1)	4.9 (.1)	3.8 (.1)	5.0 (.1)	4.0 (.1)
Avoiding/Approaching	5.0 (.1)	2.5 (.1)	4.0 (.2)	2.9 (.1)	4.0 (.1)
Fearful/Fearless	4.6 (.1)	2.6 (.1)	3.9 (.1)	2.9 (.1)	3.9 (.1)
Aggressive/Passive	4.2 (.1)	4.8 (.1)	4.4 (.1)	4.3 (.1)	4.5 (.1)
Afraid/Confident	5.0 (.1)	2.7 (.1)	4.3 (.1)	3.0 (.1)	4.1 (.1)
Introverted/Extroverted	4.4 (.1)	2.7 (.1)	3.9 (.1)	3.1 (.1)	3.8 (.1)
Emotional/Bland	3.8 (.1)	3.5 (.1)	3.9 (.1)	2.9 (.1)	3.4 (.1)
Perfectionistic/Careless	3.8 (.1)	3.4 (.1)	3.7 (.1)	4.1 (.1)	3.7 (.1)
Bragging/Self-derogatory	3.7 (.1)	4.9 (.1)	4.2 (.1)	4.8 (.1)	4.4 (.1)
Inflexible/Flexible	4.5 (.1)	4.0 (.1)	4.5 (.1)	3.7 (.1)	4.4 (.1)

Test Scale

The semantic differential test scale, developed by Woods and Williams [14] was utilized to probe perceptions of the participants. Each bipolar adjective pair (see Table 1) was presented with a seven-point Likert scale. One of three different sets of instructions for completing the questionnaire was printed at the top of each scale (see appendix).

Procedure

The University and Medical Center Institutional Review Board at East Carolina University reviewed and approved the research study prior to any data collection. Signed consent was obtained from all participants. Trained research assistants coordinated the dissemination and return of the surveys. Each participant was given a cover letter describing the research purpose and surveys. The different survey versions assessed perceptions of the following conditions: a normal speaker, PWS before therapy, PWS after therapy, PWA before therapy, and PWA after therapy. Every participant was given three semantic differential test scales. Each participant completed one scale evaluating a normal speaker. The remaining two scales differed among participants: the participants could have received two before therapy surveys, two after therapy surveys, or a before and after therapy survey. A participant was never given a before and after therapy survey for the same disorder.

RESULTS

Of 300 surveys distributed, 212 (71%) were returned. Twenty-four surveys were discarded, as they were incomplete leaving 188 (63%) for analyses. The distribution of completed returned surveys was as follows: 188 normal, 114 PWS before therapy, 74 PWS after therapy, 96 PWA before therapy, and 92 PWA after therapy. The Likert means and standard errors of each bipolar differential scale item as a function of speaker condition are displayed in Table 1.¹

Figure 1 illustrates mean bipolar differential scale item values for the normal speaker and PWS before and after therapy. Paired *t*-tests were used to examine differences between each bipolar differential scale item for the normal speaker and PWS before and after therapy. The results are displayed in Table 2. A

Bonferroni correction was undertaken for these comparisons and subsequent comparisons below to maintain a type I family-wise α of .05. As such, a per comparison significance level of $\alpha < .002$ was adopted. All scale items were statistically significant between the normal speaker and PWS before therapy except for cooperative, friendly, pleasant, intelligent, and emotional. The normal speaker and PWS after therapy differed on 14 scales. PWS after therapy were seen as less guarded, calmer, bolder, more self-assured, relaxed, more composed, more outgoing, louder, less reticent, more approaching, more passive, more confident, more extroverted, and less self-derogatory.

Independent *t*-tests were used to examine differences between each bipolar differential scale item for PWS before and after therapy. The results are displayed in Table 3 and Figure 1. PWS after therapy were viewed with a more positive perception – evidenced by statistically significant changes on numerous scale items: They were viewed as significantly more open, calm, bold, self-assured, relaxed, composed, outgoing, talkative, approaching, fearless, and confident while being less sensitive, quiet, extroverted, emotional, and self-derogatory.

Figure 2 illustrates mean bipolar differential scale item values for the normal speaker and PWA before and after therapy. Paired *t*-tests were used to examine differences between each bipolar differential scale item for the normal speaker and PWA before and after therapy. The results are also displayed in Table 2. All the scales items were statistically significant between the normal speaker and PWA before therapy except for intelligence and aggressiveness. In comparison, after therapy, all scale items were statistically significant except for cooperative, friendly, sensitive, pleasant, intelligent, emotional, careless, and flexible. According to these statistically significant values, SLPs saw PWA after therapy as calmer, bolder, more relaxed, more composed, more outgoing, more fearless, more confident, and more extroverted.

Independent *t*-tests were also used to examine differences between each bipolar differential scale item for the normal speaker and PWA before and after therapy. The results are also displayed in Table 3 and Figure 2. PWA after therapy were also viewed with a more positive perception – evidenced, as well, by statistically significant changes on numerous scale items: They were viewed as significantly more open, calm, cooperative, self-assured, relaxed, composed, pleasant, outgoing, talkative, approaching, fearless,

¹Data from two bipolar adjective pairs was corrupted and hence discarded.

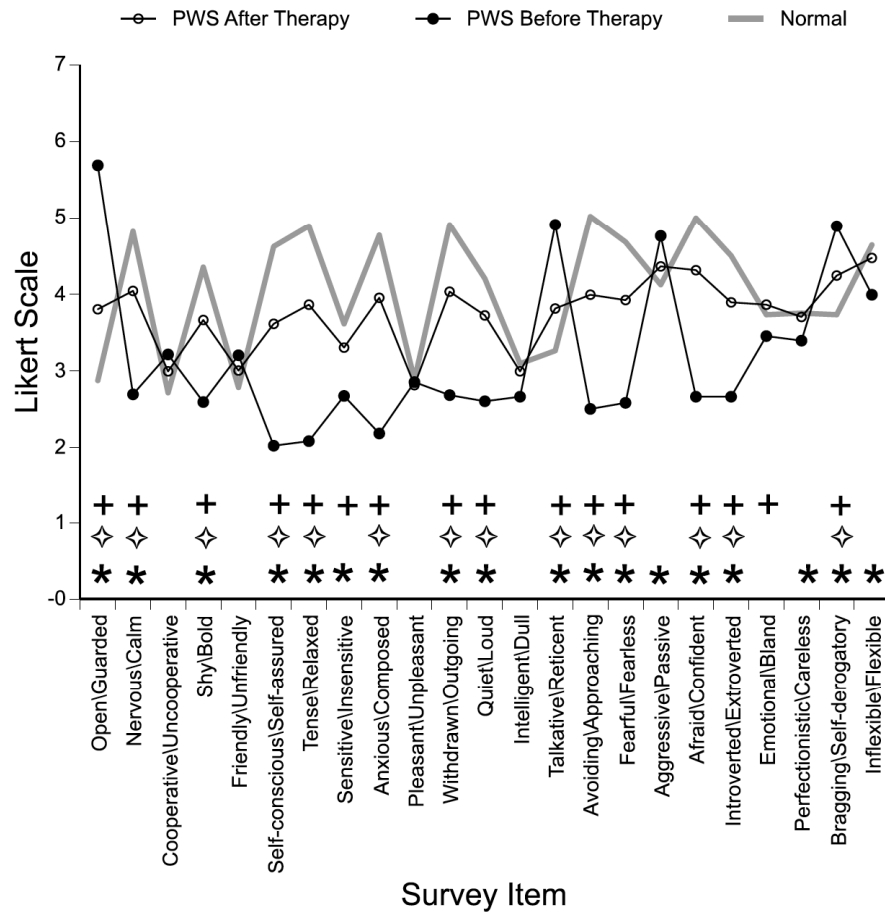


Figure 1: Mean bipolar differential scale item values for the normal speaker and persons who stutter (PWS) before and after therapy. Statistically significant differences ($p < .002$) before and after therapy from a normal speaker are represented with asterisks and stars, respectively. Statistically significant differences ($p < .002$) before and after therapy are represented with plus signs.

Table 2: Mean Differences (M) Between Bipolar Differential Scale Item Values and Results of t-Tests Examining Differences Between The Normal Speaker, Persons who Stutter (PWS), and Persons With Aphasia (PWA) Before and After Therapy.

Scale	M	PWS				M	PWA		
		Before Therapy		After Therapy			Before Therapy		After Therapy
		p	M	p		p	M	p	
Open/Guarded	2.8	< .001*	1.0	< .001*	2.5	< .001*	1.2	< .001*	
Nervous/Calm	2.1	< .001*	0.9	< .001*	1.8	< .001*	0.9	< .001*	
Cooperative/Uncooperative	0.5	.005	0.4	.055	1.0	< .001*	0.5	.002	
Shy/Bold	1.8	< .001*	0.7	< .001*	0.9	< .001*	0.6	< .001*	
Friendly/Unfriendly	0.4	.015	0.3	.184	0.8	< .001*	0.4	.013	
Self-conscious/Self-assured	2.6	< .001*	1.1	< .001*	2.2	< .001*	1.2	< .001*	
Tense/Relaxed	2.8	< .001*	1.1	< .001*	1.9	< .001*	1.2	< .001*	
Sensitive/Insensitive	0.9	< .001*	0.4	.009	0.6	< .001*	0.2	.177	
Anxious/Composed	2.6	< .001*	0.8	.001*	1.9	< .001*	1.2	< .001*	
Pleasant/Unpleasant	0.1	.699	0.3	.879	0.8	< .001*	0.2	.123	
Withdrawn/Outgoing	2.1	< .001*	1.0	< .001*	2.0	< .001*	1.2	< .001*	

(Table 1). Continued.

Scale	M	PWS			PWA			
		Before Therapy	M	After Therapy	Before Therapy	M	After Therapy	
		p		p	M		p	
Quiet/Loud	1.6	< .001*	0.5	< .001*	1.3	< .001*	0.8	< .001*
Intelligent/Dull	0.4	.002	0.1	.335	0.3	.094	0.1	.646
Talkative/Reticent	1.6	< .001*	0.6	.001*	1.7	< .001*	0.8	< .001*
Avoiding/Approaching	2.5	< .001*	1.1	< .001*	2.1	< .001*	1.1	< .001*
Fearful/Fearless	2.1	< .001*	0.8	< .001*	1.8	< .001*	0.7	< .001*
Aggressive/Passive	0.6	< .001*	0.3	.012	0.2	.225	0.4	< .001*
Afraid/Confident	2.3	< .001*	0.7	< .001*	2.0	< .001*	0.9	< .001*
Introverted/Extroverted	1.8	< .001*	0.7	< .001*	1.5	< .001*	0.7	< .001*
Emotional/Bland	0.4	.004	0.2	.033	0.9	< .001*	0.3	.003
Perfectionistic/Careless	0.4	< .001*	0.0	.838	0.5	.001*	0.2	.081
Bragging/Self-derogatory	1.2	< .001*	0.5	< .001*	1.1	< .001*	0.6	< .001*
Inflexible/Flexible	0.6	< .001*	0.3	.027	0.9	< .001*	0.4	.005

Note. *considered significant at $p < .002$.

Table 3: Mean Differences (M) Between Bipolar Differential Scale Item Values and Results of t-Tests Examining Differences in Bipolar Differential Scale Item Values Between Before and After Therapy For Persons who Stutter (PWS) and Persons With Aphasia (PWA)

Scale	PWS		PWA	
	M	p	M	p
Open/Guarded	1.9	< .001*	1.4	< .001*
Nervous/Calm	1.4	< .001*	1.2	< .001*
Cooperative/Uncooperative	0.3	.214	0.8	< .001*
Shy/Bold	1.1	< .001*	0.4	.007
Friendly/Unfriendly	0.2	.277	0.5	.002
Self-conscious/Self-assured	1.6	< .001*	0.9	< .001*
Tense/Relaxed	1.8	< .001*	1.0	< .001*
Sensitive/Insensitive	0.6	< .001*	0.2	.251
Anxious/Composed	1.8	< .001*	1.0	< .001*
Pleasant/Unpleasant	0.0	.828	0.7	< .001*
Withdrawn/Outgoing	1.3	< .001*	0.8	< .001*
Quiet/Loud	1.1	< .001*	0.6	< .001*
Intelligent/Dull	0.3	.066	0.4	.050
Talkative/Reticent	1.1	< .001*	1.0	< .001*
Avoiding/Approaching	1.5	< .001*	1.0	< .001*
Fearful/Fearless	1.3	< .001*	1.0	< .001*
Aggressive/Passive	0.4	.007	0.2	.274
Afraid/Confident	1.7	< .001*	1.1	< .001*
Introverted/Extroverted	1.2	< .001*	0.7	< .001*
Emotional/Bland	0.4	.001*	0.5	< .001*
Perfectionistic/Careless	0.3	.030	0.5	< .001*
Bragging/Self-derogatory	0.6	< .001*	0.4	.003
Inflexible/Flexible	0.5	.003	0.7	< .001*

Note. *considered significant at $p < .002$.

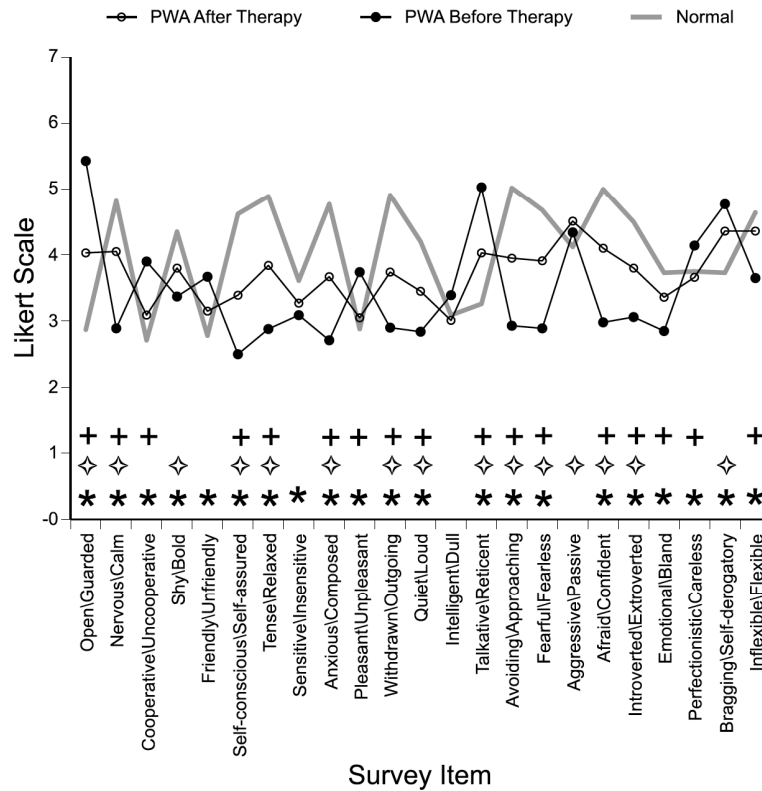


Figure 2: Mean bipolar differential scale item values for the normal speaker and persons with aphasia (PWA) before and after therapy. Statistically significant differences ($p < .002$) before and after therapy from a normal speaker are represented with asterisks and stars, respectively. Statistically significant differences ($p < .002$) before and after therapy are represented with plus signs.

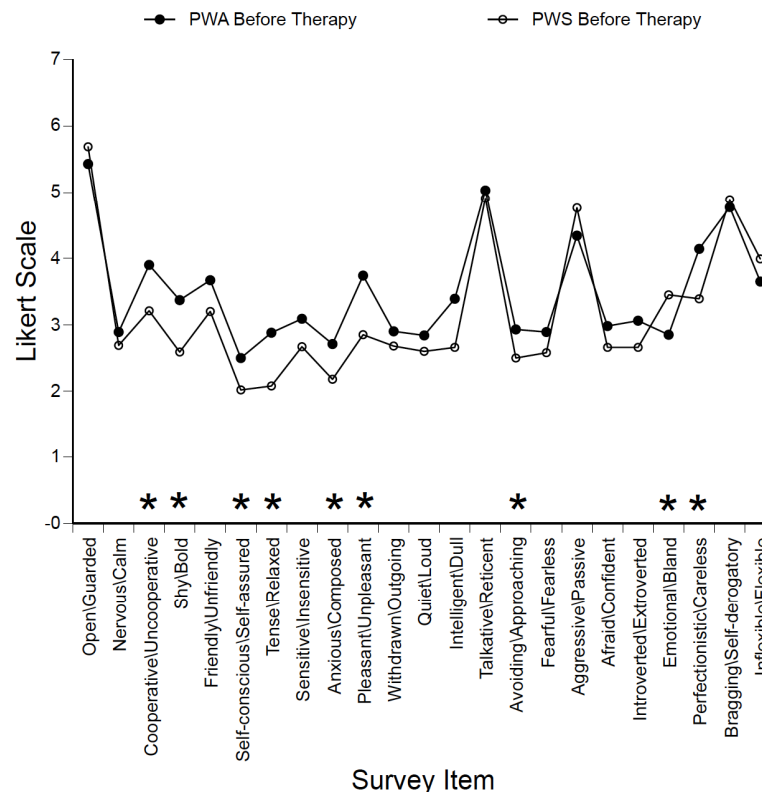


Figure 3: Mean bipolar differential scale item values for persons who stutter (PWS) and persons with aphasia (PWA) before therapy. Asterisks represent statistically significant differences ($p < .002$).

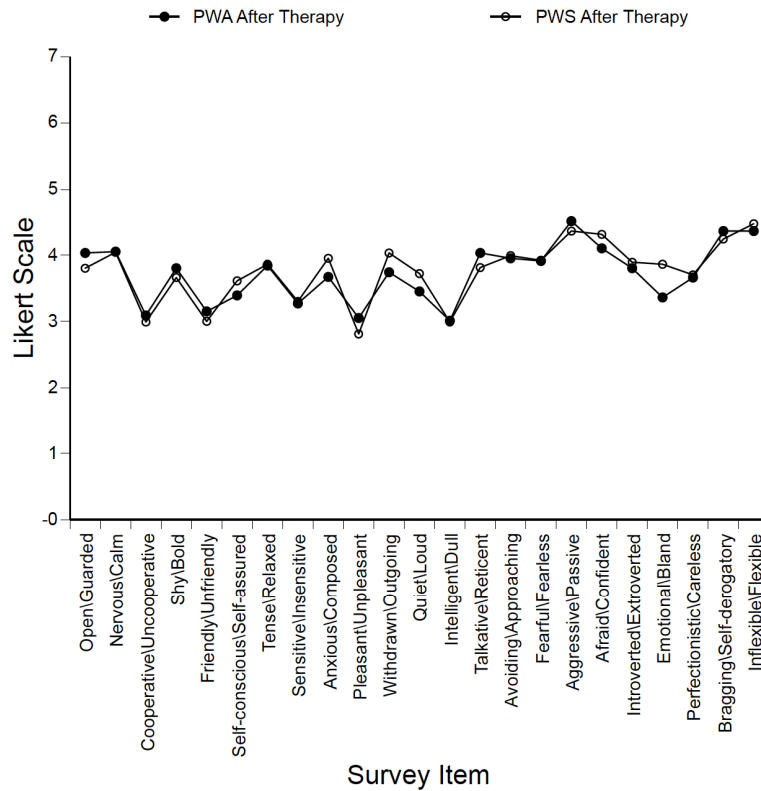


Figure 4: Mean bipolar differential scale item values for persons who stutter (PWS) and persons with aphasia (PWA) after therapy.

confident, and flexible while being less quiet, extroverted, and emotional, and self-derogatory.

Figures 3 and 4 display mean bipolar differential scale item values for PWS and PWA before and after therapy, respectively. Paired *t*-tests were used to examine differences between each bipolar differential scale item for PWS and PWA before and after therapy. Table 4 displays the results of these comparisons. Nine bipolar differential scale items were found to be statistically significant before therapy. That is, PWS were seen as more cooperative, more shy, more self-conscious, tenser, more anxious, more pleasant, avoided more, bland, and less careless in comparison to PWA. Speech-language pathologists viewed PWA before therapy in comparison to PWS as uncooperative, bolder, less self-conscious, less tense, less anxious, unpleasant, avoided less, more emotional, and more careless. There were no statistically significant differences between PWA and PWS after therapy.

DISCUSSION

The most important findings from the present study were: there was a positive shift in perceptions held by SLPs of PWS and PWA after therapy; PWA were seen

in a more positive light prior to therapy in comparison to PWS; and PWA and PWS were never perceived to be the same as a typical speaker even after therapy. This positive shift in the perceptions of PWA and PWS suggests that negative perceptions held by SLPs become more positive as therapy progresses. The finding that therapy helps SLPs to perceive PWS and PWA in a more positive light is probably most likely tied to an accepted (e.g., from training the application of evidence based practice) or internalized concept that “therapy works”. That is, SLPs would not implement or conduct therapy if they did not believe a positive therapeutic effect allowing their clients to live a more successful and beneficial life.

The finding that SLPs hold negative stereotypes towards PWS is consistent with previous findings [2, 15-21]. The negative views of PWA by SLPs is first reported herein. These perceptions are similar to those held by spouses of PWA. For example, Zraick and Boone [28] reported negative attitudes of individuals towards their aphasic spouse. Specifically, a significantly greater number of negative attitudes (viz., compliance, desirability, egocentricity, independence, maturity, and sociability) were held by spouses of nonfluent aphasic patients versus the spouses of fluent

Table 4: Mean Differences (M) Between Bipolar Differential Scale Item Values and Results of t-Tests Examining Differences In Bipolar Differential Scale Item Values Between Persons who Stutter (PWS) and Persons With Aphasia (PWA) Before and After Therapy

Scale	Before Therapy		After Therapy	
	<i>M</i>	<i>p</i>	<i>M</i>	<i>p</i>
Open/Guarded	0.4	.070	0.2	.378
Nervous/Calm	0.2	.439	0.2	.543
Cooperative/Uncooperative	0.6	.001*	0.1	.548
Shy/Bold	1.0	< .001*	0.4	.075
Friendly/Unfriendly	0.4	.015	0.1	.593
Self-conscious/Self-assured	0.5	.001*	0.2	.270
Tense/Relaxed	0.9	< .001*	0.0	1.000
Sensitive/Insensitive	0.5	.003	0.0	.889
Anxious/Composed	0.5	.001*	0.2	.449
Pleasant/Unpleasant	0.9	< .001*	0.1	.580
Withdrawn/Outgoing	0.3	.067	0.2	.480
Quiet/Loud	0.3	.175	0.1	.486
Intelligent/Dull	0.6	.002	0.4	.046
Talkative/Reticent	0.0	1.000	0.3	.210
Avoiding/Approaching	0.5	< .001*	0.2	.559
Fearful/Fearless	0.3	.013	0.1	.711
Aggressive/Passive	0.4	.023	0.2	.263
Afraid/Confident	0.3	.014	0.2	.253
Introverted/Extroverted	0.4	.005	0.2	.313
Emotional/Bland	0.8	< .001*	0.4	.012
Perfectionistic/Careless	0.7	< .001*	0.1	.472
Bragging/Self-derogatory	0.1	.478	0.0	.800
Inflexible/Flexible	0.4	.014	0.2	.229

Note. *considered significant at $p < .002$.

aphasic patients. Further, the spouses of PWA had a significantly greater number of negative attitudes toward their spouses than matched controls. That is, spouses believed that their partners with aphasia were immature, demanding, worrying, temperamental, and nervous. Similarly, Croteau and Dorze [29] reported that spouses of PWA used negative adjectives to describe their spouses' likeability, achievement, endurance, and organizational skills in comparison to spouses of partners without aphasia.

An important issue to discuss is how negative perceptions of stuttering came into existence. White and Collins [5] stated that negative perceptions could have been derived from the feelings that normal fluent speakers experience when they have dysfluent speech. In other words, typical speaking individuals had

negative perceptions of PWS because they experienced or felt negative feelings themselves when they had dysfluent moments, and then they projected those feelings onto PWS. It is worth mentioning that the negative perceptions held by the participants interviewed have been shown to exist across the different severities and age ranges of PWS. Ragsdale and Ashby [18] found that negative feelings against PWS held by SLPs were the same regardless of the sex or age of a stutterer. It was also found that increasing the age, degree level, experience, and coursework did not affect the level of negative feelings or perceptions held by SLPs.

These negative perceptions can also come into existence partially or completely by psychophysiological responses that typically take place without the

listener's knowledge. The psychophysiological responses can include the deceleration of a listener's heart rate and a substantial increase in skin conductance [30]. Stuttering can be characteristically physical in appearance in regards to struggle and tense behaviors that are witnessed by a listener of PWS. These physical manifestations of the disorder have the ability to cause the listener to feel nervous, anxious, ashamed, embarrassed, invaded, frightened, etc. [31]. Since these psychophysiological responses often occur subconsciously, it is difficult to assess exactly how these natural responses have affected or caused negative perceptions to form. According to Kalinowski *et al.* [3], a negative perception of PWS did not have to be formed by physically witnessing a stuttering event but instead can be derived from literature, film, and other forms of media.

The perceptions held by licensed SLPs is important to consider in regards to how it may affect the therapy they provide to patients who stutter or those with aphasia. Turnbaugh *et al.* [19] stated that the existence of negative perceptions held by the SLPs treating PWS might, in fact, influence the stutterer's self-concept and cause the negative behavioral traits to appear in PWS. In other words, the actions and beliefs of the SLPs with negative perceptions might cause PWS to acquire these negative traits, which would result in a self-fulfilling prophecy. Having these negative traits will obviously cause an adverse effect on a client's life and impede the progress made during the therapeutic process. The positive shift in the perceptions held by SLPs, as seen in this study, has the potential of having a positive effect on therapy and lead to a better prognosis for the client's future.

In conclusion, SLPs hold negative perceptions of PWS and PWA. While the perception of the two groups improves following therapy, it still remains negative relative to a typical normal speaker. Future research should address the origins of these negative perceptions of SLPs and whether they impact delivery of therapeutic services.

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and the 2016 Annual Convention of the North Carolina Speech, Hearing And Language Association, Raleigh, NC, USA.

APPENDIX

Below you will see some rating scales each with seven circles. I would like you to evaluate how you perceive a typical speaker. Please put a check mark in the circle below that identifies what you think are the traits of a typical speaker.

Below you will see some rating scales each with seven circles. I would like you to evaluate how you perceive a person who stutters. Please put a check mark in the circle below that identifies what you think are the traits of a person who stutters BEFORE/AFTER speech therapy.

Below you will see some rating scales each with seven circles. I would like you to evaluate how you perceive a person who has aphasia. Please put a check mark in the circle below that identifies what you think are the traits of a person who has aphasia BEFORE/AFTER speech therapy.

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