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Pseudostuttering as a Training Method – An Analysis of Graduate Clinicians’  
Perceptions and Attitudes

By

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A thesis  
submitted in partial fulfillment of the requirements for the degree of  
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## **Committee Approval**

To the Graduate Faculty:

The members of the committee appointed to examine the thesis of Sara R. Spears find it satisfactory and recommend that it be accepted.

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RE: Your application dated 5/22/2014 regarding study number 4113: Evaluation of an Interprofessional Education During an Intensive Stuttering Clinical Practicum

Dear Dr. Hudock:

I agree that this study qualifies as exempt from review under the following guideline: 1. Research on educational practices in educational settings. This letter is your approval, please, keep this document in a safe place.

Notify the HSC of any adverse events. Serious, unexpected adverse events must be reported in writing within 10 business days.

You are granted permission to conduct your study effective immediately. The study is not subject to renewal.

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Sincerely,

Ralph Baergén, PhD, MPH, CIP  
Human Subjects Chair

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## **Abstract**

Through this study, we explored the pre and post attitudes and perceptions of graduate students towards people who stutter (PWS) as a consequence of pseudostuttering. To gain understanding of the daily challenges faced by clients with fluency disorders, a total of 13 speech-language pathology and counseling students completed a 1-hour pseudostuttering assignment. Assessments were then administered to examine participants' perceptions and beliefs about stuttering and PWS, in addition to their inward introspection concerning their own life priorities, and outlook on their emotional and mental health. Results indicated an increase in overall knowledge about stuttering and PWS, with some increases in stereotypical assumptions of negative personality traits. It is interpreted that participants likely gained a more realistic perspective of living with a stuttering disorder. Pseudostuttering may provide an important component in client-clinician relationship building by establishing empathy.



## Pseudostuttering as a Training Method – An Analysis of Graduate Clinicians’ Perceptions and Attitudes

Pseudostuttering has been an often-used technique within fluency classes to instill empathy for future speech-language pathologists in treating people who stutter (PWS) (Ham, 1990; Lohman, 2008). Pseudostuttering, for clinical education, is defined as an activity in which the role player takes on the identity and the challenges of a stuttering impairment (Ham, 1990; Shapiro, 1999). During the course of a pseudostuttering assignment, a fluent speaker simulates stuttering within everyday contexts such as making a telephone call, ordering at a restaurant, or asking for directions (Irani & Richmond, 2012; Rami, Kalinowski, Stuart, & Rastatter, 2003). This type of role-playing activity comprises an integral part in establishing the foundations for empathy by requiring future clinicians to step into the shoes of their clients who stutter. In doing so, future clinicians may gain insight into what it is like to live with a communication disorder. Therefore, students may be better prepared to empathize with their future clients, and enact more effective treatment strategies due to a changed perspective (Manning, 2004). Such experiential clinical education activities may be used to enhance student clinicians’ understanding and integration of evidence-based practice (EBP).

### **Evidence-Based Practice**

Training programs for healthcare professionals endeavor to develop competent clinical service providers under the guidance of the three principles of EBP: research, clinical expertise, and client preferences and values (ASHA, 2005a; Sackett, Rosenberg, Gray, Haynes, & Richardson, 1996). In the academic setting, the EBP principle of research may be displayed through analysis of scholarly articles, education, and

classroom discussions, while the second EBP component of clinical expertise is refined and challenged during the clinical practicum experiences. However, effective clinical practice requires not only communicating and implementing the above, but also receiving and integrating information from the client to fulfill the third tenet of EBP: client values and preferences (Kovarsky & Curran, 2007). It should be acknowledged that none of these three components function by themselves; research-based evidence, clinical expertise, and client preferences are equal contributors to the theoretical triangle that comprises EBP (Mullen, n.d.).

Clearly, the three components of EBP are considered essential to providing quality services, and are consequently a key element required within all curricula for training speech-language pathologists in accredited programs governed by the American Speech-Language-Hearing Association (ASHA, 2005b). However, the development of each tenet matures at different rates and is dependent on the clinician's personal experiences (Spillers, 2007; Wanzer, Booth-Butterfield, & Gruber, 2004). Knowledge of academic ideas are measured through tests and clinical expertise through feedback from clinical supervisors; however, the ability to incorporate client values and preferences is more subjective and dependent on the variable characteristics of both the clinician's knowledge and client's experiences and openness (Kovarsky & Curran, 2007). Incorporating the client's perspective into treatment often emerges with clinical maturity as it involves many advanced skills, most notably the ability to communicate empathy in order to build a trusting relationship between provider and client (Spillers, 2007; Wanzer et al., 2004). Acquiring the appropriate counseling skills to genuinely communicate empathy requires an understanding of the client's point-of-view and values, especially

considering the link between social anxiety and life-long communication disorders (Iverach, Menzies, O'Brian, Packman, & Onslow, 2011). Pseudostuttering can enable student clinicians to gain insight into the less easily observable thoughts, feelings, and emotions that their clients experience as a consequence of stuttering.

Due to the social nature of everyday conversational exchanges, a communication disorder may substantially impact clients' emotional well-being. Clients with a chronic communication disorder may have memories of negative verbal or nonverbal reactions to their communication, such as teasing or bullying in school or difficulty in obtaining leadership roles (Blood, Boyle, Blood, & Nalesnik, 2010; Davis, Howell, & Cooke, 2002). As a result, quality of life may become affected by low vitality and social-emotional functioning. A lowered desire to participate socially limits communication exchanges with others in work or classroom settings due to consistent negative reinforcement from the surrounding environment (Craig, Blumgart, & Tran, 2009; Iverach et al., 2011). Given a lifetime of struggling to communicate with cultural stigma's and negative stereotypes towards people with a communication disorder, a challenge that most clinicians have not experienced, clients with communication disorders may feel uncomfortable conversing with their clinician and withhold information that could be utilized to improve therapy success (Iverach et al., 2011; Manning, 2004). Research has shown that individuals who receive holistic patient-centered therapy possess better relationships with their healthcare providers and demonstrate better progress and retention than those who do not (Bricker-Katz, Lincoln & McCabe, 2009, 2010; Spillers, 2007; Wanzer et al., 2004). Out of all traits considered,

empathy is considered the most essential in communicating a desire to professionally bond with and assist the client (Bricker-Katz et al., 2010; Wanzer et al., 2004).

Empathy is defined as the ability to understand another's experiences and requires that a person share a common view of a problem or situation (Manning, 2004). By sharing a common perspective on a disability, clinicians can genuinely identify with clients to create open and supportive communication networks between the professional and the client. Through these networks, clinical providers are not only better at communicating recommendations for therapy (Wanzer et al., 2004), they also are able to select appropriate intervention strategies (ASHA, 2005a). As such, effective therapy is dependent upon establishing a bond of trust between the client and the clinician to allow open communication channels for a natural flow of information (Spillers, 2007; Wanzer et al., 2004).

Reducing the gap between clinicians and clients through role-playing situations can assist in establishing a foundational understanding of a client's related counseling needs (Lohman, 2008; Wanzer et al., 2004). In many fields, future health professionals are given in-class assignments in which they live within the boundaries of a disability through simulations of hearing loss, mobility limitations, or difficulty with fluency (Burgstahler, & Doe, 2004; Lohman, 2008). Simulations have served in granting otherwise typically developing individuals an idea of the challenges encountered by their clients. For speech-language pathologists, the hurdles encountered by those with lifelong communication impairments can be indirectly experienced by role-playing (Wanzer et al., 2004). While a limited number of studies have assessed the role of experimental simulations, pseudostuttering has been an often-used technique within fluency classes to

instill empathy and an understanding of clients' perspectives and values for future speech-language pathologists in treating people who stutter (Irani & Richmond, 2012).

## **Stuttering**

Stuttering is a prime example of the relationship between a visible speech disorder and often hidden social-emotional consequences (Sheehan, 1970). The negative impact that stuttering has on one's conceptualization of his/her self-identity, including social and emotional impacts, can categorize stuttering as a syndrome rather than only a fluency disorder. As a multi-dimensional syndrome, stuttering involves two separate, yet related components of both overt and covert features (Blomgren, 2010; Iverach et al., 2011).

Overt, or physical characteristics, such as phoneme and word repetitions and prolongations, are elements that often define stuttering to the general population. In contrast, covert features, such as social anxiety or negative emotions, often result as a consequence of negative communication experiences (Blomgren, 2010). Due to their stuttering, PWS experience an ongoing cycle of negative experiences from the environment (Craig et al., 2009; Davis et al., 2002). Besides overt insults or mockery, negative outside judgments can lead to poor attitudes concerning a person's ability to succeed, and reduced opportunity for success (MacKinnon et al., 2007). Additionally, communication partners often experience negative physiological arousal and eye gaze aversion when viewing stuttering (Guntupalli, Kalinowski, Nanjundeswaran, Saltuklaroglu, & Everhart, 2006; Zhang, & Kalinowski, 2012; Zhang, Kalinowski, Saltuklaroglu, & Hudock, 2010). Attempts to circumvent these negative reactions or judgments soon induce stress on every part of a PWS's life, and results in multi-dimensional impact; however, speech-language pathologists (SLPs) may not be truly

aware of the multi-dimensional nature of stuttering as it lies outside their own experiences (Manning, 2004).

To manage the multi-dimensional consequences of fluency disorders, clinicians should refer clients to counseling professionals to utilize best practice strategies (Blood et al., 2010). However, it is not beyond the SLPs scope of practice to engage in counseling as it relates to communication challenges (ASHA, 2007). In fact, the treatment of stuttering has been proven to be more effective if provided with an emphasis on both overt and covert aspects of the disorder, instead of just overt features - an approach that is preferred by PWS and their families (Bricker-Katz et al., 2010; Yaruss, Quesal, & Murphy, 2002b).

For students, whose clinical education is primarily geared toward addressing the visible aspects of speech and language, understanding the everyday challenges of PWS can be difficult. Grasping the full picture is made increasingly challenging because up to two-thirds of graduate students in communication sciences and disorders complete their education without any hours obtained diagnosing or treating fluency disorders (Kelly et al., 1997). Further, these students often encounter limited training opportunities outside of graduate school to improve their competency in working with PWS (Sommers & Caruso, 1995). Considering the limited exposure provided to clinicians, it is reasonable to see why fluency disorders have historically been one of the most feared disorders to treat for SLPs (Cooper & Cooper, 1996). In order to help compensate for the lack of exposure to clients who stutter, inherent stereotyping, and negative reactions to PWS, role-playing the part of a PWSs can be an effective way of understanding the associated challenges of living with dysfluent speech (Lohman, 2008).

Through a pseudostuttering experience, student professionals gain insight into the everyday challenges of stuttering and as a result have better prognosis for communicating with PWS (Lohman, 2008; Manning, 2004). Better communication in turn yields more satisfactory patient-provider relationships and open communication networks.

Developing the ability to empathize with the client's emotions is a skill that is not quantifiable by objective classroom or clinical measures. Still, developing the perspective of the client is necessary to understand client preferences and values for management of the multidimensional aspects of a lifelong impairment (Craig et al., 2009).

Through this study, we evaluated the effectiveness of pseudostuttering in changing perceptions and attitudes to determine if role-playing is an effective means of altering viewpoints of PWS. While analysis of classroom pseudostuttering assignments has yielded positive results for similar pseudostuttering experiences (Lohman, 2008; Rami et al., 2003), this study will serve to further enhance published findings by including speech-language pathology and counseling graduate students preparing to serve as clinicians in an intensive stuttering clinic. To the researchers' knowledge, an interprofessional environment presents a setting yet to be investigated within the pseudostuttering literature.

## **Methods**

**Participants:** Thirteen graduate students (7 communication sciences and disorders and 6 counseling) with a mean age of 31;3 years (6.59 standard deviation) participated in the current study. Participants completed this experience during the first day of a 3-day of interprofessional education component in the Interprofessional Intensive Stuttering Clinic sponsored by the Northwest Center for Fluency Disorders. Their clinical roles began after this experience. All participants had completed 1 year of clinical practicum in their graduate programs. All participants signed informed consent documents approved through the Human Subjects Committee at ISU prior to participating.

### **Materials & Instrumentation**

Assessments included the Public Opinion Questionnaire of Human Attributes-Stuttering (POSHA-S) (St. Louis, 2011; St. Louis, 2010), which explores 1) beliefs towards PWS, 2) self-reactions to PWS, and 3) questions regarding obesity and mental illness, which serve as a comparison anchor. Answers were judged by the assessment as being more or less realistic of PWS as supported by the current research literature, and were represented on a standard scale ranging from -100 to +100.

Researchers also administered the Woods & Williams (1976) 25-item bipolar semantic differential Likert style scale to examine self-perceptions of personality attributes. Baseline and post-questionnaires were also distributed to assess the participants' prior contact, knowledge and experience with PWS, and perceived benefit of the assignment. Specific questions addressed familiarity with stuttering, and experience with PWS on a seven-point scale, where 1 equaled "limited" and 7 equaled



“experienced.” The post-questionnaire examined the difficulty, benefit, and effort invested in the assignment, in addition to questions regarding satisfaction with communication interactions. All questionnaires other than the POSHA-S can be found in Appendix A. The POSHA-S is still undergoing validity and reliability testing so it is proprietary.

## **Procedures**

Participants were assigned to groups of two to three individuals, and pseudostuttering experiences were spaced approximately 60 minutes apart. All groups were given verbal instruction regarding the general layout of the procedures followed by the initial questionnaires. They then watched an instructional video explaining stuttering behaviors and methods of pseudostuttering. Following the video the fluent researcher modeled pseudostuttering patterns and had the group practice pseudostuttering themselves. Participants then completed 5 monitored phone calls by the researcher followed by three to five self-initiated face-to-face interactions with unfamiliar communication partners’ naïve to the study. During face-to-face interactions the participants approached strangers walking around the university campus and utilized a stuttering survey to generate conversation. These interactions took place within a 30 to 40 minute time frame and were not monitored by researchers. Immediately after completing the pseudostuttering experience, the participants completed the post-questionnaires prior to any group discussion. Participants received no education on attitudes and perceptions of PWS prior to or within the experiment.

## Results

Inferential analysis of the POSHA-S and the bipolar adjective questionnaire were conducted utilizing paired samples *t*-tests. Within the POSHA-S, no statistically significant differences were found with Boneferri adjustments resulting in an alpha value of 0.00417. Therefore, we present non-adjusted differences at an alpha level of 0.05 and indicate trends with *p* values less than 0.1<sup>1</sup>. An adjusted alpha value of 0.01 (Boneferri correction) was used during analysis of the bipolar adjective scale. Lastly, comparisons of participants' familiarity with PWS to responses on the bipolar adjective questionnaires were examined using correlational analyses.

### POSHA-S

Table 1 presents means and standard deviations for trending and significant items on the POSHA-S. Table 2 displays inferential statistical results ( $p < 0.05$ ) for differences found in the POSHA-S. Differences were found for the following items; “being free to do whatever I want” (be free), “I would want to be a person who is intelligent” (intelligent), “the amount I know about stuttering disorders” (amount), “people who stutter are shy/fearful” (shy) and “If...I stuttered I would be concerned or worried” (myself). Trends were revealed for Stuttering knowledge (knowledge) ( $p = 0.083$ ), a better understanding of who should provide services to PWS (help) ( $p = 0.054$ ), overall mental health of the participants (mental health) ( $p = 0.096$ ), and belief in negative traits such as being shy or nervous (traits) ( $P=0.088$ ).

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<sup>1</sup> No significant differences in the POSHA-S are likely due to the limited sample size ( $n=13$ ) and type of participant (graduate students about to serve as clinicians at an intensive stuttering clinic). Most studies using the POSHA-S have had between 20 and 100 participants completing the scale with few study sizes outside of this range (St. Louis, 2010).

Table 1

*Means and standard deviations for pre and post scores on the POSHA-S.*

Trending Items	Before Pseudostuttering		After Pseudostuttering	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
* Be Free	69.23	32.52	53.85	32.03
* Amount	-26.92	56.33	0.00	57.74
* Intelligent	96.15	13.87	69.23	38.40
* Shy	-15.38	89.87	- 69.23	63.04
* Myself	0.00	100.00	-69.23	75.11
Traits	23.08	58.35	2.56	41.86
Help	56.41	39.40	69.23	31.80
Knowledge	-26.62	49.99	-9.95	43.44
Mental Health	53.85	24.68	34.62	42.74

\* Indicates significant differences at  $p < 0.05$ . Other items listed represent trends below  $p < 0.1$ .

Table 2

*POSHA-S: Statistical Differences*

	<i>t</i>	<i>p</i>	Cohen's <i>d</i>
Be Free	2.177	0.040	0.496
Intelligent	2.378	0.026	0.971
Amount	2.094	0.047	0.491
Shy	2.094	0.047	0.722
Myself	2.454	0.0218	0.243

### Bipolar Scale

Means and standard errors for the bipolar scale domains are presented in Appendix B (Table 3 and Figure 1). Significant differences were revealed for questions 2-5, question 11, and questions 22-24 as indicated visually in Figure 1. Participants reported feeling increased tension [ $t(12) = 5.326, p < 0.001$ ], avoiding [ $t(12) = 5.586, p < 0.001$ ], afraid, [ $t(12) = 3.167, p = 0.008$ ], introverted [ $t(12) = 3.807, p = 0.002$ ], shy [ $t(12) = 4.679, p = 0.001$ ], unfriendly [ $t(12) = 4.308, p < 0.001$ ], guarded [ $t(12) = 4.561, p =$

0.001], and reticent [ $t(12) = 6.2694, p = .004$ ] after the pseudostuttering experience compared to before.

### **Correlational Analysis**

Relationships between familiarity with stuttering and experience with stuttering from questionnaires were compared to bipolar attribute questions. Correlations and significant differences are listed in Appendix C. A Bonferroni adjusted alpha of 0.01 was used during these analyses to account for the number of comparisons. Significant correlations between how familiar an individual was with stuttering and question 1 (withdrawn/outgoing) were revealed [ $r = -0.822, p < 0.001$ ]. A trend was also revealed for question 23 (open/guarded) and experience with PWS [ $r = -0.580, p = 0.038$ ].

## **Discussion**

Results from the POSHA-S and the 25-item bipolar adjective scale provided further evidence that pseudostuttering has the ability to create an artificial environment in which people who do not stutter (PWNS) can gain insight into the lives of PWS. These findings are in line with and support prior evidence of such cognitive readjustments after pseudostuttering experiences (Irani & Richmond, 2012; Lohman, 2008; Rami et al., 2003). The POSHA-S identified changes in beliefs about PWS, self-reactions to PWS, and intrapersonal changes related to personal priorities and mental health of participants. Appendix D provides a visual representation of the POSHA-S subcategories grouped under these three main areas. The bipolar adjective scale and general questionnaires found relationships between intrapersonal perceptions and level of exposure to stuttering and PWS. Overall, our findings indicated parallels between the experiences of PWS and the pseudostuttering experience, and strengthen considerations for the use of pseudostuttering in student clinician training.

Despite the temporal differences between living with a fluency disorder and this brief 1-hour experience, our findings indicate many parallels between pseudostuttering and the daily challenges of living with a fluency disorder. Probing of the participants' emotional state revealed that participants intrinsically barricaded themselves from social interactions as they became more withdrawn, guarded, introverted, avoiding, unfriendly, and reticent than their typical selves due to feeling more tense, afraid, and shy after the role-playing experience. For PWS, the related state anxiety of anticipating negative communication interactions has been shown to increase the probability of impaired social functioning and emotional health (Craig, Blumgart, & Tran, 2009; Craig & Tran 2014).

The effects of stuttering have also been connected with increased rates of depression, reduced quality of life, and ideation for suicide (Craig et al., 2009; Davis et al., 2002). These hard realities became evident to our participants as their POSHA-S responses indicated an increased concern if they themselves stuttered, in addition to reduced mental health.

The impact of the emotional and mental health parallels for the participants went on to affect their life priorities to “be free” and to desire intelligence. A reduced desire to “be free” can be interpreted as a sense of personal autonomy and may reflect the reality that for PWS, life is about survival and not about the freedom to enact everyday choices. PWS are known to have many covert behaviors to publically hide their stuttering such as speech, eye-gaze or social avoidance (Blomgren, 2010; Bloodstein & Bernstein Ratner, 2008). Participants in our study practiced similar avoidance strategies by self-reporting seeking people or places that were less intimidating, or using as few words as possible during their interactions. Many PWS often feel helpless and without control during moments of stuttering (Bricker-Katz, Lincoln, & McCabe, 2009), and in many cases this loss of control is exaggerated by the communication partner’s reactions and inherent stereotyping beliefs, thereby enhancing the self-stigmatization (Boyle, 2013). Similar to the experiences of PWS, who experience constant social and innate pressure (Craig et al., 2009), participants in this study described themselves as mentally and emotionally drained afterwards due to constant anticipation of negative conversational reactions. They also felt the need to plan their interactions to protect themselves emotionally. Many participants struggled with the vulnerabilities of stuttering while making a phone call and experienced severe discomfort during the conversation initiation. For those who stutter,

similar anxiety is often experienced before making a phone call and contact initiation is challenging. As a result, self-limitations are placed on everyday life contexts (Craig et al., 2009; Yaruss & Quesal, 2004), which contributes to poor mental health (Craig & Tran 2014).

The effects on mental health demonstrated a change in intrapersonal emotions and thoughts. Correlations between questions on the bipolar scale and the pre/post questionnaires revealed that the more familiar a person was with stuttering, the more likely they were to feel withdrawn after the experience; however, they were still open to be accessible to new experiences. While these results appear conflicting, there is a difference in the definitions of openness as compared to being outgoing. For example, an outgoing attitude entails the enjoyment of talking and socializing, while an open attitude involves a willingness to be accessible to others and share a common understanding (Open, n.d.; Outgoing, n.d.) Those with more experience with stuttering and PWS, not only felt more socially withdrawn immediately after pseudostuttering, they also considered themselves more open to experience and share vulnerabilities. This willingness to experience another's vulnerabilities is a characteristic of the empathy needed to relate to the EBP tenet of client preferences and values (Wanzer, 2004).

### **Changes in Self-perceptions & Application of Stereotypes**

The above parallels with emotional pain, mental exhaustion, and impact on social freedom provided some insight into how living in another's shoes can alter perceptions of how student clinicians view themselves and assign life priorities. As a result of this experience, the participants exhibited a striking change in their reduced desire to want intelligence. For graduate students pursuing advance degrees in two different, yet

demanding fields, obtaining their life goals requires an innate drive to want intelligence to succeed academically. Prior to the experience, the majority of the participants described their desire for intelligence as “very positive”. Afterwards, however, participants reported neutrality about their view of intelligence, or saw it as “somewhat positive.” After undergoing an experience where they themselves could not verbally communicate their own intelligence, they may have recognized that human worth cannot always be measured by how society outwardly quantifies intelligence, and perhaps saw that some qualities, such as emphatic listening, are just as valuable to possess. Experiencing stuttering while retaining their intellect, was a powerful life-changing experience, as it demonstrated that fluent speech, is not always in line with the intellectual powers of the speaker.

Due to the personal nature of the assignment, participants also reported that they gained a deeper understanding of how stuttering could affect themselves, their friends, and their family. The parallel feelings of social anxiety led our student clinicians to generalize their own experiences to PWS by classifying PWS with increased traits of being shy, fearful, and anxious. Many of our participants reported feeling awkward, worried, or tense in anticipating communication encounters, and were extremely self-conscious about outside opinions. While PWS do not have the above characteristics as part of their personality, many do report these traits due to negative communication interactions (Bloodstein & Bernstein-Ratner, 2008; Iverach et al., 2011). When answering if PWS were “nervous/excitable” and “shy/fearful,” participants’ responses may have reflected their own experiences and not their belief that these traits are an underlying



cause or constant fixation of PWS. However, there is reasonable concern for how negative experiences can be transformed into means for empowering clients.

### **Considerations – Pairing Empathy with Empowerment**

While pseudostuttering serves to assist in identifying with the insecurities of living with a fluency disorder, there is a potential to fortify stereotypes and build negative connotations. In follow-up group discussions, participants expressed their appreciation for the assignment in letting them experience the vulnerabilities of PWS. With the exception of stating that peoples' reactions were not as bad as anticipated, no one expressed a positive experience as a pseudo-PWS. Additionally, some concern was expressed about the impact of pseudostuttering on innocent bystanders. Participants stated the possibility of their interactions being interpreted as demeaning or hurtful to PWS. Despite the hard experience of stuttering and the concern about false pretenses, clients developed an overwhelming feeling of empathy, however, implementing this empathy in clinic required an additional component of empowerment.

This needed sense of empowerment was not observed in our participants until after their rotation in a 2-week intensive stuttering clinic in which they experienced both the challenges and successes of their clients. Student clinicians role-played the part of a PWS through pseudostuttering while working with their clients, serving as models in desensitization activities on the phone and in the community. Pseudostuttering within a clinical environment achieved two things: 1) Emphatic support and potential for building trust between the fluent clinician and the client, and 2) empowerment for the client in voicing their stutter. This enabled student clinicians to better provide EBP in tailoring their therapy to the individual clients. In a clinical training context, pseudostuttering set

the nonjudgmental foundation needed for clients to experience success and an opportunity for clinicians to gain insight into clients' perspective and values. Additionally, clients expressed their appreciation and support of clinicians pseudostuttering as a means of gaining a glimpse of their daily challenges. With an increased understanding of specific problems that PWS face, student clinicians aligned their priorities into the experiences of their clients who stutter, thereby facilitating understanding of the third principle of EBP.

## **Limitations**

While a limited sample size restricted the results on the POSHA-S survey, it should be noted that lack of alpha adjusted changes could have been limited due to the educational level and previous clinical experiences of the participants. For example, all participants had interacted with people with communication and emotional challenges, interactions that require empathy beyond the laymen's ability. Thus, results may not accurately reflect the magnitude the experience had on the individuals if they possessed backgrounds outside of these special fields. Due to the small sample size, no comparisons were made between counseling and SLP students. Another consideration is that 3 out of the 13 participants reported high amounts of familiarity with PWS, which could have decreased the magnitude of change revealed. Future studies should investigate pseudostuttering as it relates to changes in the client-clinician relationship.

## **Conclusion**

Pseudostuttering afforded a profound and impactful experience for all of our participants by offering a hard, yet realistic picture of living with a fluency disorder. It also challenged deep-rooted perceptions concerning the importance of intelligence and its relation to other qualities. The parallel experiences between PWS and the challenges of living with a communication boundary, may have led our participants to generalize their feelings of social anxiety to PWS. Pseudostuttering, for many different populations has been shown to invoke powerful emotions of social anxiety similar to PWS (Ham, 1990; Lohman, 2008; Rami, et al. 2003). Our findings revealed similar parallels in emotional and mental health, which in turn affected life priorities and provided likely a more realistic perspective of living with a stutter. A large part of these reactions are tied to the participants' identification of just how difficult it is to communicate beyond barriers. However, this understanding allowed student clinicians to think about communication outside the clinic room and laid the foundation for being conscious about the client's preferences and values.

We acknowledge that by itself, pseudostuttering may not offer all the tools necessary for successfully supporting a PWS. Without an understanding of the potential of PWS, clinicians may struggle to transition from empathizing to empowering clients with fluency disorders to accept their stutter and strive for self-advocacy in a challenging, fluent-dominated world. Still, a contention for pseudostuttering is the profound impact it has in offering a very realistic view of living with a communication challenge (Irani & Richmond, 2012; Lohman, 2008; Rami et al., 2003) and its potential to build an empathetic foundation for evidence-based services.

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## Appendix A

### Baseline Questionnaire

	Limited		Average		Very Experienced		
1. How familiar are you with stuttering?	1	2	3	4	5	6	7
2. Rate your level of experience with people who stutter	1	2	3	4	5	6	7
3. Do you know anyone who stutters?	Yes				No		
4. Have you had a fluency class yet?	Yes				No		
5. Have you ever pseudostuttered before?	Yes				No		

### Post Experience Questionnaire

Please provide the following information by rating your answers between 1 and 7 as explained for each question.

Questions	Low		Average		High		
1. How difficult was the pseudostuttering assignment? A 1 would not be difficult at all and 7 would be very difficult.	1	2	3	4	5	6	7
2. How much effort did you put into the assignment? 1 would be limited effort and 7 would be a lot of effort.	1	2	3	4	5	6	7
3. How beneficial did you perceive the assignment to be for gaining empathy towards people who stutter? A 1 would be limited benefit and 7 would be immense benefit.	1	2	3	4	5	6	7
4. Rate the degree of negative emotions expressed (verbally or visually) by your listener. 1 would be a low degree of negative emotion and a 7 would be a large amount of negative emotion.	1	2	3	4	5	6	7
5. Rate your satisfaction with the listeners' eye contact. 1 would be not satisfied and 7 would be very satisfied.	1	2	3	4	5	6	7

6. How often did your listener finish your sentences? A 1 would be never and 7 all the time.

1    2    3    4    5    6    7

Woods and Williams (1970) Bipolar Semantic Differential Scale

Question #	<u>Adjective on left</u>	Closer to adjective on left			Equally between both adjectives	Closer to adjective on right			<u>Adjective on right</u>
1.	Withdrawn	1	2	3	4	5	6	7	Outgoing
2.	Tense	1	2	3	4	5	6	7	Relaxed
3.	Avoiding	1	2	3	4	5	6	7	Approaching
4.	Afraid	1	2	3	4	5	6	7	Confident
5.	Introverted	1	2	3	4	5	6	7	Extroverted
6.	Nervous	1	2	3	4	5	6	7	Calm
7.	Self-conscious	1	2	3	4	5	6	7	Self-assured
8.	Quiet	1	2	3	4	5	6	7	Loud
9.	Inflexible	1	2	3	4	5	6	7	Flexible
10.	Fearful	1	2	3	4	5	6	7	Fearless
11.	Shy	1	2	3	4	5	6	7	Bold
12.	Sincere	1	2	3	4	5	6	7	Insincere
13.	Bragging	1	2	3	4	5	6	7	Self-derogatory
14.	Emotional	1	2	3	4	5	6	7	Bland
15.	Perfectionistic	1	2	3	4	5	6	7	Careless
16.	Daring	1	2	3	4	5	6	7	Hesitant
17.	Cooperative	1	2	3	4	5	6	7	Uncooperative
18.	Intelligent	1	2	3	4	5	6	7	Dull
19.	Aggressive	1	2	3	4	5	6	7	Passive
20.	Pleasant	1	2	3	4	5	6	7	Unpleasant
21.	Secure	1	2	3	4	5	6	7	Insecure
22.	Friendly	1	2	3	4	5	6	7	Unfriendly
23.	Open	1	2	3	4	5	6	7	Guarded
24.	Talkative	1	2	3	4	5	6	7	Reticent
25.	Anxious	1	2	3	4	5	6	7	Composed

## APPENDIX B

Table 3. Bipolar Semantic Differential Scale Scores: Means and standard errors (S.E.). \*

indicates statistical significance.

Question Number	Pre-Pseudostuttering		Post Pseudostuttering	
	Mean	S.E.	Mean	S.E.
Q1: Withdrawn/Outgoing	5	0.32	3.10	0.24
*Q2: Tense/Relaxed	4.46	0.35	2.46	0.24
*Q3: Avoiding/Approaching	4.61	0.43	3.0	0.24
*Q4: Afraid/Confident	4.61	0.39	3.00	0.41
*Q5: Introverted/Extroverted	4.23	0.44	3.00	0.38
Q6: Nervous/Calm	4.15	0.49	7.69	0.39
Q7: Self-conscious/Self-assured	3.69	0.38	2.77	0.36
Q8: Quiet/Loud	3.85	0.39	3.07	0.43
Q9: Inflexible/Flexible	5.31	0.26	3.92	0.51
Q10: Fearful/Fearless	4.15	0.36	3.23	0.49
*Q11: Shy/Bold	4.31	0.33	2.54	0.37
Q12: Sincere/Insincere	2.31	0.26	2.85	0.48
Q13: Bragging/Self-derogatory	5.00	0.23	5.23	0.20
Q14: Emotional/Bland	3.15	0.36	2.69	0.35
Q15: Perfectionistic/Careless	2.92	0.29	3.77	0.36
Q16: Daring/Hesitant	4.31	0.35	5.54	0.31
Q17: Cooperative/Uncooperative	2.38	0.40	3.15	0.36
Q18: Intelligent/Dull	2.77	0.30	3.31	0.41
Q19: Aggressive/Passive	4.92	0.24	5.17	0.27
Q20: Pleasant/Unpleasant	2.62	0.29	3.69	0.51
Q21: Secure/Insecure	3.38	0.42	5.08	0.49
*Q22: Friendly/Unfriendly	2.0	0.20	3.77	0.55
*Q23: Open/Guarded	2.92	0.29	4.92	0.40
*Q24: Talkative/Reticent	2.77	0.34	5.46	0.29
Q25: Anxious/Composed	4.0	0.42	2.58	0.35

*Table 3. Means and standard errors for bipolar semantic differential scale. \* indicates significant differences.*

Figure 1. Bipolar Semantic Differential Scale: Mean scores with standard errors

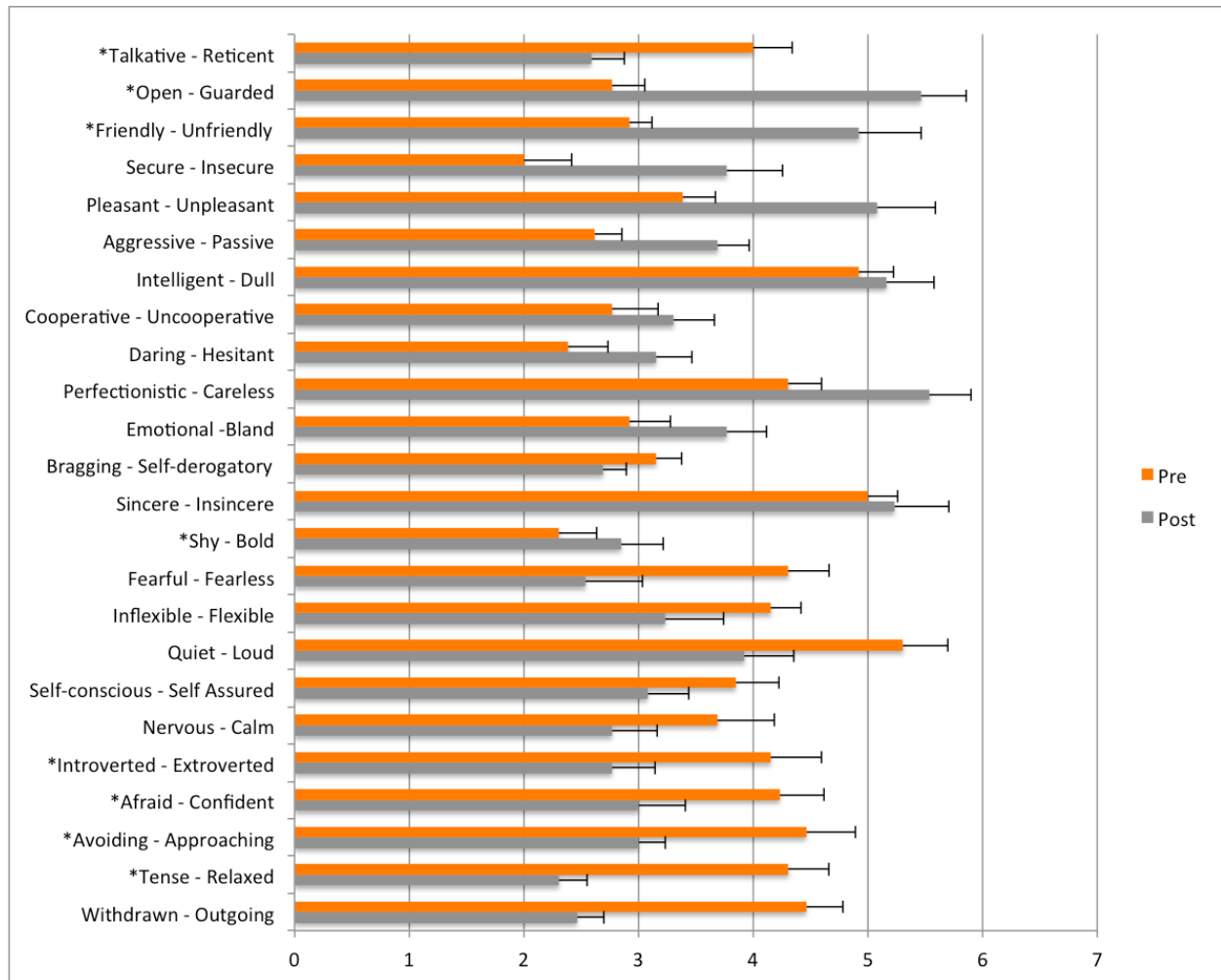


Figure 1. Averages for the bipolar semantic differential scale. \* indicates significant differences.

## APPENDIX C

Table 4. Bipolar Adjective Questions & Correlations

	Familiarity with Stuttering		Experience with PWS	
	<i>r</i> Values	<i>p</i> Values	<i>r</i> Values	<i>p</i> Values
Q1: Withdrawn/Outgoing	-0.82	0.0006	-0.74	0.003
Q2: Tense/Relaxed	0.12	0.70	0.34	0.26
Q3: Avoiding/Approaching	-0.33	0.27	1.58	1
Q4: Afraid/Confident	-0.02	0.96	0.38	0.20
Q5: Introverted/Extroverted	-0.13	0.68	-0.10	0.75
Q6: Nervous/Calm	0.34	0.25	0.52	0.07
Q7: Self-conscious/Self-assured	0.08	0.80	0.37	0.22
Q8: Quiet/Loud	-0.41	0.17	-0.30	0.32
Q9: Inflexible/Flexible	0.17	0.60	0.10	0.75
Q10: Fearful/Fearless	0.07	0.81	0.40	0.17
Q11: Shy/Bold	-0.25	0.42	0.19	0.54
Q12: Sincere/Insincere	-0.04	0.90	0.06	0.84
Q13: Bragging/Self-derogatory	0.57	0.04	0.42	0.15
Q14: Emotional/Bland	-0.11	0.71	-0.01	0.99
Q15: Perfectionistic/Careless	0.34	0.25	0.40	0.17
Q16: Daring/Hesitant	0.46	0.11	0.26	0.38
Q17: Cooperative/Uncooperative	-0.36	0.22	-0.44	0.13
Q18: Intelligent/Dull	0.14	0.66	0.28	0.35
Q19: Aggressive/Passive	-0.03	0.91	0.09	0.76
Q20: Pleasant/Unpleasant	-0.09	0.76	-0.08	0.79
Q21: Secure/Insecure	0.07	0.81	-0.21	0.48
Q22: Friendly/Unfriendly	-0.17	0.57	-0.11	0.72
Q23: Open/Guarded	-0.24	0.43	-0.58	0.04
Q24: Talkative/Reticent	0.53	0.06	0.28	0.35
Q25: Anxious/Composed	0.33	0.28	0.51	0.07

## APPENDIX D

Figure 2. Three Main POSHA-S Findings and Subcategories. \* Found to be a trend with potential significance had the sample size been larger.

