Student speech-language pathologists' perceptions of the advantages and disadvantages of pseudostuttering and viewing video-recordings of adults who stutter (AWS) as learning tools in developing an understanding of the nature and impact of stuttering.

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Short Header: Impact of pseudostuttering and video viewing experiences

ABSTRACT

This study explored student speech-language pathologists' perceptions of the advantages and disadvantages of pseudostuttering and viewing video-recordings of adults who stutter (AWS) as learning tools in developing an understanding of the nature and impact of stuttering.

An autoethnographic design was used in which we, two student speech language pathologists were participant-researchers. We completed six pseudostuttering experiences and viewed twenty videos of adults who stutter. Reflective journaling was used to record our thoughts, feelings, and reactions to these learning experiences and thematic analysis was undertaken to identify themes inherent in our data. Themes reflected our acquired understanding of the following; (1) the interaction of core personality traits and responses to stuttering, (2) emotional and cognitive reactions to stuttering, (3) the impact of external influences on interactions and conversation dynamics, and (4) the variability in stuttering and its impact on all aspects of life.

Our findings indicate that pseudostuttering and viewing videos of adults who stutter lead to a deep understanding of stuttering and deep empathy for individuals who stutter. We recommend that both experiences be used in training clinicians. However, we recommend that the video viewing experience precede the pseudostuttering experience because we believe that first learning about the physical and social impact of stuttering will enrich the pseudostuttering experience.

1. INTRODUCTION

Stuttering is a speech disorder characterized by uncontrollable disruptions in speech that include repetitions, sound prolongations, and complete blockages of speech. These disruptions are most frequently accompanied by secondary behaviours such as eye blinks, head nodding, and facial grimaces. Wingate (1964) suggested that "the immediate source of stuttering is some incoordination expressed in the peripheral speech mechanism; the ultimate cause is presently unknown and may be complex or compound" (as cited in Manning, 2010, p.54). While this definition is extensive and frequently cited, it only describes the observable features of stuttering. Manning (2010) explains that an accurate definition of stuttering must also discuss the environmental influences (e.g., support from others, attitudes of society, communication services), and the individual's response to his or her ability to participate in all aspects of life (e.g., social, education, work).

Stuttering has social consequences that include stereotypically negative attitudes held by various members of the general public, including speech-language pathologists (SLP) and speech-language pathology students (Guntupalli, Kalinowski, Nanjundeswaran, Saltuklaroglu, & Everhart, 2006; Chrichton-Smith, Wright, & Stackhouse, 2003). Stereotypes are unreasonably generalized ideas associated with a group that are based on ambiguous information (Leahy, 1994).

In general individuals who stutter are perceived as "quiet, reticent, guarded, avoiding, introverted, passive, self-derogatory, anxious, tense, nervous, and afraid" (Snyder, 2001, p. 150). They may also be perceived as inferior in many ways (Leahy, 1994). Although there is

evidence that SLP attitudes have become more positive in recent years (Cooper & Cooper,

1996), it appears that there is still a need to provide educational interventions because negative

attitudes towards those who stutter may strongly influence the course of therapy (Cooper &

Cooper, 1996; Barbosa, Sheifer, & Chiari, 1995). As Cooper and Cooper (1996) stated, the

attitudes that SLP students hold about stuttering and individuals who stutter "determine to a

significant extent what they will do in therapy with individuals who stutter, and presumably

influence the outcome of the therapeutic exchange" (p. 119).

Stimulated by concerns similar to those of Cooper and Cooper (1996), Barbosa, Sheifer,

& Chiari (1995) explored the occurrence of prejudice against stuttering in female SLP students.

The students were put into one of three groups based on the theoretical knowledge of

stuttering they had been taught. Group 1 consisted of second year speech therapy students

who had received less information about stuttering prior to engaging in the study compared to

groups 2 and 3, who were third and fourth year speech therapy students who had received

more education about stuttering. Each of the groups was given a questionnaire that consisted

of seven statements about prejudice against stuttering to which the students were to either

agree or disagree with. Questionnaire results showed that there was not a significant

difference between any of the groups in their agreement or disagreement with each of the

statements. These results suggest that each student's response was based on common

knowledge and not the theoretical education about stuttering they had received (Barbosa et al.,

1995). This may be due to the reality that theoretical knowledge about stuttering has been

viewed as controversial by many, as it involves several uncertainties (Barbosa et al., 1995)

whereas common knowledge about stuttering may be viewed as being truer as it is socially

credible (Barbosa et al., 1995). Unfortunately, Barbosa et al. (2005) did not give a definition of common knowledge. Thus we are interpreting it to mean understanding or knowledge of stuttering common among the public during the era in which the study was undertaken. Overall, this study demonstrated that the attitude of speech therapy students towards stuttering is predetermined due to their limited understanding of the disorder, which can affect the therapeutic process (Barbosa et al., 1995).

2. INTERVENTIONS TO IMPROVE ATTITUDES OF STUDENT SLPS

Several methods have been used to improve perceptions and attitudes of SLPs toward people who stutter, however, such efforts have met with limited success. Methods used include one-time viewing of video-recordings (Snyder, 2001), integration of targeted attitude change curriculum into fluency disorder classes (Reichel & St. Louis, 2006), pseudostuttering (Ham, 1990; Hulit, 1989; Rami, Kalinowski, Stuart, & Rastatter, 2003), and pseudostuttering combined with personal experiments, behaviour change, observation of group therapy or involvement in group therapy with stuttering clients (Leahy, 1994).

2.1: Video viewing

Snyder (2001) attempted to change SLP student's attitudes towards stuttering by having them view videos about altered auditory feedback and emotionally insightful videos about the negative social consequences of stuttering. The auditory feedback video showed people who stutter speaking with and without altered auditory feedback. The emotionally insightful video was a documentary about a young girl who stuttered and her stuttering therapy. Snyder's

(2001) study did not result in modified perceptions of student SLPs. He suggested that, people's understanding of stuttering is relatively constant and resistant to change and called for research that uses different stimuli.

2.2: Curriculum based intervention

Reichel and St. Louis (2006) conducted a study that incorporated into a graduate fluency disorders course a curriculum that addressed negative stereotypes toward stuttering with the purpose of improving the students' attitudes toward people who stutter. The curriculum was comprised of topics such as conceptualization of negative stereotyping, prejudice, stigma, and discrimination and involved lectures, discussions, and presentations, as well as labs with five people who stutter. Results of the study were measured before and after the semester using the *Public Opinion Survey of Human Attributes (POSHA-E)* (St Louis, 2005). A qualitative questionnaire about the new curriculum's impact on students' attitudes was also administered at the end of the semester. Results from both the questionnaire and the POSHA-E indicated that the curriculum was successful in reducing negative attitudes towards people who stutter. Results from the POSHA-E were suggested to be taken with caution since the results may have been associated with the content of the fluency disorders course, as well as the new curriculum. Due to the positive results of this study, Reichel & St. Louis (2006) called for further research, as well as the development of additional educational programs that would reduce the stigma surrounding stuttering.

2.3: Pseudostuttering

Pseudostuttering is defined as "the voluntary, controlled imitation of stuttering that either duplicates real stuttering spasms, or deliberately includes/excludes selected elements typically involved in a stuttering spasm" (Ham, 1990a, p. 305). A common application of pseudostuttering is its use as a teaching tool in fluency disorder classes of SLP students (Ham, 1990a; Hulit, 1989; Rami, Kalinowski, Stuart, & Rastatter, 2003; Lohman, 2008). Pseudostuttering provides future SLPs with the opportunity to assume the role of the client instead of the clinician. It has been argued that the best way to understand stuttering is to pretend to be a person who stutters (Rami et al., 2003). Through the use of pseudostuttering clinicians can better understand and empathize with clients who stutter (Ham, 1990a).

Rami et al. (2003) examined the immediate effect of pseudostuttering experiences on the self-perception of SLP students. Twenty-nine fluent female graduate students enrolled in a stuttering and fluency disorders class completed a semantic differential scale of self-perceptions before and after five scripted telephone calls in which they pseudostuttered. Results of these experiences showed that students ratings of self-perceptions were significantly more negative. They described themselves as feeling withdrawn, tense, afraid, introverted, self-conscious, nervous, and quiet (Rami et al., 2003). Many of the participants also demonstrated emotional and physical responses to pseudostuttering such as flushed face and neck before calling, heavy breathing, and avoiding calling the telephone number. The participants described the experiences as being one of the most difficult things they had done in their life, and would hate having to speak with a stutter all the time (Rami et al., 2003). Based on the negative self perceptions of the participants, Rami et al. (2003) suggest, "this experiential face with

stuttering is one that cannot be taught in a didactic fashion, but must be felt viscerally and emotionally and will change how the speech language pathologist views the disorder and the person who stutters" (p. 494).

Ham (1990a) examined the responses of laypersons to pseudostuttering in two hundred spontaneous communication situations. As part of a fluency disorders class, 24 SLP students used pseudostuttering to spend a day as a person who stutters. The students were required to summarize their pseudostuttering experiences including their personal feelings and perceived listener reactions. Ham reported that the students experienced frustration, humiliation, embarrassment, and anxiety. A high frequency and intensity of negative perceptions of listener reactions occurred including delays in listener responses, requests for students to repeat themselves, refusals of service, and breaks in eye contact (Ham, 1990a). Ham argued that pseudostuttering will better prepare students to understand the dynamics and process of stuttering.

Also using pseudostuttering, Hulit (1989) examined physical reactions, emotional reactions, listener reactions, and insights experienced by fluent SLP students as compared to reported reactions of people who stutter. Physical reactions reported by student SLPs were similar to that of individuals who stutter and included flushed faces, muscular tension, avoiding eye contact, and feeling a loss of control (Hulit, 1989). As well, negative emotional reactions similar to those felt by people who stutter, included fear, embarrassment, nervousness, anxiety, inadequacy, and frustration (Hulit, 1989). Finally, more negative listener reactions were reported than positive reactions; listeners stared or gawked, were rude, impatient, annoyed, disgusted, and condescending (Hulit, 1989). Hulit reported that "although students

are nearly unanimous in dreading the assignment, they are also nearly unanimous in agreeing

that it is worthwhile and educational" (Hulit, 1989, p. 212).

Lohman (2008) investigated students' perceptions before and after a single

pseudostuttering experience emulating a moderately severe stutter. Participants answered

pre- and post-questionnaires, and shared their experiences in a round table discussion. The

results showed that participants had both negative and positive experiences, which lead to a

better understanding of the disorder and the development of empathy for people who stutter

(Lohman, 2008).

2.4: Pseudostuttering, behaviour change experiments, and observation of therapy

Leahy (1994) attempted to improve SLP students' negative attitudes about stuttering by

exposing the students to information about the nature of the stuttering stereotype, how

stereotypes can affect therapy outcomes, as well as the individuality of those who stutter.

There were two groups of students: one group provided treatment (with a supervising

therapist) to adult clients who stuttered, and the other group attended lectures and tutorials,

but were also invited to observe the other group working with their clients. Lectures involved

the exploration of different theories of change and students were encouraged to participate in

simulated stuttering (pseudostuttering) for a day in order to experience the implications of

stuttering for themselves. Students were also invited to engage in personal behaviour change

experiments (e.g., changing daily routines).

Leah (1994) used semantic differential scales to measure changes in student

perceptions. Students rated a typical adult who stutters and a typical 8-year old boy who

stutters on 11 bipolar attribute scales (e.g., loud/quiet; extrovert/introvert). Results of the study showed both positive and negative change. Students involved in group therapy sessions considered those who stutter in a more positive light regarding pleasantness, quietness, and extroversion, but with a more negative attitude regarding nervousness, tension, and reticence. Students reported that their understanding of difficulties of stuttering and personal change greatly improved after their simulated stuttering experience. Previously these students thought that people who stutter just needed more willpower and motivation in order to change. Leahy (1994) reminded us that knowledge alone does not always lead to changes in attitude. Therefore, alternate methods, such as pseudostuttering, may be necessary to improve the attitudes of some SLP students.

It is clear that pseudostuttering can be used as a teaching tool for student SLPs and that video viewing as used by Snyder (2001) was not successful. Recall that Snyder's videos were of a factual video of altered auditory feedback and an emotionally insightful video about negative social consequences of stuttering. However, it is possible that viewing videos of adults talking about their stuttering experiences before and after therapy could yield better results.

3. PURPOSE OF THIS STUDY

The purpose of this study was to explore our perceptions of the advantages and disadvantages of pseudostuttering and viewing of video-recordings of adults who stutter (AWS) in (a) developing an understanding of the nature and impact of stuttering, and (b) in providing treatment in the future. This study investigated our reactions (i.e., thoughts and feelings) and insights following each pseudostuttering or viewing experience, our perceptions of the

advantages and disadvantages of the pseudostuttering or viewing experiences, and our recommendations for which experience should be chosen if only one could be used in fluency disorders classes.

4. METHOD

4.1: Design

Our study used an autoethnographic design in which we were participant-researchers. Our personal experiences as student speech-language pathologists illuminate the culture under study (Ellis & Bochner, 2000). That is, in this study the culture under study was our academic culture, the culture of speech-language pathology students who were preparing to treat communication disorders, and, in particular, treat stuttering. Our personal experiences while learning about stuttering and the impact that stuttering has on lives and our recommendations for use of pseudostuttering and video viewing methodologies are the central focus of the study.

4.2: Participant-researchers

We are female student-speech language pathologists (23 and 29 years old at the time of the study). We were first year students in the University of Alberta Master of Science in Speech-Language Pathology program in the class of 2013 and as such were unsophisticated listeners with minimal or no experience with people who stutter. Our undergraduate degrees were in Chemistry and Community Rehabilitation. We were due to take our fluency course in the second year of our program and had completed this study, except for writing this report, prior to participating in the fluency class.

4.3: Procedures

This study utilized pseudostuttering and videos of adults who stutter talking about their stuttering as stimuli to investigate the formation of attitudes toward stuttering and individuals who stutter. Reflective journal writing was used as a means to record our thoughts and feelings in reaction to the stimuli. Reflective journaling has been used to obtain feedback from students in health care fields such as nursing and physical therapy (Epp, 2008; Riley-Doucet & Wilson, 1997).

The project used the following three-step process that was adapted from Riley-Doucet and Wilson (1997) and Trembath, Wales and Balandin (2005):

Step one. Prior to any literature review, we each participated in a pseudostuttering stuttering experience and a video viewing experience. Experiences were counterbalanced across so that one of us completed the pseudostuttering experience first and the other completed the video viewing first. We did not discuss our experiences with each other until we had both completed the pseudostuttering and video viewing experiences and had completed the independent analysis of data that was a precursor to our combined effort to analyze our data.

Six pseudostuttering assignments, 2 with familiar listeners and 4 with unfamiliar listeners were completed. Two conversations were conducted over the telephone and 4 were face to face conversations with listeners in public places. Conversations were recorded. Subsequent to the recording, we completed an analysis of stuttering in pseudosuttering (Appendix A). In addition to providing a description of the listeners and environment within which the experience took place, we analysed the following:

(1) Duration of the interaction. We were advised to aim for interactions that ranged from a minute to 5 minutes or more dependent on the nature of the interaction.

(2) Number of stutters. We were encouraged to set a target of having between 10 and 15 stutters for shorter interactions and 20 or more stutters in longer interactions.

(3) Types of stutters (i.e., repetitions, prolongations, or blockages). We were encouraged to use a variety of types of stutters. In preparation for the pseudostuttering experience we viewed and practiced examples of these core stuttering behaviours.

(4) Associated behaviours if any. We were encouraged to use associated behaviours, for example eye blinks or facial grimaces, and were asked to report on the associated features associated with their core stuttering behaviours.

(5) Overall severity of the pseudostuttering portrayed. We were asked to rate the severity of stuttering portrayed as mild, moderate, or severe. No training or parameters were given on how to make our ratings. Thus, ratings were entirely based on our perceptions.

Following each pseudostuttering experience we recorded our (1) reactions (i.e., thoughts and feelings) and (2) insights learned regarding the impact of stuttering on the lives of those who stutter, using the guideline shown in Appendix B. After all experiences had been completed, we summarized our reflections regarding our thoughts and feelings and whether we experienced any changes over time. We then summarized the five most salient insights that we had about the impact of stuttering on lives. Finally, we completed a reflection on perceived advantages and disadvantages of this pseudostuttering experience in learning about the impact of stuttering in preparing us to provide stuttering treatment in the future. The guideline for the summarized reflections and final advantages/disadvantages reflection is shown in Appendix C.

With regard to the video viewing experiences, we viewed video-recordings of 20 adults who stutter talking in four speaking situations. All video-recordings were of clients who had participated in the ISTAR *Comprehensive Stuttering Program* (Boberg & Kully, 1985; Kully, Langevin & Lomheim, 2007; Langevin, Kully, Teshmia, Hagler, & Prasad, 2010). Audio-visual recordings were stored on DVDs. Each of the recordings was approximately 20 minutes in length and was comprised of the following segments: (1) a pre- treatment conversation with an unfamiliar person; (2) a pre-treatment monologue delivered to a group of fellow-clients; (3) a post-treatment conversation with another unfamiliar person; and (4) a speech to an audience of familiar and unfamiliar listeners at the completion of the treatment program.

After viewing each video-recording, we completed reflections (Appendix D) regarding our thoughts and feelings experienced while listening to the stuttered speech. We also reflected on what we were learning regarding the impact of stuttering on the lives of those who stutter. A separate process reflection was completed to bracket any reflections relevant to the process as a whole that were not directly related to the experience of viewing the AWS, for example, frustration with technical difficulties. This was to ensure that thoughts and feelings related to any difficulties encountered in the process of finding and viewing the video-recordings on the storage media did not influence reflections about thoughts and feelings regarding stuttered speech and AWS.

After all video viewings and reflections were completed, we each summarized (a) our reflections of thoughts and feelings that related to listening to stuttered speech and (b) our five most salient learnings about the impact of stuttering on AWS. These salient learnings emerged from our reflections on the impact of stuttering on individual's lives. We also wrote reflections

regarding perceived advantages or disadvantages of the video viewing experience in learning

about the impact of stuttering on lives and preparing us for providing treatment in the future

(Appendix E). We then completed a final reflection comparing the pseudostuttering and video

viewing experiences (Appendix F). In this final reflection, we were asked to compare the

advantages and/or disadvantages of the two experiences in (a) learning about the impact of

stuttering on people, and (b) preparing us to provide stuttering treatment in the future. We

also were asked to reflect on "if you had to choose one experience, which one would you

choose and why?"

After we individually summarized our reflections, we shared our summaries with each

other and our research supervisor. In preparation for step 2, we reviewed our combined

reflections, carried out an independent initial thematic analysis of the information identifying

common and unique themes among the individual reflections.

Step two. Step two involved initial group meetings facilitated by the project supervisor.

In this meeting, we shared our independent analyses of potential themes. In several

subsequent meetings we engaged in an iterative process of developing and refining themes and

categories of themes until consensus was achieved and the final set of categories and themes

was described. After the initial meeting, all subsequent meetings were independent of our

project supervisor.

Step three. Step three involved the production of a written report, which described the

themes and categories of themes that had emerged in the analysis of the reflections. We then

conducted a literature review to compare our findings to earlier studies.

Rigor relates to the quality of the research conducted. This project attempted to ensure a rigorous research process in multiple ways, specifically through credibility, reliability and transparency. Credibility is explained as having both the readers and participants make sense of how the research was designed (Given, 2008). The following questions can be asked to ensure that credibility was attained in the study: "Were the appropriate participants selected for the topic? Was the appropriate data collection methodology used? Were participant responses open, complete and truthful?" (Given, 2008, p. 139). Credibility was achieved in this study in the following ways: We, the participants in the study, were unsophisticated listeners with minimal or no experience with people who stutter and had not yet participated in their fluency course while participating in the study (with the exception of the write-up). This ensured that we were not entering into the study with biased perspectives regarding stuttering. Credibility in data collection was established in both the pseudostuttering and written reflections. A research assistant independent of the study analyzed the pseudostuttering recordings in order to verify the type and severity of stuttering done by the participants. Three randomly selected recordings from each of us were analyzed by the research assistant for duration of interaction, number of pseudostutters, and type of stutters. Results of the comparison of ratings between ourselves and the research assistant were as follows: there was 88% agreement (agreements/agreements plus disagreements) for durations of recordings, with durations ranging from 72 seconds to 299 seconds as recorded by ourselves. There was 80% agreement for numbers of stutters, with the number of pseudostutters ranging from 13 to 25 in the selected recordings. With regard to types of stutters represented, there was 83% agreement on the types of stutters used in the pseudostuttering tasks, with all types of stutters

being represented in the majority of the selected recordings. With regard to severity, 5 of the

six ratings differed by one diagnostic category (e.g., moderate, severe) with the research

assistant reporting consistently more severe ratings.

We were encouraged with written reminders (see Appendix B) before writing our

private reflections to be open, complete, and truthful during our reflective writing. We were

also reminded that our reflections would remain private and that we were not to discuss our

reactions with each other, which helped us to remain as unbiased as possible.

Reliability is defined as the "dependability, consistency, and/or repeatability of a

project's data collection, interpretation, and/or analysis" (Given, 2008, p. 754). Due to the fact

that this study was qualitative in nature and we, the participants, were also researchers,

reliability was achieved through the use of guided reflections to ensure dependability and

consistency of data collection and researcher responsiveness, and documented description of

all procedures and issues relative to the research project (Given, 2008). However, due to the

central focus of this study being personal experiences and reflections relating to stuttering,

reliability in the form of exact replication of the results of the study will not be possible to

achieve. Given (2008) reminds us that in qualitative research, "researchers' backgrounds,

interests, skills, and biases necessarily play unique roles in the framing of studies and in the

collection, analysis, and interpretation of data", which was the case in this study (p. 754).

Transparency "is the benchmark for writing up research and the presentation and

dissemination of findings; that is, the need to be explicit, clear, and open about the methods

and procedures used" (Given, 2008, p. 890-891). Transparency was achieved in this study by

providing a clear and thorough written explanation of each step and procedure used in

designing and carrying out the research, and collecting and analyzing the data. Given (2008) states that an important contributor to transparency in a qualitative study is reflexivity, which was deeply explored by us during this study. The study's central focus was exploring personal feelings and thoughts in participating in and analyzing both the pseudostuttering and video viewing experiences. In order to achieve transparency we also examined our assumptions, decisions, and the interaction of personality in this research study.

5. RESULTS

5.1 Pseudostuttering

Pseudostuttering provides fluent speakers with the opportunity to experience what it is like to communicate with a stutter. This includes experiencing emotions associated with stuttering, witnessing listener reactions to stuttering, and realizing that those who stutter face communication challenges daily. Our experience with pseudostuttering lead us to experience thoughts, feelings and insights that were reflected in themes that addressed the interaction of core personality traits and responses to stuttering, emotional and cognitive reactions to stuttering, the impact of external influences, and the impact of stuttering on conversation dynamics.

A visual representation of themes and categories of themes that emerged in our pseudostuttering reflections is presented in Appendix G. The visual symbolizes how our core personalities were strongly tied to how we engaged with and reacted to each of our pseudostuttering events. Our contrasting personalities played an interactive role with each of our emotional and cognitive reactions to our stuttering experiences, which allowed us to come to the realization that different personalities influenced different emotional and cognitive

reactions to the stuttering experience. Individual personalities also interacted differently with external influences including, face to face interactions versus interactions over the phone, the way one interpreted the reactions of the listener, and how much an individual felt the need to blend in versus how one felt restricted in revealing their true self. The visual also represents how both emotional and cognitive reactions to pseudostuttering and the impact of external influences directly affected the dynamics of a conversation when pseudostuttering. Compromises were made in conversations due to the emotions that were experienced during those conversations and the differing external influences that came into play.

*5.1.1: **Core personality traits affect engagement in pseudostuttering and influence an individual's reaction to stuttering.*** "I wonder if someone whose personality is more outgoing in nature feels the same about their stuttering as someone with a similar personality to me, which is more reserved in nature." "One's personality may affect how much of an impact stuttering has on their life" (P2)

Pseudostuttering differentially affected us based on our core personality traits. We found that our core personality traits influenced the way in which we each were able to let go of the desire to be fluent and engage in pseudostuttering. That led us to ponder how core personality characteristics can affect the impact that stuttering has on a person's life. One of us is much more reserved while the other is more of an extravert. It became apparent that the author who was more extraverted and outgoing was able to let go of the desire to be fluent and use the negative feelings associated with pseudostuttering to more fully engage in pseudostuttering; "I found that the more anxious or nervous I felt the more I stuttered. I was able to channel these feelings into my experience and each stutter came out easier than the

first" (P1). For the author who is more introverted and reserved, relinquishing fluency was more difficult; "I am a person … who doesn't like attention drawn to myself, I found that my personality characteristics took over my overarching thoughts as I went through each pseudostuttering experience" (P2).

From our different personality based reactions to pseudostuttering, we learned that core personality characteristics could differentially affect the impact of stuttering on a person's willingness to communicate and the expression of one's personality. We learned that for a person with a more reserved personality, stuttering draws unwanted attention; "Not wanting to speak up at the best of times, and adding dysfluency on top of that made me want to hole up somewhere and avoid going out in public"(P2). We also learned that stuttering limits the expression of one's personality, particularly for a person who is more extraverted; "This was the first time in my life where I was talking to someone and felt like my true personality was not coming through" (P1). For a fluent speaker it can be easier to express personality through speech, but for a dysfluent speaker this can be much more challenging.

5.1.2: Emotional and cognitive reactions to stuttering. "After speaking for only a few seconds I was overcome with embarrassment and noticed that I instinctively looked down and avoided eye contact" (P1).

We learned that those who stutter must deal with their own feelings and reactions towards their stutter on a daily basis and that these reactions can influence how they view their stuttering. In our pseudostuttering experiences, common reactions involved feelings of nervousness, anxiousness and trepidation; "I was often overwhelmed by feelings of anxiousness and nervousness. I was anxious about what to say, if I would be understood, and

how the listener would react to my speech" (P1). Many of our personal reactions stemmed

from worrying about how listeners would react, or what judgments listeners were making;

"Perhaps I am more worried about how other people might perceive me than I should be" (P2);

and "I felt self-conscious and wondered what he was thinking of me" (P2). We also learned that

personal reactions to stuttering can influence how individuals who stutter think others view

them; "I felt like my speech made me a difficult customer to deal with, and I worried about

what she was thinking and feeling by having to serve me" (P1).

5.1.3: *The impact of external influences.* During our pseudostuttering experiences we

found that external factors including the context in which the conversation took place, the

listener's reactions, and wanting to be inconspicuous, had an impact on our speech.

a) *The context in which stuttering occurs has differential effects:* "I felt less anxious when

stuttering over the phone because I didn't have to face the listener's reactions" (P1).

Our pseudostuttering experiences were carried out in face to face interactions and phone

conversations. Regardless of the context, we experienced the same feelings of anxiousness,

nervousness, and vulnerability. We surmised that the context of a conversation (i.e., face to

face interactions vs. phone conversations) can affect how people who stutter communicate

and that the impact of context is likely to vary among individuals. We also surmised that

individuals who stutter might choose to avoid face to face interactions if they feel like they have

more control when speaking on the phone, or vice versa. We considered the phone task easier

because we did not have to see the listener's reactions to our speech. It also provided a sense

of control because it allowed us to make notes and plan what we wanted to say; "I did find it

easier to pseudostutter over the phone. I think this is because I was alone and I could make

notes and organize my thoughts" (P2). In contrast to the phone tasks, we found that our feelings were heightened in face to face interactions because we had less control over the conversation, couldn't prepare what to say, and had to witness the listener's reactions to our speech; "In most of my in-person experiences I felt more vulnerable as there was the possibility that the conversation could have gone any which way and I would have needed to be prepared for that" (P2).

b) *Listener reactions were powerfully influential:* "The listeners reactions dictated conversations and feelings of self worth" (P1).

The way in which a conversation partner reacts to a communicative interaction directly impacts the speaker. We learned that when speaking with a stutter, listener reactions can have a significant effect on the thoughts, feelings and self esteem of the speaker. Listener reactions to our pseudostuttering affected our confidence and self-esteem. The more negative experiences were marked by impatient listeners who finished our stuttered words "Her impatient nature and overall reaction to my speech made me feel stupid and unimportant. One person's reaction had a significant impact on my confidence and self-esteem" (P1). Negative listener reactions to pseudostuttering also affected motivation to continue speaking and engaging in conversations; "He finished a couple of my words for me, which indicated a potential level of impatience with my inability to get words out. He also smirked at one point, which indicated that he was humoured by my difficulty speaking. This in turn affected how much I wanted to speak with him, and how much I just wanted to get out of there!" (P2).

c) *Wanting to be inconspicuous – wanting to blend in: "*Not having to stutter face to face helped me feel more at ease, which leads me to wonder if people who stutter may go out of their way to be inconspicuous in conversation" (P2).

For people who stutter, speaking draws attention to their deficit. We learned that reactions of listeners and bystanders might make individuals who stutter feel different or abnormal. During our pseudostuttering experiences we encountered unwanted attention through the stares of bystanders and negative reactions of listeners; "It honestly hurt my feelings because this bystander's stare made me feel abnormal, like I was so different that people couldn't help but stare at me" (P1). During these experiences we were faced with the desire to want to blend in, to be inconspicuous, and not draw any extra attention to ourselves and our speech. We further realized that individuals who stutter carry a double burden that impacts their ability to blend in with peers. That is, stuttering makes communication difficult for the speaker and it draws listener attention to stuttering as a deficit.

5.1.4: Conversation dynamics are affected. "I noticed that I avoided using any extra descriptive language, and only produced the words necessary for the listener to understand my message" (P1).

It became apparent that stuttering has the potential to impact the dynamics of a conversation and alter one's initial communicative goal. We found that while pseudostuttering, we altered the content and length of our messages and our communicative goals. Stuttering made it difficult to express thoughts and ideas, causing us to adapt by using only the most necessary words. Descriptive language was avoided in order to maintain the integrity of our communicative message. Conversations were also cut short in order to avoid more stuttering;

"She asked if I wanted her to check. I said no, partly because I wasn't thinking clearly and partly because I didn't want to have to stutter even more. In actuality, I would have appreciated her checking" (P2). When listeners did not understand what we were saying, we found it was easier to alter our communicative goal than to repeat ourselves and continue stuttering; "When I wasn't understood the first time, it was easier for me to compromise the goal of my message than it was to continue stuttering and not be understood" (P1).

5.2 Video viewing

Video viewing experiences enabled us to consider the impact that stuttering had on each of the individual's lives. Analysis of our reflections led to insights reflected in themes that address our first impressions and subsequent realizations, variability in stuttering and impact on life, including impact on all aspects of life, and potential effects of stuttering treatment. In presenting quotes to illustrate our themes, we have retained the acronym PWS, people/person who stutter(s), as used in our written reflections. A visual representation of themes and categories of themes that emerged in the video viewing reflections is presented in Appendix H. The visual represents how our impressions about stuttering were changed by learning about the variability in stuttering; both in types of stutters and the impact stuttering has on life, and by the effects of treatment. We came to the conclusion that only the person who stutters can truly describe the impact stuttering has on his or her life as we watched and listened to various types of stuttering levels of severity, and various levels of the impact stuttering had on all aspects of life regardless of severity. Our conclusion was also influenced by watching and listening to individuals who stutter talk about the effects of treatment, how treatment results

differed based on the individual who stuttered, their decision to maintain their fluency skills, and the various areas of life that were impacted by treatment.

5.2.1: Changed impressions: Only the person who stutters can truly describe its impact. "It became quite apparent that I had no idea of the impact of stuttering" (P1).

Prior to embarking on the video viewing experiences, we clearly did not understand that stuttering could cause those who stutter deep pain. We gleaned this from direct expressions of experiences being 'painful' and from the use of language that connoted painful experiences. As we became immersed in the video viewing, it became apparent that as fluent speakers we could never fully understand the extent to which stuttering affected individual's lives. We both felt how effortful stuttering was. One author wrote, "I found myself feeling physically tired just watching them" (P1). The other stated, "There were times when I found myself holding my breath while I watched people try to get through their sentences" (P2). Overall, watching the videos made us realize that our first impressions of the person who stuttered were not always accurate. We learned through the video viewing experiences that our own personal thoughts and feelings about the severity of a stutter could not be decided based solely on listening to the individual's speech. Only the person who stutters can describe the impact that stuttering has on his or her life.

5.2.2: Variability in how stuttering impacts life. "I also realized it's easy to make first impressions that are not accurate, as I thought the PWS was mild, and perhaps did not need to be treated" (P2).

One cannot infer the impact that stuttering is actually having on a person's life and whether or not he or she needs therapy just by listening to the person's speech. Different

levels of severity of stuttering affect people differently. What was often perceived as a mild stutter to us actually had a profound impact on the person's life. Essentially, we came to understand that there was never a direct association between the type and severity of stuttering and the effect that stuttering has on one's life. For example, one author wrote, "People who seemed mild to me were sometimes more emotional and more affected on a personal level than people who were more severe" (P2). The other stated, "Since it seemed like they could still communicate effectively, I assumed that their stutter would have less of an effect on their life and overall well-being. However, these clients expressed the same feelings of anxiousness, self-consciousness, and described avoiding most social situations" (P1). On the other hand, a more severe stutter may have less effect on a person than one would infer. An example of this is as follows: "I observed that the PWS made great gains in his speech. However, he claimed that fluency had not changed his attitude. This surprised me because I assumed his new found fluency would have a greater impact on his life and overall attitude" (P2).

  5.2.3: Stuttering affects all aspects of life. "Watching the videos and hearing the client's personal experiences of speaking with a stutter, made me realize the impact it has on personal, professional, academic, and social areas of life" (P1).

  During the video viewing we realized that many aspects of the personal and professional lives of individuals who stutter, suffer due to having to accommodate a stutter. This included avoiding conversations. We learned that stuttering affected people personally, professionally, academically, socially, physically, and in their life choices. Each of these categories is discussed in further detail below.

Personal life: Stuttering affects personal lives by impacting individual self-esteem, self-confidence, ability to form relationships, and ability to participate in activities they enjoy. One author stated: "Many of the clients described how they weren't able to…make new friends, or relate to others around them. This seemed like a very depressing way to have to go through life and made me realize how isolated people with a stutter must feel" (P1).

Professional Life: Stuttering impacts professional lives by forcing individuals who stutter to alter their career paths, their daily job responsibilities, and their interactions with co-workers. For example, one of the individuals viewed talked about going out to meet clients in person because he couldn't talk on the phone without stuttering. Many of the individuals described not being able to speak up in meetings, give presentations, and engage in simple conversations with boss/coworkers.

Academic Life: An example of how stuttering impacted a person academically was revealed when he described dropping out of university to receive treatment for his stutter. He also did not want to give presentations and contribute to class discussion because of his stuttering.

Social Life: After one video viewing, one author described her understanding of the effect that stuttering can have on social life: "This gave me great insight into the effect stuttering has on friendships, those who stutter can only connect with the people around them to a certain extent." (P1). We learned that stuttering prevents personal expression, which in turn impacts one's ability to form new friendships and maintain current relationships. It was surprising to learn that stuttering even prevents people from conversing with close family

members and significant others. It became clear to us that stuttering limits individuals from sharing interests and forming bonds.

Physical impact: Overall, we learned that stuttering could render a conversation effortful for both the individual who stutters and a listener. In general we felt that stuttering was effortful for the speaker, that stuttering and secondary behaviours associated with stuttering were distracting to the listener, and that as indicated above, a listener could feel the effort of the speaker.

Life Choices: Importantly, we learned that stuttering impacts the person's ability to make choices in life. "One man's comment of feeling like he was trapped by his dysfluency sums up what I think a lot of people who I watched and listened to were feeling" (P2). We learned that stuttering greatly impacts making life choices; from small everyday choices, to larger decisions that impact an individual's future. Examples of this include choosing not to make a phone call because of being afraid of stuttering, or putting a university career on hold to pursue treatment for stuttering. It may be difficult for a individual who stutters to make active choices from day to day when his or her stuttering may interfere with what it is he or she wants to do. One author stated, "He said if he were better he would be able to do so much more with his life – it seems stuttering can really limit people in what they choose to do with their lives" (P2).

5.2.4: Potential effects of stuttering treatment. "I don't know that I ever stopped being impressed by the gains that each PWS made over the course of treatment" (P2).

Overall, it was evident that even with treatment it is still up to the individual to maintain his or her fluency and that receiving treatment once does not result in being cured. Stuttering

was not the only area that was positively affected by treatment. We learned that social and personal attitudes were also changed for the better. From pre- to post-treatment the body language of many of the clients changed and they seemed to exude confidence. We recognized that the treatment of stuttering is a life long process that requires constant maintenance and hard work; "I'm starting to realize how much work it is for people with dysfluencies for the rest of their lives" (P2). There were a few individuals who had returned for treatment after previously completing a full treatment program because they had not maintained or practiced their skills for fluency.

5.3 Advantages, disadvantages, and comparison of the pseudostuttering and video viewing experiences

5.3.1: Pseudostuttering. An advantage of pseudostuttering as compared to video viewing is that pseudostuttering gave us the opportunity to assume the role of the client instead of the clinician, which was a valuable experience. Pseudostuttering enabled us to understand on many levels the grave impact that stuttering can have on one's life. Pseudostuttering enabled experiences that were "deep and personal" (P2).

Although deeply engaging, a disadvantage of pseudostuttering is reflected in the following quote: "part of me … knew I didn't really have a stutter. So as much as I tried to get the most out of each experience, I knew that after that conversation I could go back to speaking fluently. I found this idea to be somewhat comforting and it helped me get through the more difficult experiences. However, people who stutter do not have this option. So as much as I tried to understand what it was like to speak with a stutter I can only relate to a certain extent.

In reality I do not have to deal with the same challenges in communicating that people who stutter must face on a daily basis." (P1)

     5.3.2: Video viewing. An advantage of video viewing is that it enabled us to listen to 20 different people who stutter who were telling their own story of how stuttering affects their social, personal, and professional lives. Listening to their descriptive personal accounts enabled us to hear about the various daily challenges that speaking with a stutter brings, which helped us to identify with the individual's personal experience. One author wrote, "I think to gain a true understanding of the impact of stuttering on people's lives you need to listen to the personal experiences of people who stutter, and then experience for yourself what it is like to communicate with a stutter."(P1). A disadvantage of the video viewing experiences in this study is that it involved only being able to see individuals who stutter immediately before and after treatment, and not being able to view them months after their treatment; viewing them months after treatment would allow the participants to see how well their fluency was maintained.

5.4 *Recommendation for use of pseudo-stuttering and video viewing if both experiences could be offered*

     Despite advantages of both experiences, when asked if we had to choose one experience over the other, we both felt that one of these experiences would not be as valuable and informative without the other. In order to gain a true understanding of the impact of stuttering on people's lives one needs to listen to the personal experiences of people who stutter and also experience what it is like to communicate with a stutter. Through both

experiences we realized how difficult it is for people who stutter to fully express themselves, and we gained knowledge and understanding of what it is like to communicate with a stutter. The combination of pseudostuttering and video viewing experiences has better prepared us to provide treatment for stuttering in the future.

6. DISCUSSION

The purpose of this study was to explore students' perceptions of the advantages and disadvantages of pseudostuttering and viewing videos of people who stutter in developing an understanding of the nature and impact of stuttering, and in providing future treatment. Pseudostuttering provided us with the opportunity to experience the emotions, reactions and challenges of communicating with a stutter. Our findings suggest that the core personality traits of individuals who stutter likely influence their emotional, cognitive, and behavioural reactions to stuttering, that listener reactions are powerfully influential, and that conversation dynamics are affected by stuttering. As further explained below, these findings are consistent with previous pseudostuttering research conducted by Hulit (1989), Ham (1990a), Rami et al. (2003), and Lohman (2008).

The video viewing experiences allowed us to explore our own personal feelings and attitudes towards stuttering as we watched and listened to 20 different adults who stutter talking about their stuttering immediately before and after treatment. Some of our perceptions of stuttering and those who stutter were changed through the video viewing experiences. This finding differs from those of Snyder (2001). Through the video viewing experience we realized that stuttering has a great physical affect on an individual. While

viewing the videos of individuals who stutter, we physically felt the effort that stuttering and secondary behaviours require of the individual. As further discussed, these results are consistent with findings of listener reactions to stuttering reported by Guntupalli, Kalinowski, Chayadevie, Saltuklaroglu, and Everhart (2006).

Despite advantages of each experience, it is clear that pseudostuttering in combination with viewing videos of individuals who stutter led us to develop a deeper understanding of the impact of stuttering on lives and a deep empathy for individuals who stutter. Our newfound knowledge of stuttering and our empathy will enable us to better relate to our future clients who stutter and to establish more motivating and client-centered approaches to treatment. From both experiences we learned about specific issues that need to be addressed in therapy.

Regarding implications for student learning, given that we believe that both experiences are important, the question then becomes which should occur first. We recommend that the video viewing experience precede the pseudostuttering experience because we believe that first learning about the physical and social impact of stuttering will enrich the pseudostuttering experience.

6.1 Pseudostuttering

Pseudostuttering allowed us as fluent speakers to experience what it might be like to communicate as a non-fluent speaker. We learned that stuttering can trigger many negative emotions that stem from internal and external factors, that stuttering affects the dynamics of a conversation, and that the impact of stuttering on an individual may be influenced by their personality characteristics.

6.1.1: Core personality traits interact with stuttering and its impact. A finding that has not previously been articulated in the same way in the pseudostuttering literature is reflected in the theme related to the influence of core personality traits on the impact of stuttering. Core personality traits affected our engagement and our reaction to stuttering, which in turn lead to our belief that this may also occur for individuals who stutter. The author with a reserved and introverted personality found that stuttering drew unwanted attention, and made it difficult for her to give up control over her fluency to engage in pseudostuttering. These results are somewhat similar to some participants in Hulit (1989) who reported that they wanted to avoid or escape from their pseudostuttering interactions.

In contrast, the author with an outgoing and extroverted personality found it easier to engage in pseudostuttering. The ease of pseudostuttering that this author experienced is similar to some of the participants in Hulit (1989) who expressed a feeling of 'no control' while pseudostuttering with one participant stating, "she felt like she could not stop being non-fluent once she started" (Hulit, 1989, p. 210). However, it is possible that the experience of the extroverted author may been influenced by video viewing prior to pseudostuttering. The video recordings of adults who stutter provided examples of different types and severities of stutters. During the pseudostuttering tasks this author was able to draw on the video viewing experience and emulate as much as possible the individuals viewed.

Another novel finding of this study is that engagement in pseudostuttering by the extroverted author limited the expression of her personality. Although it is intuitive that this would occur for students engaging in pseudostuttering, this has not yet been mentioned in the pseudostuttering literature.

6.1.2: Emotional and cognitive reactions to stuttering. Another predominant theme in this study were the emotional and cognitive reactions to stuttering that we experienced which led to our understanding of the degree and various ways in which stuttering has the potential to impact those who stutter psychologically and emotionally. Our pseudostuttering experiences involved many negative thoughts and feelings. We faced feelings of anxiousness, nervousness and trepidation. We also found ourselves worrying about listener reactions and judgments. These results are consistent with the findings of Hulit (1980), and Rami et al. (2003). Hulit (1980) found that the SLP students participating in pseudostuttering tasks experienced a range of negative emotions commonly felt by adults who stutter. The negative emotional reactions included feeling nervous, anxious, embarrassed, uncomfortable, self-conscious, fearful, and frustrated. We learned that having to deal with such negativity can influence how an individual who stutters perceives themselves as communicators, and how they believe others view them.

Although short-lived, some of our pseudostuttering experiences also engendered feelings of reduced self-confidence and self-esteem (see below). Similarly, Rami et al. (2003) found that student SLPs developed negative self-perceptions following pseudostuttering interactions. Such percepts included being significantly more withdrawn, tense, avoiding, introverted, and nervous. Our pseudostuttering experiences allowed us to understand the emotional and cognitive reactions that people who stutter must face on a daily basis; "stuttering is so salient and vivid that one seemingly reacts to controlled, voluntary, and short lived stuttering in the same manner as those who demonstrate a chronic pathology" (Rami et al., 2003, p. 491).

It could also be argued that the emotional and cognitive reactions experienced through pseudostuttering may have occurred because we were fluent speakers simulating non-fluent speakers. Ham (1990b) argues that because these negative thoughts and feelings affect the fluent speaker when they are pretending to be dysfluent, the fluent speaker may be projecting these self-negative feelings onto those who stutter. Therefore, it cannot be assumed that with each communicative interaction individuals who stutter experience the same cognitive and emotional reactions as we experienced in pseudostuttering.

6.1.3: Listener reactions. Another theme that emerged in our data relates to the impact of external factors, particularly listener reactions, that affected our pseudostuttering experience, and without doubt, the thoughts and feelings of those who stutter, as well as their motivation to communicate. Negative listener reactions involved impatient listeners who interrupted us or finished our sentences for us. This had a damaging effect on our confidence and self-esteem. These findings are consistent with the results of Ham (1990a), in which SLP students reported listener delays in responses, slower rates of speech, breaks in eye contact, interrupting, and completion of sentences. Some reactions were so negative that the participants didn't want to continue speaking, "She reacted so negatively I gave up, broke eye contact, and didn't dare stutter again" (Ham, 1990a, p. 311). Ham's participants also reported that negative listener reactions to pseudostuttering made them feel frustrated, humiliated, embarrassed and anxious. Hulit (1989) also found that student SLPs perceived more negative listener reactions to pseudostuttering, than they did positive. The negative reactions involved listeners who finished their sentences, stared, were uncomfortable, rude, impatient and

condescending. The positive reactions included listeners who were patient, concerned, calm, and relaxed.

Despite negative listener reactions, we also experienced positive reactions in which listener's demonstrated patience. This helped us to feel more comfortable in continuing to speak with a stutter.

It is important to recognize that the listener reactions described above are our perceptions as fluent speakers simulating non-fluent speakers. The change from being naturally fluent to dysfluent may have influenced us to be very aware of any changes in people's reactions to our speech. What we perceive as a negative reaction may only be so because we are comparing it to our experiences as fluent speakers. A naturally dysfluent speaker may not have the same perception of listener reactions.

6.1.4: Interference with conversation dynamics. The final theme of our pseudostuttering experiences was that conversation dynamics are affected by stuttering. We found that our communicative goals, content and length of our messages changed with stuttering. It became much more difficult to express ourselves so we adapted our speech to include only the most necessary words and information. It was also easier to change our communication goals instead of having to repeat ourselves and continue stuttering. Our findings demonstrate the impact that stuttering can have on conversation dynamics for individuals who stutter. We learned that individuals who stutter may have to alter their speech and conversation dynamics with each communicative interaction and that stuttering may limit their expression of thoughts, feelings, wants, needs and other communicative intents. Participants in Hulit (1989), Ham (1990a), and Lohman (2008) reported similar effects of

pseudostuttering on conversation dynamics. In Hulit (1989) participants reported being treated like children, or as though they were cognitively disabled and that conversations were not meaningful, "I felt relief when I finished the sentence but not a sense of accomplished communication" (p. 212). A participant in Ham (1990a) stated that after pseudostuttering the listener did not engage in conversation, "she just pointed at a sign, told me to read it, and to come back later if I had any questions" (p. 309). Another of Ham's participants described listeners who replied to pseudostuttering in a condescending manner, "He explained directions as if I were two years old, and then asked me if I understood" (p. 310). It was also apparent that participants also changed the goal of their interactions after having pseudostuttered, "I was so embarrassed I left without getting any food" (p. 311). Lohman (2008) found that pseudostuttering prevented participants from entering into conversation, that participants were too embarrassed to ask for more than a particular item, and that stuttering forced them to resort to pointing as another means of communication.

6.2 Video Viewing

Two major themes that resulted from our video viewing reflections were (a) changed personal feelings and experiences, and (b) understanding how stuttering impacts all aspects of life.

6.2.1: Changes in perceptions. Overall, our thoughts and feelings about the severity of a stutter and the impact it has on one's life were reformed throughout our video viewing experiences. We both began our video viewing with the assumption that a severe or mild stutter would be associated, respectively, with having a severe or mild affect on one's life.

However, after listening to the speakers describe their individual reactions to their stuttering we came to understand that a severe or mild stutter can differentially affect one's life. For example, we learned that an individual's severe stutter did not necessarily correlate with a severe impact on his or her life and a mild stutter did not necessarily indicate that his or her life was mildly impacted. We came to understand that only an individual who stutters can describe the impact that stuttering has on his or her own life and that assumptions cannot be made regarding this impact solely by listening to an person's speech.

The finding of changed perceptions throughout the video viewing process is inconsistent with aspects of Snyder's (2001) study, which aimed to target a change in SLP student's attitudes towards stuttering by having them view a video documentary about a young girl who stuttered and her stuttering therapy, as well as a video that showed people who stutter speaking with and without altered auditory feedback. Snyder's (2001) study did not result in modified perceptions of student SLPs leading him to suggest that, "persons' perceptions of stuttering are relatively stable and resistant to change" (p. 157). In contrast, the results of our study suggest that student perceptions of stuttering can change as a result of becoming more informed by listening to several adults talk about their stuttering and the impact that it has on their lives. Also worth noting is that the differing order of our experiences did not to affect our changes in perception as we viewed the video. The author who completed the pseudostuttering tasks first had the same realizations and the same changes in perceptions over the viewing process as the author who viewed the videos prior to pseudostuttering.

The contrasting findings of our study compared to Snyder's (2001) study, are likely due to the larger amount of exposure we had listening to adults talking about their stuttering.

Throughout our video viewing we watched 20 different adults who stutter, giving us exposure to a wide range of physical stuttering, and we listened to them speak about their stuttering and how it affected their lives, giving a wide range of experiences to learn from. We engaged in approximately 6.5 hours of video viewing. The range of experiences to which were exposed and the duration of the exposure likely allowed us to be more thoroughly exposed to different perspectives and severities of stuttering than the students in Snyder's (2001) study. Viewing either a 20-minute video showing the perspective of one person who stutters or a 20-minute video showing people who stutter speaking with and without auditory feedback likely limited students' potential to experience changed feelings and attitudes towards stuttering.

6.2.2: *Stuttering impacts all aspects of life*. From viewing the videos, we learned that stuttering affects all aspects of life – personal, professional, academic and social – and that it can have mild to profound psychological and emotional consequences. We also learned that stuttering could have a profound physical impact on an individual who stutters. Throughout the viewing process, we both felt physically burdened, tired, and anxious while listening to stuttered speech and watching the secondary behaviours. One of us even experienced breath-holding while watching and listening to certain individuals who were struggling to get through their stutters and their sentences. The physical reactions we experienced are consistent with those reported by Guntupalli et al. (2006). Guntupalli and colleagues (2006) measured the psychophysiological responses of fluent listeners while they watched videos of fluent speech and stuttered speech. While viewing videos of fluent and dysfluent speakers reading, changes in listener's skin conductance and heart rate were measured. The results showed an increase in skin conductance while listening to stuttered speech compared to fluent speech, which

indicated that watching and listening to someone stutter can be emotionally arousing.

(Gutupalli et al., 2006). Also, when the participants in the Guntupalli et al. (2006) study were asked about how they felt while viewing the videos, more than half responded that they felt uneasy or anxious. Although our skin conductance and heart rate were not measured in this study, we both felt that listening to stuttered speech stimulated a physiological response in the form of holding our breath and experiencing feelings of anxiousness. Guntupalli and colleagues suggested that psychophysiological reactions of listeners might directly affect the speech of individuals who stutter. Although no research has been done to investigate what listener cues individuals who stutter pay attention to, it is clear that communication is a bi-directional process with the speaker and listener impacting the other and that individuals who stutter are clearly affected by listener reactions. This was evident in the stories of the individuals in the videos in this study and in our experiences with pseudostuttering.

6.3 Implications for intervention

The combination of pseudostuttering and video viewing enabled us to learn about stuttering on both an intellectual and emotional level. Most importantly, what we learned from these experiences will help us to better relate and empathize with our future clients and design treatments that address the many impacts that stuttering has on lives. We also learned about the importance and need for public education about stuttering.

6.3.1: Implications for treatment. The impact of core personality traits, emotional, cognitive reactions to stuttering, and listener reactions to stuttering. We found that our core personality traits influenced our pseudostuttering experiences. Our different experiences

highlight the importance of considering core personality traits of individuals who stutter when designing and implementing treatment activities. Tailoring treatment to a client's core personality traits will allow for more client-centered approaches to therapy. As well, from our experiences of wanting to alter our speech to avoid stutters in our pseudostuttering experiences, we learned that individuals who stutter can become very skilled at altering their speech or avoiding stutters and communication interactions. By targeting the impact of stuttering on conversation dynamics in treatment, we can help people who stutter better express themselves and engage in more meaningful conversations.

Internal factors, such as emotional and cognitive reactions to stuttering, can impact the speech of people who stutter. During the pseudostuttering experiences feelings of anxiousness and nervousness had a direct impact on our self-esteem and self-confidence. Stuttering therapies that focus on fluency skills as well as cognitive and emotional reactions to stuttering may help provide more effective approaches to treatment.

External factors, such as listener reactions, should also be considered when designing treatment for those who stutter. Treatment approaches that recognize and explore the impact of external factors on stuttering may help to address the cognitive and affective features of a client's stuttering.

6.3.2: Implications for public intervention. Poor listener reactions affected us and often resulted in altered speech in an attempt to maintain the integrity of the message. These negative reactions could be avoided by providing the general public with information on what stuttering is, how to react, and how to communicate effectively with individuals who stutter. Our findings support the long held call for publication education about stuttering and the

recent work that is being done in this regard, for example the work of St. Louis and colleagues (http://www.stutteringattitudes.com/about.html) and the work of Langevin and colleagues (e.g., Langevin & Prasad, 2012)

7. LIMITATIONS

As naturally fluent speakers we always had the choice to not stutter and go back to speaking fluently. This made it difficult to fully engage in pseudostuttering and relinquish control over our speech. However, it was evident from the independent ratings of the research assistant that our pseudostutters encompassed the complete range of types of stutters and severities.

A second limitation was the counterbalanced nature of this study. One author viewed the video recordings of adults who stutter before completing the pseudostuttering tasks, and the other author completed the pseudostuttering tasks followed by the video viewings. In spite of both of us being taught how to stutter prior to pseudostuttering, starting with the video viewing experience may have provided one author with more exposure to stuttering and therefore with more knowledge about how to stutter than the other. The author who participated in the video viewing experience first, was able to take what she had viewed and emulate it during her pseudostuttering interactions.

8. FUTURE RESEARCH

Despite previous findings that suggested that, "persons' perceptions of stuttering are relatively stable and resistant to change" (Snyder, 2001, p. 157), results of our study show that

perceptions of stuttering can be changed. These positive results suggest that future research

with larger groups of students using a combination of video viewing and pseudostuttering is

warranted. Future research also could measure whether or not there is a consistent outcome

based on the ordering of the pseudostuttering and video-viewing experiences. For example,

does putting a specific experience first show significant results in consistently changed

perceptions of stuttering in student SLPs?

Future research could also specifically measure student SLPs stereotypes of stuttering

before and after either video viewing or pseudostuttering experiences or a combination of both

experiences. Our study did not specifically measure previously held stereotypes of stuttering

before engaging in either experience or how these stereotypes may or may not have changed

after engaging in either experience. Building on our study's results to incorporate measuring

changes in perceptions and stereotypes of stuttering would potentially allow future SLP

students to engage in a proven experience that would reform their perceptions of stuttering for

the better.

9. CONCLUSION

The intense nature of our study in combining both video viewing and pseudostuttering

experiences has proven to be a beneficial learning experience. Our involvement in the video-

viewing and pseudostuttering experiences throughout this study allowed us to develop

empathy for people who stutter. This empathy will help us establish more motivating and

client-centered approaches to treatment, which will likely influence the success of treatment

outcomes. Lohman (2008) reminds us, "if clinicians do not understand the culture of stuttering

they will fail to treat the whole person, including the negative feelings and attitudes associated with the disorder and the success of therapy will be less likely." (p. 960). Student clinicians need to be made aware of their own negative stereotypes and perceptions of stuttering and engage in experiences, such as video viewing of individuals who stutter and pseudostuttering, in order to alter their perceptions and understand stuttering on a deeper, personal level which will foster the success of future stuttering treatment.

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APPENDIX A

Analysis of Stuttering in Pseudostuttering Recording

Participant initials _____

Experience Number _____ (number consecutively)

1. Description of listener and environment (where, who was around)

___ familiar listener

___ unfamiliar listeners

___telephone

___face to face conversations in public places

___Description of the surrounding environment

2. Description of stuttering behaviours

___duration of the interaction,

____number of stutters

____types of stutters (i.e., repetitions, prolongations, or blockages),

____Secondary behaviours if any,

____your estimation of overall severity of the pseudostutters portrayed (i.e., mild, moderate,

severe).

APPENDIX B

Experience number _____ PRIVATE REFLECTIONS

- Complete your reflections about the pseudostuttering experience in close in time as possible to having finished the experience AND before you complete the next experience.
- Once you have finished your reflection do not go back and revise it unless you had a thought or feeling that is really important to the experience (i.e., afterthoughts as you continue to process the experience)
- Write what is true for you.
- Write as much or as little as you need to.
- Do not feel the need to make up thoughts and feelings.
- These reflections will remain private – write in your own way, using your own words.
- Remember – this is your foundational data for your summaries and your later analysis.
- Back up your data – and make hard copies.
- Do not discuss your reactions, perceptions with group members. This will help you remain as unbiased as possible.

1. Pseudostuttering Reactions

What were your feelings and thoughts as you prepared for, approached, completed, and processed the experience (i.e. before, during, and after). How did listeners react?

2. Insights

What have you learned about the impact of stuttering from this experience?

3. Process reflections

Note anything that may come up about the process of preparing for or completing the pseudostuttering experience that may have stimulated thoughts and feelings that are not directly related to pseudostuttering (e.g. having trouble with the recorder). This will help to keep track of thoughts/feelings that are not directly related to the pseudostuttering experience.

APPENDIX C

Pseudostuttering Summaries and Final reflections

Name (initials)_____

1. Summary of <u>Reactions</u> reflections:

This will be a summary that richly describes your thoughts and feelings, and how they may or may not have changed over time, how the experience has affected you or your thinking about stuttering, and people who stutter. Use some quotes from your original reflections. This will give the rich information that will be needed to illustrate the themes in your write-up.

2. Five most salient <u>insights</u>

Summarize the 5 most salient insights you have had about the impact of stuttering on peoples' lives. Again use some quotes from your original reflections.

3. Final Advantages and Disadvantages reflection

Complete a final reflection about your perceptions of the advantages and/or disadvantages of these pseudostuttering experiences in

       (a) learning about the impact of stuttering on lives and
       (b) preparing you for providing treatment in the future
Again, the length of this reflection is however long it needs to be to relay your perceptions.

4. Submit your reflections to Dr. Langevin before proceeding to the viewing video phase.

They will be de-identified, collated, and distributed to the group when the group is ready to do the independent analysis of data to identify themes that are common or unique among the group members.

APPENDIX D

Viewing Experience - PRIVATE REFLECTIONS – Viewing Number____(just list them consecutively so you can keep track of them)

- Complete your reflections about the viewing experience immediately after each viewing
- Write what is true for you.
- Write as much or as little as you need to.
- Do not feel the need to make up thoughts and feelings.
- These reflections will remain private – write in your own way, using your own words.
- Remember – this is your foundational data for your summaries and your later analysis.
- Back up your data – and make hard copies.
- Do not discuss your reactions, perceptions with group members. This will help you remain as unbiased as possible.

1. Viewing Reactions

What were your feelings and thoughts as you view the adults who stutter talk about their stuttering? How did listeners react?

2. Insights

What have you learned about the impact of stuttering from this experience?

3. Process reflections

Note anything that may come up about the process of preparing for or completing the viewing experience that may have stimulated thoughts and feelings that are not directly related to viewing (e.g. having trouble with video players). This will help to keep track of thoughts/feelings that are not directly related to the viewing experience.

APPENDIX E

Video viewing Summaries and Comparison reflections

Name (initials)_____

1. Summary of <u>Reactions</u> reflections:

This will be a summary that richly describes your thoughts and feelings, and how they may or may not have changed over time, how the experience has affected you or your thinking about stuttering, and people who stutter. Use some quotes from your original reflections. This will give the rich information that will be needed to illustrate the themes in your write-up.

2. Five most salient <u>insights</u>

Summarize the 5 most salient insights you have had about the impact of stuttering on peoples' lives. Again use some quotes from your original reflections.

3. Viewing Advantages and Disadvantages reflection
Complete a reflection about your perceptions of the advantages and/or disadvantages of these viewing experiences in
        (a) learning about the impact of stuttering on lives and
        (b) preparing you for providing treatment in the future
Again, the length of this reflection is however long it needs to be to relay your perceptions.

APPENDIX F

Final reflections

1. Comparing pseudo stuttering and viewing experiences

Do a final reflection on the advantages and/or disadvantages of both experiences relative to one another in terms of (a) learning about the impact of stuttering on people, and (b) preparing you for doing future treatment

2. Recommendation for choice of one experience only

If you had to choose one experience, which one would you choose and why.

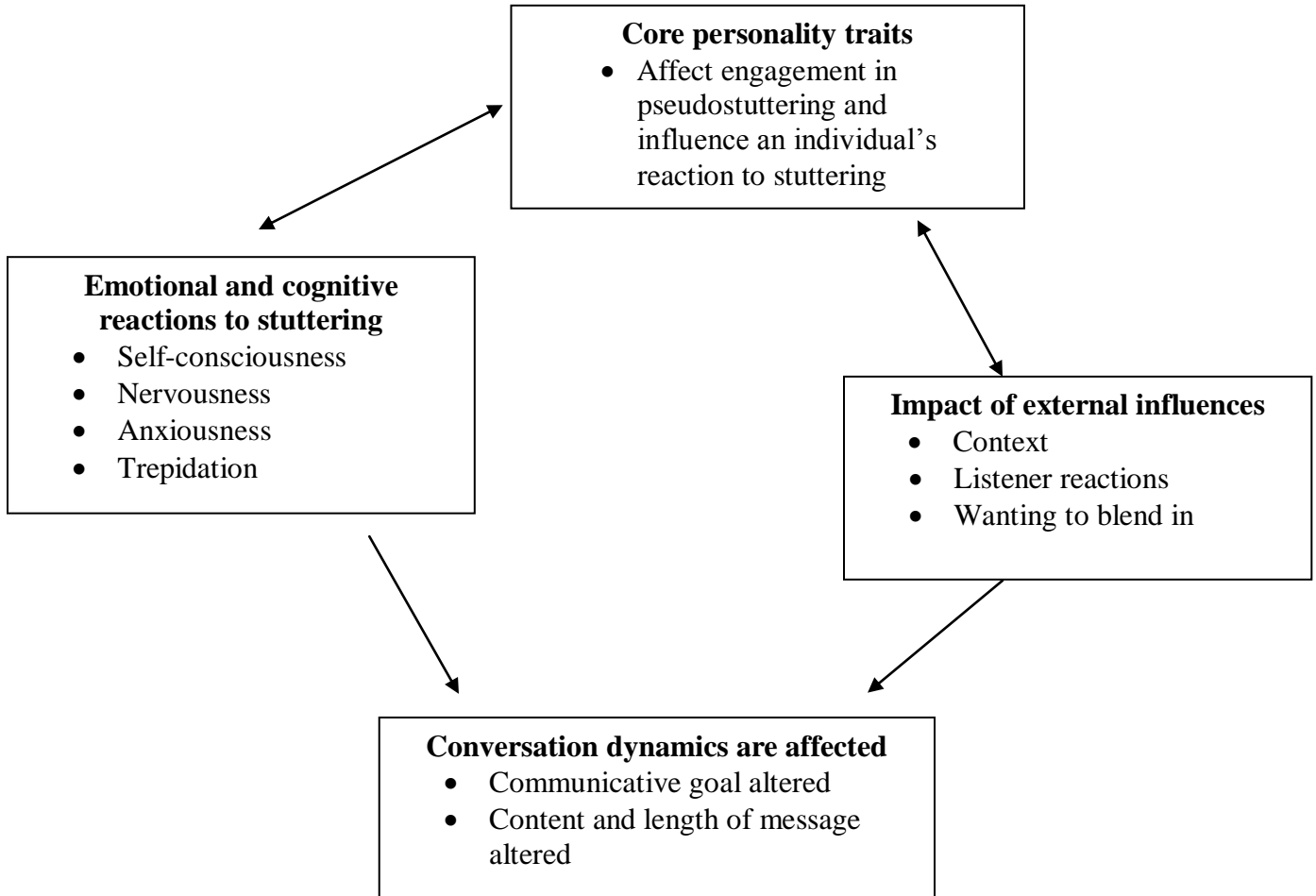**3. Recommendation for order of pseudostuttering and viewing experiences if both experiences could be offered**

Which order would you recommend and why?

4. Submit your reflections to Dr. Langevin

They will be de-identified, collated, and distributed to the group for the data analysis phase.

APPENDIX G – (Pseudostuttering)

Conceptual model of the themes that emerged in the data.

Core personality traits
- Affect engagement in pseudostuttering and influence an individual's reaction to stuttering

Emotional and cognitive reactions to stuttering
- Self-consciousness
- Nervousness
- Anxiousness
- Trepidation

Impact of external influences
- Context
- Listener reactions
- Wanting to blend in

Conversation dynamics are affected
- Communicative goal altered
- Content and length of message altered

APPENDIX H- (Video viewing)

Conceptual model of the themes that emerged in the data.