

Evaluating the Believability of Standardized Patients Portraying Aphasia

Lindsay Wilson

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Committee:

Carolyn Baylor

Kristie Spencer

Kathryn Yorkston

Michael Burns

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Lindsay Wilson, BA, BS

University of Washington

Abstract

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Lindsay Wilson, BA, BS

Chair of the Supervisory Committee: Kristie Spencer, Ph.D., CCC-SLP, Professor and Associate Chair, Speech and Hearing Sciences

Background: Standardized patients (SPs) are people trained to portray characteristics of a disorder in a way that is accurate and consistent. They are often used in the medical field for training medical and nursing students. SPs have also been used in the field of speech-language pathology to portray a variety of disorders and symptoms. To this date, there is little in the current literature on the accuracy and believability of SPs' portrayals of communication disorder symptoms.

Aims: This paper reports on the believability of SPs' portrayal of a communication disorder (i.e., non-fluent aphasia). The specific research questions are as follows: (1) Are SPs believable in their portrayal of a communication disorder (i.e., non-fluent aphasia) from the perspectives of (a) people who have the communication disorder, i.e., people with aphasia; and, (b) their family members? (2) Are the two SPs used in this study consistent with each other in their portrayal of the communication disorder?

Methods: Participants were required to have a history of non-fluent aphasia due to stroke with onset at least nine months prior to their participation in the study. Participants were recruited from the Aphasia Registry and Repository at the University of Washington. Participants were asked to watch video clips of SPs in a simulated medical interview and rate the SPs on five different communication behaviors using 100 mm visual analog scales.

Conclusions: The majority of participants reported SPs as believable; however, most participants indicated that there was something missing from the standardized patients' portrayals of aphasia.

INTRODUCTION

Overview of Standardized Patients in Medical Education

Simulation through standardized patients has long been used in health care education as a method of teaching students clinical and communication skills to prepare them to successfully manage potential clinical scenarios they might encounter throughout their careers. Standardized patients (SPs), sometimes called simulated patients, refers to individuals who have been trained to portray a case scenario for a specific illness or disorder accurately and consistently during clinical training and/or assessment scenarios with health care students (Zraick, 2012). SPs may be individuals who personally have the condition they are portraying or not. According to May, Park, and Lee (2009), SPs are trained to portray characteristics of a specific patient consistently to health care students, ensuring that students are exposed to the same scenario. Standardization of patients in this way ensures that students achieve specific knowledge and clinical skills (Harder, 2010).

Many health care programs are increasingly using SPs in simulated learning experiences to enhance students' clinical interview skills and to prepare them for managing difficult clinical situations; in addition, SPs also allow students to develop and practice newly learned skills in a safe environment before they are required to do so with real patients (Harder, 2010).

Furthermore, SPs have been used to assess students' clinical competencies during Objective Structured Clinical Examinations (OSCEs) (Long-Bellil, Robey, and Graham, 2011). During OSCEs, various aspects of the learning environment are controlled, such as content and complexity, to better prepare students for situations that they may not be exposed to in their clinical placements (Long-Bellil et al., 2011). In some cases, SPs are trained to provide feedback to students (Long-Bellil et al., 2011). Additionally, SPs are often used to provide a consistent

means of evaluating students' interactions with patients to determine their competency and readiness to manage the proposed clinical case scenarios (Harder, 2010).

Many benefits have been reported in the literature supporting the use of SPs to teach clinical proficiency skills to health care students, some of which include improvements in students' abilities to make clinical judgments and decreases in errors made by health professionals (Harder, 2010). Some attempts have been made to gather students' perspectives on the value/usefulness of SP experiences in medical training and/or clinical skills evaluations, such as during OSCEs. One such study indicated that students thought the training was useful in learning communication skills and found the experience worthwhile (Bosse et al., 2010). Additionally, students reported the scenarios as having been highly realistic and felt better prepared for similar future encounters (Bosse et al., 2010). Students who participated in evaluative experiences involving SPs showed higher performance scores on their OSCE's and indicated increased confidence in their own clinical competence (Bosse et al., 2012).

In rehabilitation disciplines, SP use has been reported in Occupational Therapy (OT) and Physical Therapy (PT). In a study by Giesbrecht, Wener, and Pereira (2014), OT and PT students' perceptions of SP use were elicited through an online survey. The students reported that they found the SP encounters valuable when experienced early in their training; however, once farther along in their training they placed higher value on real patient encounters (Giesbrecht et al., 2014). Students felt reassured by the experience with SPs because they knew that if they made an error they would not harm the patient and they valued having an opportunity to correct their errors (Giesbrecht et al., 2014). Students likewise reported that they found SPs beneficial for practicing their communication skills (Giesbrecht et al., 2014). A majority of

students who participated in the online survey indicated that they believed their experience with SPs was an effective method of evaluating their clinical knowledge (Giesbrecht et al., 2014).

Standardized Patients in Communication Disorder Disciplines

In communication disorder disciplines, SP use has been documented in audiology and speech-language pathology. SPs have been used in the field of audiology to assess students' counseling and patient communication skills (Dinsmore, Bohnert, & Preminger, 2013; English, Naeve-velguth, Rall, Uyehara-isono, & Pittman, 2007; Wilson, Hill, Hughes, Sher, & Laplante-Levesque, 2010). One study used a SP who portrayed the parent of an infant with hearing loss to assess counseling skills in audiology students (English et al., 2007). In this case, the SP was portraying a non-disordered caregiver. Dinsmore et al. (2013) concluded that using SPs in the education and evaluation of audiology students would be a valuable way to uniformly evaluate clinical competencies; nevertheless, they determined that continued need for further research was warranted on the use of SPs in a reliable and valid way across audiology programs.

While SPs have been used to educate students in rehabilitation disciplines, their use is relatively new in teaching and evaluating clinical skills in the field of speech-language pathology; however, the amount of evidence in the research literature is growing. One of the first SPs reportedly used in the field of speech-language pathology portrayed a woman with Broca's aphasia and right upper limb-hemiparesis to a group of undergraduate students in Australia (Edwards H, Franke M, 1995). The speech pathology students were given the task of maintaining rapport with the patient while accurately diagnosing the SP's communication disorder (Edwards H, Franke M, 1995). Additionally, SPs have been used to portray a voice disorder (vocal abuse) and overt stuttering with first and second year Masters students at various levels of their clinical training to teach skills such as interviewing, providing information to

patients, responding to confrontation, and therapy techniques (Syder, 1996). Zraick, Allen, & Johnson (2003) utilized SPs who portrayed persons with aphasia in a class of first year graduate students and developed an OSCE specifically designed to assess speech pathology students' interpersonal and communication skills (Zraick et al., 2003). An additional study by Zraick (2004) used SPs to portray classic aphasia symptoms, acquired apraxia of speech, and Alzheimer's disease. SPs were also trained to portray non-disordered family members of patients to be used in clinical counseling scenarios (Zraick, 2004). Bressmann and Eriks-Brophy (2012) examined the use of SPs portraying difficult patient behavior of patients with communication disorders (i.e., vocal nodules, user of a voice amplifier) and parents of children with communication disorders (i.e., AAC user, child who is ineligible for a cochlear implant), and examined students' impressions of the learning experience. Similarly, in a study by Hill, Davidson, and Theodoros (2013), SPs were trained to portray a parent or grandparent of a child with a speech delay/disorder.

Benefits and challenges of standardized patients. The studies to date have indicated mostly benefits for the use of SPs in speech-language pathology. Syder (1996) found the use of SPs valuable because it allowed instructors to focus on the students and it removed the stress associated with learning new techniques when interacting with a real patient. The author suggested that SP learning experiences might be most beneficial when they are used early in programs before students have had real client experiences (Syder, 1996). The benefits described by Hill et al. (2010) for the use of SPs when training speech-language pathology students were similar to those reported about SP use in training medical and nursing students; they described benefits such as providing a safe learning environment/experience for students and allowing students to receive immediate real-time feedback from their instructors following their

interactions with the SPs. An additional benefit is the standardization of the clinical learning experience; SPs allow clinical programs to ensure their students encounter the same information and experiences across students, and that they gain experience they may typically not have access to at every clinical placement (Hill et al., 2010). Standardization of the clinical experience also allows for students' performance/clinical skills to be equally assessed by eliminating the variability between patients, thus ensuring students encounter similar experiences (Hill et al., 2010; Zraick et al., 2003). Students are also given the opportunity to learn from observing the SPs and their peers interacting during clinical scenarios (Bressmann & Eriks-Brophy, 2012).

Challenges have also been reported in the literature regarding the use of SPs in the clinical training of speech-language pathology students. Hill et al. (2010) described that many studies do not include tools for assessing students' clinical abilities following their interactions with SPs and indicated that programs were not using consistent methods of evaluating students' clinical learning. Similarly, Zraick (2012) described the range of possibilities when developing the OSCE. For example, an OSCE could be structured to limit a student's evaluation of a SP with aphasia to use of only the materials located in the evaluation room or the OSCE might require the student to administer an aphasia battery to the SP within a limited amount of time (Zraick, 2012). For some clinical populations such as aphasia, numerous OSCEs might be necessary to determine a student's clinical competency to successfully work with patients in that population (Zraick, 2012). Another methodological issue in the use of SPs is the development of clinical case scenarios. Zraick (2012) identified the problem being the lack of studies in the literature describing how cases are developed when speech and/or language impairments were the primary feature of the SP. MacBean, Theodoros, Davidson, and Hill (2013) identified

numerous challenges in the implementation of standardized learning environments (SLEs), such as limited access to SPs as well as the challenge of training the SPs (MacBean, Theodoros, Davidson, & Hill, 2013). All studies to date suggested a need for further research evaluating the use of SPs in speech-language pathology programs.

One of the leading methodological issues of using SPs to portray patients who have communication disorders is the challenge of believably portraying the communication disorder. The majority of research regarding the training of SPs in other medical fields involves simulating the associated signs/symptoms of a disorder for people who have normal speech and language abilities. When using SPs to portray persons who have impaired communication due to any combination of speech, language, and/or cognitive deficits, the SP must portray the communication/language/cognitive impairments in addition to any other characteristics associated with the patient's disorder. The challenge is that characteristics of the communication impairment may not be as easily portrayed as a disorder that does not impact communication. For example, a SP may be trained to believably describe the symptoms of back pain without actually feeling back pain and still be convincing; whereas someone portraying a communication disorder, such as stuttering or aphasia, cannot talk easily/fluent and still be convincing as a SP. They have to actually stutter or show the relevant communication problem to be considered believable. Therefore, the overall concern is whether or not the SPs' portrayals are believable enough to be considered a patient who is communicatively impaired.

Training of standardized patients. Training of SPs is important to ensure they will be believable in portraying their cases. This is of particular concern with SPs who are portraying communication disorders because the SP must portray the communication disorder in addition to any other associated characteristics of the disorder. Reports of the training procedures for SPs

have varied throughout the literature, with some studies describing their methods of training SPS in greater details than others. The SPS used in the study by Syder (1996) were volunteers recruited through advertisements in the local newspaper and radio who were determined to be suitable candidates through an initial interview (Syder, 1996). Biographical information was gathered for each volunteer to determine types of clients they might portray convincingly but without overacting; volunteers were each trained in a single disorder (i.e., vocal abuse or stuttering) through collaboration with a tutor who helped develop the patient role with attention to the volunteer's personal experience and knowledge (Syder, 1996). Volunteers were paid for their training sessions, which typically required a total of two sessions for training to be considered complete (Syder, 1996).

Training differed in the study by Zraick et al. (2003), who developed three different clinical cases to represent Brocas' aphasia, Wernicke's aphasia, and Anomic aphasia. During training of SPS, written case notes were provided for them to review regarding the patient they were to portray; in addition, the author of the study provided models of the physical and verbal behaviors of the disorder (Zraick et al., 2003). The SPS received feedback throughout their rehearsal of the patient's characteristics to ensure they were accurately depicting the disorder (Zraick et al., 2003).

Hill, Davidson, and Theodoros (2013) used SPS with speech-language pathology undergraduates to help in their development of clinical communication skills, interpersonal skills, and interviewing skills. The SPS were trained to portray a non-disordered parent or grandparent of a child with a speech delay/disorder. While these SPS did learn about the speech disorders of children in order to relay information accurately during their portrayals, the SPS themselves did not have to portray any communication disorder symptoms.

Bressmann and Eriks-Brophy (2012) used SPS to portray difficult patient behaviors to speech-language pathology students during the first year of their professional program. Five SPS were used in their study, each of which was a professional medical actor trained by the university and who had experience as SPS in different medical disciplines (Bressmann & Eriks-Brophy, 2012). The SPS were trained to portray different types of interpersonal difficulty (e.g., withdrawal behavior, passive behavior, manipulative behavior, confrontational behavior, aggression/violence) and decided amongst themselves who would portray each case (Bressmann & Eriks-Brophy, 2012). The authors were available during the training to answer the SPS' questions and a different clinical case scenario was created for each of the five difficult behaviors for the students to provide counseling relevant to the difficult behavior (Bressmann & Eriks-Brophy, 2012). In three of the five cases, SPS portrayed communication disorder symptoms (a patient with vocal nodules, a user of a voice amplifier) in addition to showing the interpersonal difficulties, and in the other two cases, SPS portrayed parents of children with communication disorders (AAC user, child who is ineligible for a cochlear implant) (Bressmann & Eriks-Brophy, 2012). SPS were paid for their training and time during the clinical learning scenarios (Bressmann & Eriks-Brophy, 2012).

Evidence of believability of standardized patients. The information regarding training of SPS discussed above is important because it provides a foundation of evidence to build upon regarding the believability of SPS and how such believability is achieved and verified. The current literature on the believability of SPS' portrayal of communication disorders is limited; however, the following review from the speech-language pathology literature represents what is currently reported regarding the believability of SPS portraying communication disorders.

Hill et al. (2013) examined SPs' portrayal of three clinical scenarios to determine their accuracy, reproducibility and replicability in their interview performances with speech-language pathology students. In the Hill et al. (2013) study, SPs portrayed a parent or grandparent of a child with a speech delay/disorder for three clinical case scenarios during interviews with undergraduate speech-language pathology students. Interactions between the SPs and the speech-language pathology students during the interviews were video recorded and then reviewed by experienced speech-language pathologist raters using a scoring rubric that was developed by the researchers. The scoring rubric was developed to evaluate each case portrayal by the SPs and included all of the key features for each scenario as they were described during the SP training. The raters used the scoring rubric to indicate whether the SP correctly or incorrectly portrayed each key feature as well as whether the student elicited the information or the SP gave the information during the interview. The data were then analyzed for the accuracy, replicability, and reproducibility of each SP. Data analysis revealed a high degree of accuracy for SP portrayal of key features in two of the three scenarios and a moderate degree of accuracy in the third scenario, which involved portraying the parent/grandparent of a child with more complex feeding and speech and language history. In regard to the reproducibility and replicability of SPs' performance, results indicated that there were no significant differences across their interviews and portrayals of the three scenarios. Overall, Hill et al. (2013) indicated that SPs were able to accurately portray aspects related to SP scenarios in a standardized way. However, it should be noted that the SPs in this study were not portraying communication disorders themselves – they were portraying family members of someone with communication disorders so did not have to portray communication disorder symptoms.

Bressman and Brophy (2012) used SPs portraying communication disorder symptoms (a patient with vocal nodules, a user of a voice amplifier) and portraying parents of children with communication disorders (an AAC user, child who is ineligible for a cochlear implant) in a training program with speech-language pathology students. Following the simulated patient experience, students were asked to evaluate the realism and usefulness of the SPs by completing a 5-point interval scale questionnaire and to elaborate on each rating by providing qualitative feedback in the form of written comments. The scale ranged from “strongly disagree” to “strongly agree”. Of the students who participated, 27.5% responded, “Agree” and 60% responded, “Strongly agree” that the SP performances were realistic. One anecdotal comment from a student is as follows, “Even though it was a simulated activity, it definitely provided concrete examples how to use the strategies. It is helpful to have actors being the client, not just a class partner. (Student #3)” (Bressmann & Eriks-Brophy, 2012). However, the authors did not report on whether there was a difference in the students’ ratings of how realistic SPs portraying communication disorders were versus the SPs portraying parents of children with communication disorders.

Zraick et al. (2003), used SPs portraying Brocas’ aphasia, Wernicke’s aphasia, and Anomic aphasia to assess speech-language pathology students’ interpersonal and communication skills in OSCEs. Following the OSCEs, students evaluated the SP and OSCE methodology using a 5-point Likert scale. On the scale, a rating of 1 corresponded to “strongly agree” and a rating of 5 corresponded to “strongly disagree”. Feedback indicated that 100% reported that SPs and the use of OSCEs was appropriate for speech-language pathology students; however, they did not report on the believability of the SPs portrayals of the communication disorders.

Introduction to the Larger Project

The current research lacks rigorous evidence that SPs who do not have communication disorders are able to portray a communication disorder in a way that makes them appear sufficiently believable as one of these patients. The present study is part of a larger ongoing study, which aims to establish whether SPs can be trained to portray symptoms of communication disorders and to determine if their portrayals are believable. The larger study did not involve training of SPs for use with speech-language pathology students; rather, SPs were trained for their use in educating medical and nursing students about communication disorders. Specifically, non-disordered SPs were trained to portray patients who have impaired communication. They were then used in clinical learning scenarios during which the medical and nursing students conducted an interview with the SPs to learn how to communicate with people who have communication disorders.

One purpose of the larger project was to examine whether the non-disordered SPs were believable enough to portray patients with communication disorders for the purposes of training medical and nursing students, with their believability judged from the perspective of various key stakeholders, including 1) Speech-Language Pathologists (SLPs), 2) patients who have the communication disorder being portrayed by the SPs, and 3) medical and nursing students. Data has already been collected from the perspective of the SLPs. As such, the aim of this study was to evaluate if SPs are able to believably portray a patient with a communication disorder from the perspective of people who live with the disorder being portrayed (i.e., people with aphasia and their family members). In addition, this study examined the SPs' consistency with each other in their portrayal of the communication disorder.

Research Questions

This paper reports on the believability of SPs' portrayal of a communication disorder (i.e., non-fluent aphasia). The specific research questions are as follows:

1. Are SPs believable in their portrayal of a communication disorder (i.e., non-fluent aphasia) from the perspectives of a) people who have the communication disorder, i.e., people with aphasia; and, b) their family members?
2. Are the two SPs used in this study consistent with each other in their portrayal of the communication disorder?

METHODS

This study was approved by the University of Washington Institutional Review Board (application number: 44802C) and was part of a larger ongoing study as described in the introduction. SPs were selected and trained for their use as part of a teaching experience in the medical and nursing programs. In the larger study, SPs were trained to portray individuals with one of two disorders: dysarthria associated with Parkinson's disease or non-fluent aphasia. The focus of this study was on the SPs who were trained to portray non-fluent aphasia.

Standardized Patients

For the purpose of this study, two SPs were hired as University of Washington employees by the Health Sciences Academic Services and Facilities Department under the direction of the Clinical Skills and Assessment Manager, Jennie Struijk. The SPs were non-impaired individuals who were trained to portray the language disorder of non-fluent aphasia. Specifically, SPs were trained to portray a right-handed patient status-post left cerebrovascular attack (CVA) presenting with right hemiparesis in the upper extremity significantly limiting the use of their right hand.

Training materials used with SPs can be found in Appendix A.

Both SPS hired for this study had extensive previous experience with the University of Washington working as SPS, but no experience portraying a patient with a communication disorder; therefore, training for this project focused on the aspects relevant to this particular case scenario, rather than general SP training. Each of the SPS chose pseudo-names to be identified with during their case scenarios. The first SP was called Mrs. Maitlin and the second SP was called Mrs. Jackson.¹ In order to provide a consistent experience for all medical/nursing students, the two SPS were trained to portray the same case. Training specific to this case required approximately four hours for each SP. At times when there were breaks of several weeks between sessions with the students, ‘brush up’ sessions were conducted. During training, both SPS were provided with verbal and written instruction regarding the purpose of the program, the nature of the specific case, and characteristics of the disorder they were to portray. A prototype video of an individual with aphasia who demonstrated target characteristics was used to provide SPS with an example to follow. The SPS watched and reviewed the video for multiple trials and then practiced the characteristics and patient role with researchers multiple times. Feedback was provided to the SPS regarding their portrayal of the case throughout the training. Each SP’s portrayal of the case was recorded for group review. To improve consistency across their portrayals, the SPS were trained together to view each other’s portrayals and to compare strategies for the portrayal.

After their training, a professional video recording was made of each of the SPS in a simulated medical interview with one of the researchers serving as a physician. The scenario depicted in the video was of a patient coming to a first visit to meet a new primary care provider; and the ‘physician’ was trying to discern the patient’s primary concerns or reason for the visit.

¹ The SPS will be referred to using these names throughout the paper.

This video was edited to a length of five minutes showing the first five minutes of the interaction for both SPS. This video served as the video that participants with aphasia (PWA) and their family members watched in this study for assessing the believability of the SPS.

Participants

PWA were required to have a history of non-fluent aphasia due to stroke. The onset of their aphasia was required to have been at least nine months prior to their participation in the study to ensure the participants had experienced the symptoms long enough that they were familiar with the characteristics of the disorder. They were required to be able to attend a single research session at the University of Washington or to live close enough to the University of Washington to allow researchers to come to their home (greater Puget Sound region).

As is common in qualitative research, purposive sampling was used to identify candidates for the study. This was not a random sampling of people with aphasia; however, given that this was a new research methodology, purposive sampling facilitated evaluating the research methodology with individuals who were most likely able to participate comfortably, thus informing feasibility as well as modifications in methodology that might be needed for future studies that would target a broader representation of people with aphasia. PWA were recruited from the Aphasia Registry and Repository at the University of Washington. The Aphasia Registry provides a list of PWA who have given their consent to be contacted for research. The Aphasia Repository provides data for these individuals including aphasia testing data, medical history, and demographic information. Participants in the registry had been screened for cognitive impairments using the Raven's Progressive Matrices (J. C. Raven, Raven, & Court, 1938; J. Raven, 2003); for hearing impairments; and for visual neglect. The Aphasia Quotient scores from the Western Aphasia Battery (WAB) (Risser & Spreen, 1985) were extracted from

the Aphasia Registry for reporting aphasia severity in this study. Faculty and staff in the Aphasia Registry and Repository recommended likely participants to the researchers based on the aphasia test scores of PWA as well as their familiarity with the various PWA and their abilities.

Family members of the PWA were also recruited to this study to provide additional layperson perspectives from people who are familiar with aphasia. All family member/caregiver participants were recruited by asking the PWA to nominate an adult family member or unpaid caregiver to participate with them in the study. Inclusion of a family member was not mandatory for enrollment of the aphasia participant in the study. If a PWA did not have an eligible or willing family member/caregiver to nominate, the PWA was still allowed to participate in the study. The family member/caregiver was required to be age 18 or older and self-report no current speech or language disorder. The family member/caregiver participant was also required to be in contact with the PWA an average of two times per week to ensure that the family member was adequately familiar with the characteristics and manifestations of the communication disorder. Both the PWA and the family member/caregiver participants were paid for their participation.

Data Collection

This section describes the process of data collection including the nature of the sessions and rating scales used.

Structure of the sessions. Researchers met separately with PWA and family member/caregiver participants to avoid the participants influencing each other's scoring of the SPS. These meetings occurred face to face during a single research session for approximately one hour. Two researchers were present in the eight sessions for which no family member was

present. In these sessions, one researcher was the lead researcher and the second assisted with field notes. In four sessions, those that included family members, one researcher met with the PWA and the other researcher met with the family member. During the research session, the participants were first oriented to the purpose of the study and the rating scales (Appendix B – and will be described in further detail below) that they used to rate the believability of SP portrayals. Following this orientation to the task, the participants watched the video of one of the SPS and rated the believability of that SP. Participants were invited to make qualitative comments as they wished while viewing the video, and researchers took written notes of comments made by PWA and family member participants throughout the session. Then they watched the second video and completed ratings for that SP. The order of the SP videos was counterbalanced across participants. Participants were allowed to view the videos more than once if they wished. The rating sessions with the PWA and their family members were held in person so that a researcher was available to assist these participants with the task, if needed; therefore, researchers provided communication support, as needed to the PWA to enable their participation during the task.

Rating scales and forms. Participants were asked to rate the believability of the portrayals of the SPS by filling out 100mm visual analog scale rating forms (Appendix B) on the believability of the SPS for each of five aspects related to their portrayal of aphasia patients. Communication behaviors rated included problems with understanding what people say, word finding, and grammar; as well as use of gestures, and the overall portrayal of aphasia. The researchers emphasized that there were no right or wrong answers, and that it was possible that different people could have different opinions about the portrayals. Participants were also asked to complete demographic forms (Appendix C).

Data Analysis

This section describes the quantitative and qualitative methods of data analysis that were used in the study.

Quantitative data analysis. Quantitative data were analyzed by measuring where each participant's rating fell on a 100mm visual analog scale for each of the five aspects related to the believability of the SPs. On the rating scale, a score of 0 corresponded to 'not at all believable' and a score of 100 corresponded to 'very believable'. Scores were then averaged across participants. Scores from PWA and scores from family member participants were reported as separate groups. The target of ratings 80 or higher was established arbitrarily as being an indicator of sufficient believability. Behaviors that have scores under 80 may be targeted for further training of the SPs to help increase their believability as a person with aphasia.

Scores for each of the two SPs were analyzed separately and then compared across each dimension using a Wilcoxon signed rank test (chosen due to paired samples and small sample size). Ideally, there should not have been significant differences between SPs to reflect that the SPs were consistent with each other in their portrayals.

Qualitative data analysis. Qualitative data was obtained from detailed notes that were taken from comments made by PWA and their family members during the sessions. Participants' comments were then examined to look for common themes or trends regarding the believability of the SPs.

Pilot Data

One pilot session was conducted to evaluate the feasibility of this task and to evaluate any need to make changes to the methods for data collection. The PWA in the pilot session was

an 80-year-old male, 15 years post-stroke. His spouse, a 73-year-old female, was the first caregiver participant. While the participants completed the task, some challenges were encountered. The most salient challenge was that the participants (both the PWA and his wife) were very focused on the behavior of the “physician” in the interview and that the “physician” was not using helpful communication strategies. The participants were also very distracted by the topic of the interview, which was insurance. The participants required continual redirection that the nature of the task was to focus on the communication characteristics of the SP regardless of the topic of the conversation or behavior of the “physician” in the interview. Based on difficulties encountered in this initial pilot session and feedback from the first participant pair, minor adjustments were made to the methods for instructing participants. These adjustments provided more instruction about focusing on the communication behavior of the SP; and that the topic of the interview and the behavior of the “physician” were not areas of evaluation. These modifications resulted in the remainder of the sessions running more smoothly. The data for this pilot couple are presented in Appendix D.

RESULTS

This section summarizes the results obtained from this study related to the two research questions. Results reported include both quantitative ratings and qualitative feedback related to each of the SPS.

Description of the Study Sample

Sixteen participants were recruited to this study: 12 PWA and four family members. Table 1.1 summarizes the demographic information for aphasia and family member participants. The first PWA and his wife were the pilot participants described above, and their data are not included with the remainder of the participants in the following analyses. Of the 11 remaining

PWA, all participants were able to complete the task with moderate support except for one (PWA12) who, despite ongoing support and reinstruction, continued to struggle with the task. That participant's data is of questionable validity due to his difficulty with understanding the task; therefore, the data will not be reported. As a result, the final data set includes ten PWA and three family members.

The PWA appeared to have varying levels of difficulty with this task. All participants understood the overall purpose of the study and the general nature of the task in terms of evaluating the SPS. All were able to convey through their verbal comments (often combined with gestures and facial expression) their views about the performance of the SPS and various aspects that they liked or did not like about the portrayals. Some of this feedback was more general in terms of expressing a general approval or disapproval; while other participants were able to be quite specific, such as with Mrs. Jackson saying the word 'insurance' too easily. For some participants, the visual analog rating scale task was more difficult, and this may be related to the wording of the questions in terms of "how believable" the portrayals were. Rating believability seemed to require an extra step in processing beyond rating the behavior observed. This was particularly evident on the item for rating the believability of the portrayal of auditory comprehension impairments. This involved conveying to the PWA that the SP was supposed to portray a problem with understanding other people; however, instead of rating the SP's problems with understanding (a negative aspect), participants were asked to rate how believable the SPS were in showing that problem (a positive aspect). Despite these challenges, with communication support and clarification, the researchers judged the quantitative ratings to represent the views of the PWA overall (meaning that a favorable rating on believability was accompanied by

qualitative comments / gestures / facial expressions indicating a good portrayal on the part of the SP).

Table 1

Participants' Demographic Information

	PWA Age	PWA Gender	PWA Time Post Onset	WAB Aphasia Quotient Score	Family Member	Family Member Age	Frequency of Contact With PWA
PWA 1^A	80	Male	15 years	81.8	Wife	73	I live with him
PWA 2	71	Female	17 years	SNA*	No	N/A	N/A
PWA 3	54	Male	6 years	87.5	No	N/A	N/A
PWA 4	69	Male	10 years	SNA*	No	N/A	N/A
PWA 5	46	Female	4 years	69.9	Mother	69	I see the person less than once a week, but we talk on the phone or email 3-4 times per week.
PWA 6	54	Female	4 years	76.3	Mother	76	I live with her.
PWA 7	51	Female	6 years	85.2	No	N/A	N/A
PWA 8	61	Male	9.5 years	62.6	No	N/A	N/A
PWA 9	64	Female	4.5 years	94.8	No	N/A	N/A
PWA 10	70	Male	5 years	86.6	No	N/A	N/A
PWA 11	64	Female	16 years	92	Brother	62	I live with her.
PWA 12^B	65	Male	8 years	51.1	No	N/A	N/A

A: Participants who served as pilot data

B: subject's data will not be reported due to too much difficulty with the task

*SNA: Scores were not available

Believability of SPs' Portrayal of Aphasia

The following summarizes the results related to the first research question: Are SPs believable in their portrayal of a communication disorder (i.e., non-fluent aphasia) from the perspectives of a) people who have the communication disorder, i.e., people with aphasia; and, b) their family members?

Believability of SPs from the Perspectives of PWA

The following paragraphs summarize the PWAs' quantitative and qualitative feedback regarding the believability of the SPs.

Quantitative Ratings. The PWAs' quantitative ratings for each of the SPs for the five communication behaviors are depicted in Figure 1 for Mrs. Maitlin and Figure 2 for Mrs. Jackson. Along the x-axis are the communication behaviors that were rated: auditory comprehension, word finding, grammar, gestures, and overall believability. The y-axis represents the visual analog scale from 0-100 millimeters (mm) with 100 corresponding to most believable and 0 corresponding to least believable. A rating of 80 mm or higher on the visual analog scale was considered believable. As is evident in the figures, there was a wide range of opinions from participants about the believability of each of the SPs.

The greatest range in ratings of the first SP, Mrs. Maitlin, was in the communication behaviors of auditory comprehension, gestures, and overall believability. For the behavior of gestures, only two participants rated Mrs. Maitlin as 80 or higher and for the behaviors of auditory comprehension and overall believability, only three participants rated Mrs. Maitlin as 80 or higher. Participants were more consistent in their ratings of Mrs. Maitlin's believability for behaviors of grammar and word finding problems. For the behavior of grammar problems, 7/10 participants rated Mrs. Maitlin as 80 or higher, for word finding problems, 8/10 participants rated Mrs. Maitlin as 80 or higher.

The greatest range in ratings of the second SP, Mrs. Jackson, was in the behaviors of auditory comprehension and gestures. Similar to participants' ratings of Mrs. Maitlin, participants were more consistent in their ratings of Mrs. Jackson's believability for the communication behaviors of grammar problems, where believability ratings ranged from 58 to 99. For the behaviors of problem with auditory comprehension and use of gestures, only three participants rated Mrs. Jackson as 80 or higher. When rating overall believability, only 3/10 participants rated Mrs. Jackson as 80 or higher. For the communication behavior of word

finding problems, 7/10 participants rated Mrs. Jackson as 80 or higher. For the behavior of grammar problems, 8/10 participants rated Mrs. Jackson as 80 or higher. The numeric tables for this data are available in Appendix E.

Figure 1. PWAs’ Quantitative Ratings for Mrs. Maitlin. Higher scores on the y-axis indicate more believable.

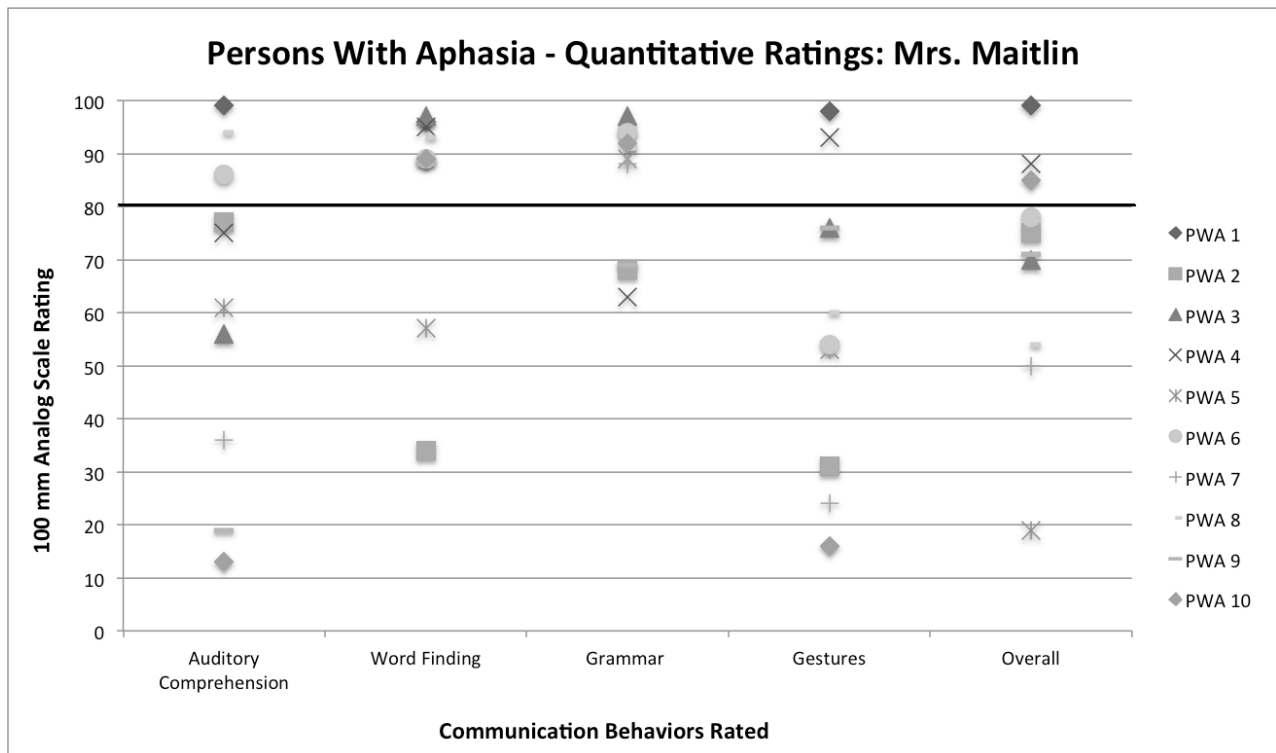
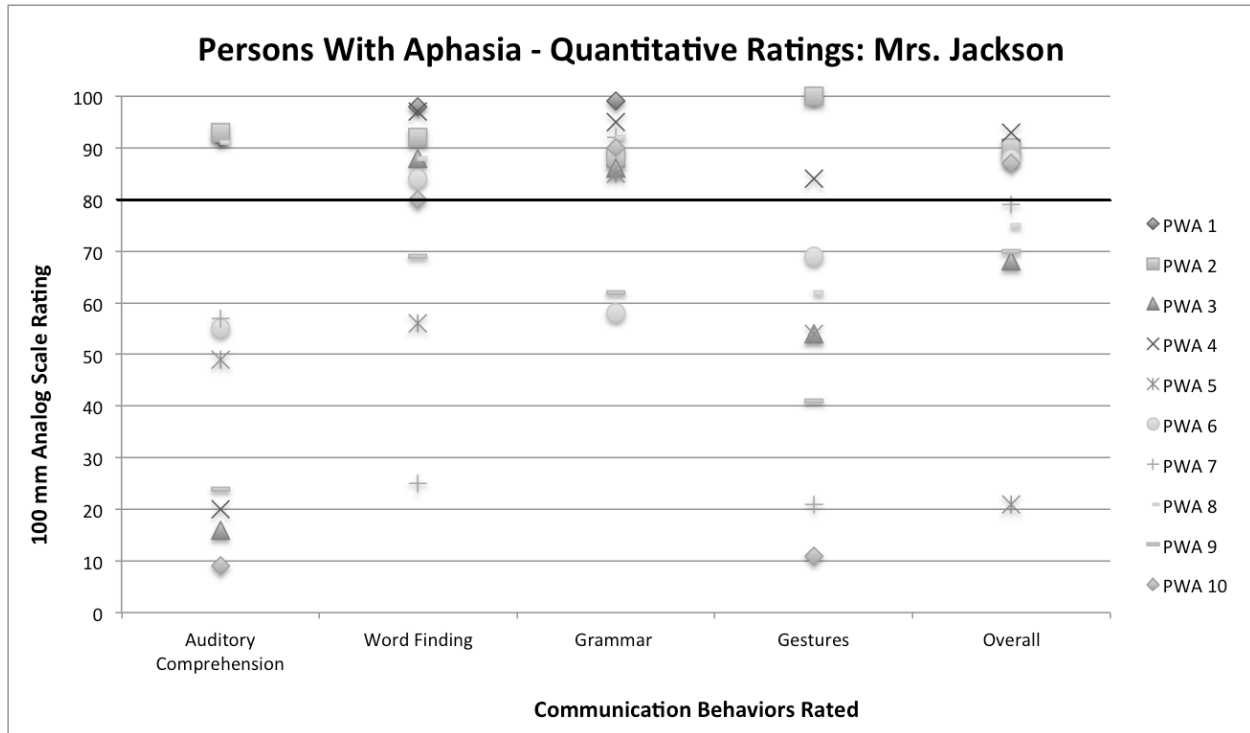


Figure 2. PWAs’ Quantitative Ratings for Mrs. Jackson. Higher scores on the y-axis indicate more believable.



Qualitative Feedback. The next two paragraphs summarize the trends for the qualitative comments made about the SP portrayals of aphasia by the PWA. A more detailed summary of participants’ qualitative feedback is in Appendix F.

In terms of qualitative feedback related to Mrs. Maitlin for auditory comprehension, one person felt that the SP seemed to understand better than a person with aphasia should given how fast the doctor was speaking. With regard to word finding, 5/10 people said that Mrs. Maitlin should have had more words and felt that it was hard to judge word finding because she was saying so little. Similarly, with regard to grammar, 3/10 people felt grammar was difficult to judge due to how few words Mrs. Maitlin said in the video. With regard to gestures, 7/10 people said she should use more variety or more gestures to get her point across. Overall, people seemed to feel that the SP’s representation was reasonable but not truly as representative or as

believable as it could be; however, not all participants were able to provide details as to why. Some paraphrased comments from participants included ‘overall just something missing’ (PWA5), ‘she is very believable just not all the way’ (PWA10), and ‘she was not doing enough to get her message across because it was insurance and that’s really important’ (PWA8). In addition, one participant identified that the SP looked anxious and timid, which they felt was not believable. Other comments about Mrs. Maitlin indicated that she should have shown more emotions, such as being angry or crying when she was unable to get her message across. One participant felt that the SP should be more confident in what she was trying to communicate.

In terms of qualitative feedback related to the second SP, Mrs. Jackson, for auditory comprehension, one person felt that the SP followed what the doctor was saying too easily. In regards to word finding, 3/10 of the participants felt that the SP was able to say the word ‘insurance’ too easily and felt the SP would be more believable if she was struggling more to say the word. In regards to grammar, participants felt that grammar was difficult to comment on due to how few words the SP said. With regard to gestures, 5/10 of the participants felt that the SP should use more gestures and facial expressions. Overall feedback related to Mrs. Jackson indicated that the participants felt Mrs. Jackson was more believable than Mrs. Maitlin, but still thought there was something missing or that the SP could do more to be more believable. One participant felt that Mrs. Jackson should be more consistent in the severity of aphasia that she was portraying. To paraphrase their comments, ‘It’s a believable aphasia, but needs to be more consistent. She should show more anger and frustration at not being able to get the words out’ (PWA3).

Believability of SPs from the Perspectives of Family Members

The following paragraphs summarize the family members' quantitative and qualitative feedback regarding the believability of the SPs.

Quantitative Ratings. The family member participants' quantitative ratings for each of the SPs for the five communication behaviors are shown in Figures 3, 4, and 5 (for Mrs. Maitlin), and Figures 6, 7, and 8 (for Mrs. Jackson). In each graph, the family member data are displayed along with the data from the corresponding PWA in each pair to allow for comparisons between each PWA and their family member. As is evident in the graphs, there was a wide range of opinions from family member participants about the believability of each of the SPs. The numeric tables with this data are available in Appendix G.

The greatest range in family members' ratings of the first SP, Mrs. Maitlin, was in the domains of auditory comprehension, and word finding problems. Participants were more consistent in their ratings of Mrs. Maitlin's believability in the domain of gestures, where believability ratings ranged from 88 to 93. In the domain of auditory comprehension, 1/3 participants rated Mrs. Maitlin as 80 or higher. In the word finding, grammar, and overall believability domains, 2 of 3 family member participants rated Mrs. Maitlin as 80 or higher. In the domain of gestures, all three family member participants rated Mrs. Maitlin as 80 or higher.

The greatest variability in family members' ratings of the second SP, Mrs. Jackson, was in the domains of auditory comprehension problems, and grammar problems. Participants were more consistent in their ratings of Mrs. Jackson's believability in the domains of word finding, gestures, and overall believability. For word finding, believability ratings ranged from 91 to 94. For gestures, believability ratings ranged from 83 to 99. For overall believability, ratings ranged from 86 to 92. In the domains of auditory comprehension and grammar, 2/3 participants rated

Mrs. Jackson as 80 or higher. In the word finding, gestures, and overall believability domains, all three family member participants rated Mrs. Jackson as 80 or higher.

Figure 3. PWA4 and Family Member’s Quantitative Ratings for Mrs. Maitlin

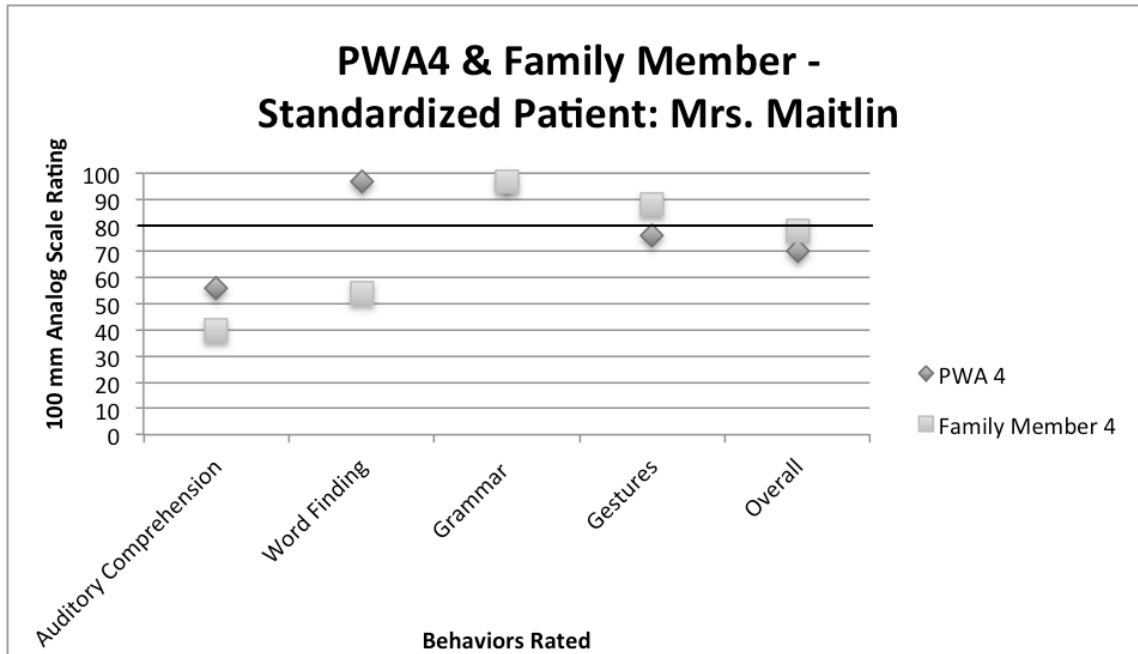


Figure 4. PWA5 and Family Member’s Quantitative Ratings for Mrs. Maitlin

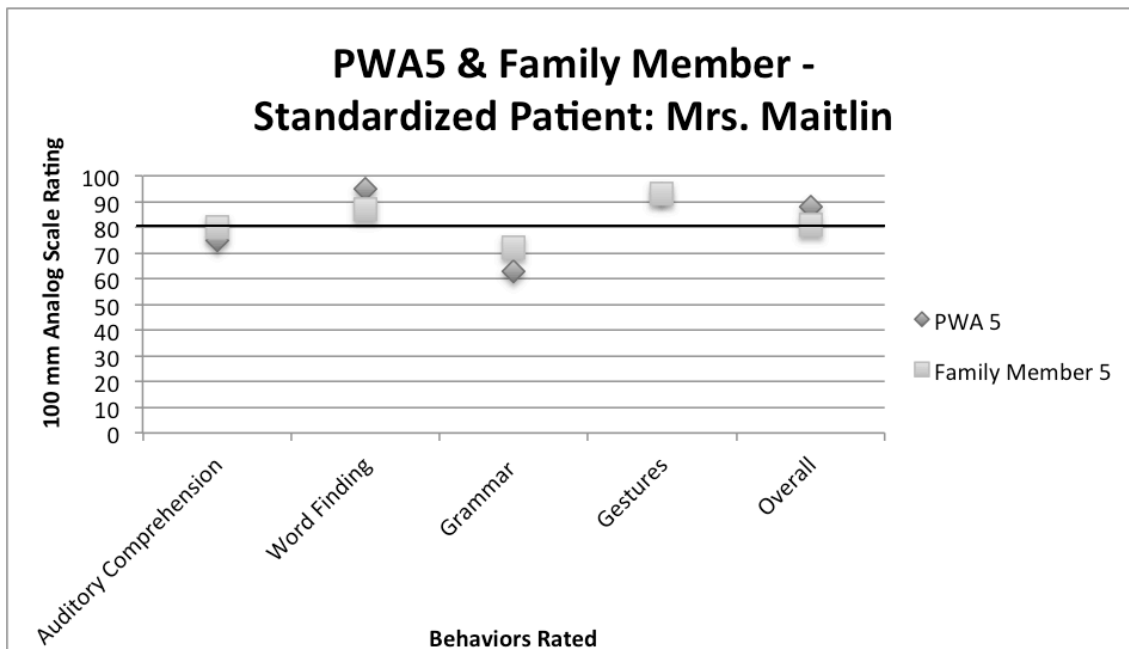


Figure 5. PWA9 and Family Member's Quantitative Ratings for Mrs. Maitlin

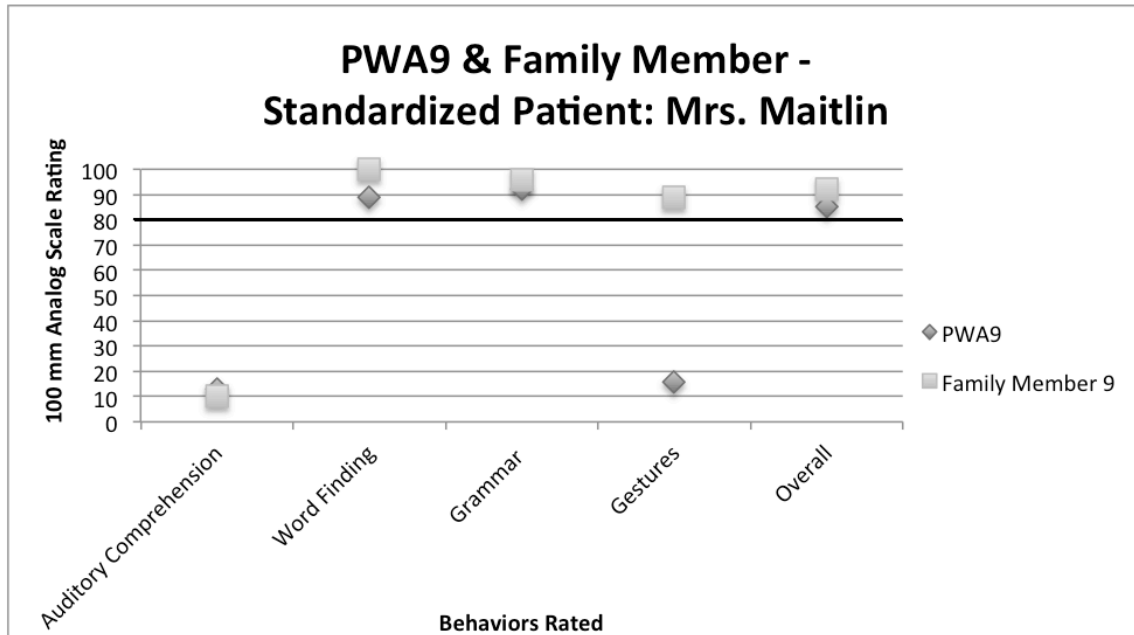


Figure 6. PWA4 and Family Member's Quantitative Ratings for Mrs. Jackson

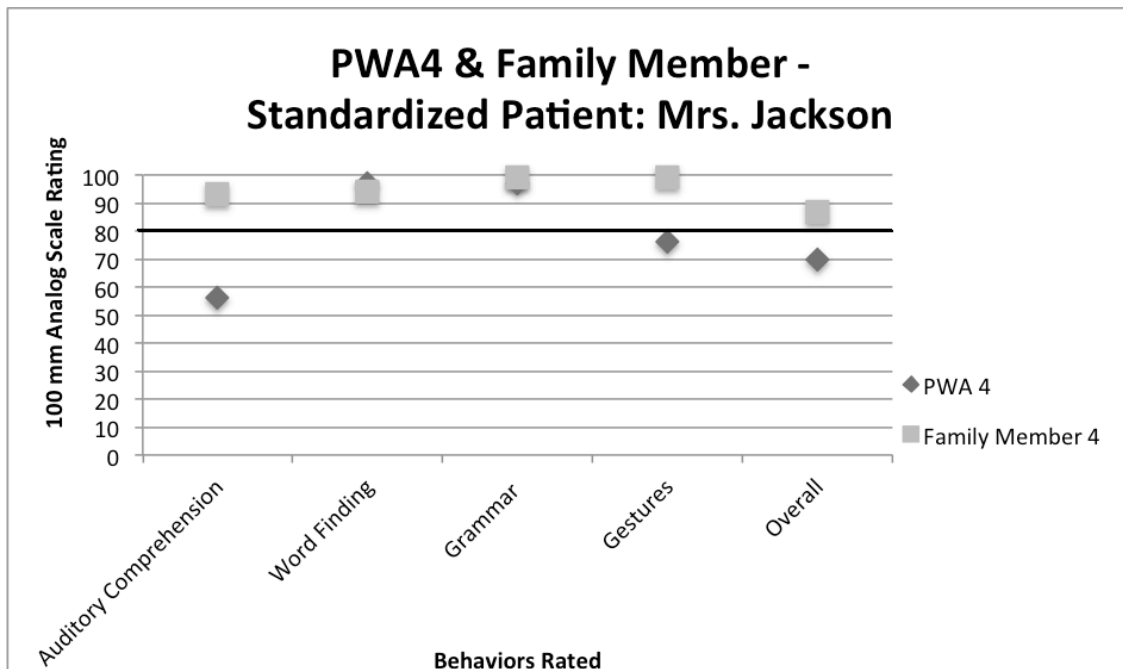


Figure 7. PWA5 and Family Member's Quantitative Ratings for Mrs. Jackson

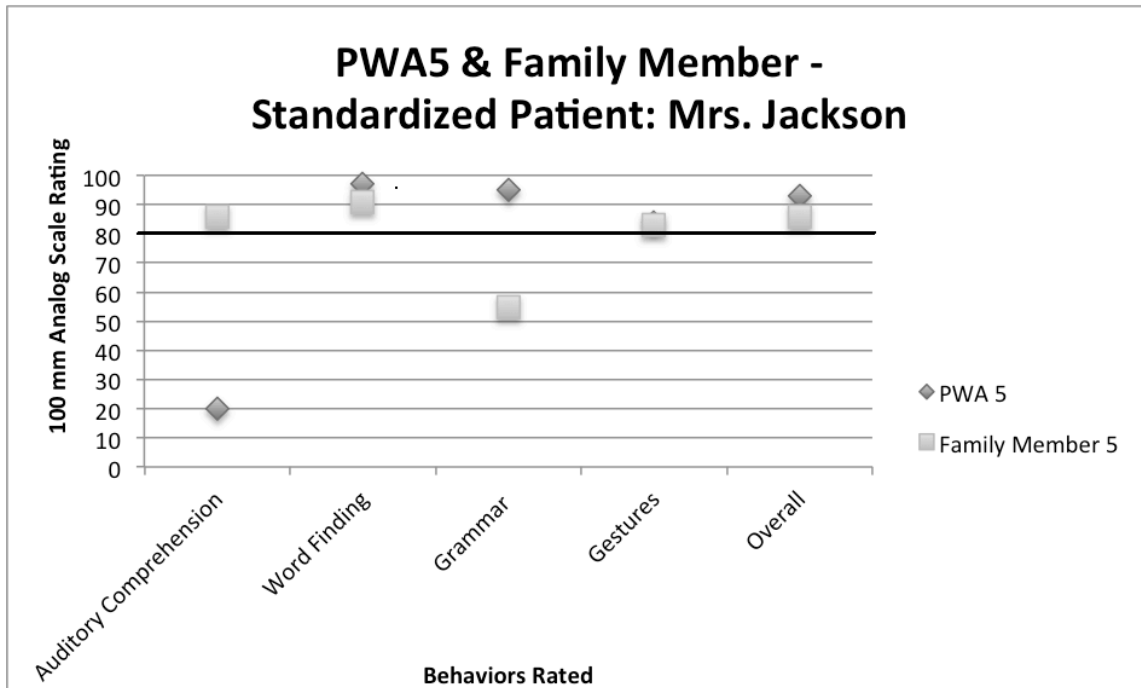
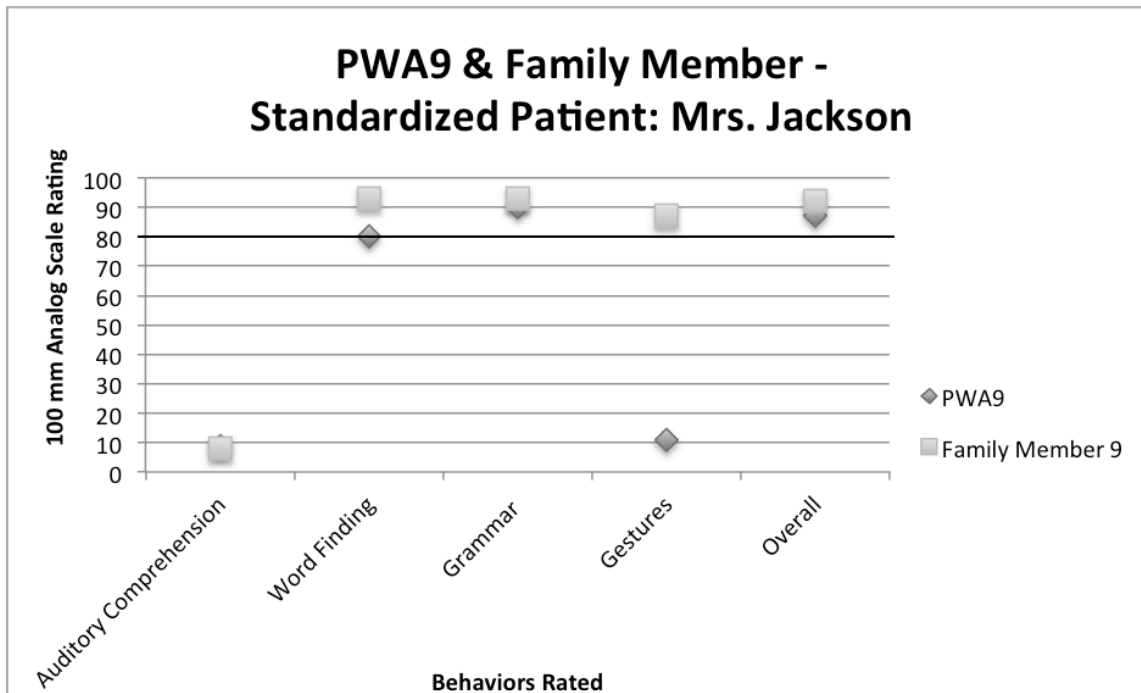


Figure 8. PWA9 and Family Member's Quantitative Ratings for Mrs. Jackson



Qualitative Feedback. In addition to quantitative ratings, family participants' qualitative feedback was examined to look for trends in the participants' opinions of the SP portrayals of a person with aphasia. A more detailed summary of family member participants' qualitative feedback is in Appendix H.

In terms of qualitative feedback related to Mrs. Maitlin for auditory comprehension, one person felt that the SP didn't show confusion enough and their face should convey a "huh" look. With regard to word finding, people had differing opinions. One family member felt that the SP was giving an accurate portrayal of yes/no confusion. Another family member felt that the SP showed some difficulty with word finding but there were too few words to judge by. With regard to grammar, all three family members had little to say and felt that there were not enough words to judge grammar. With regard to gestures, one family member felt that the SP did not show enough frustration and the SP should have stronger gestures. The other two family members felt that the SP was using gestures well and showing confusion. Two of the participants felt that the SP's overall performance was believable. Some paraphrased comments from family member participants included 'If I saw these actresses and didn't know they had aphasia, I would probably think they had aphasia' (Family Member 5), and 'seems to have severe aphasia, good portrayal especially for someone new in aphasia' (Family Member 9).

In terms of qualitative feedback related to the second SP, Mrs. Jackson, for auditory comprehension, one person felt that the SP was not showing comprehension problems. The other two family members felt that the SP looked confused, but could still show more problems with comprehension. In regards to word finding, two of the family member participants felt that the SP was able to say the word 'insurance' too easily and should show more effort in getting words out once she is able to think of the words. In regards to grammar, one participant felt that

there was not enough speech to judge grammar. With regard to gestures, 2 of 3 participants felt that the SP was showing good facial expressions for distress and frustration. The other participant felt that the SP should not use their whole face for facial expression if they have right facial weakness. One participant commented, "I would believe she has aphasia" (Family Member 5).

Differences in SPs' Portrayals

The following summarizes results related to the second research question: Are the two SPS used in this study consistent with each other in their portrayal of the communication disorder?

Statistical Analysis. To answer this second research question, ratings from the PWA of the two SPS' portrayals were compared using a Wilcoxon signed rank test to examine if the SPS portrayals were significantly different from each other for each of the five communication behaviors (family member data were not analyzed for this question due to having only three family member participants). Statistical analyses were conducted with SPSS© Version 18 (IBM SPSS Amos, 2012). Table 2 summarizes the means, standard deviations, and significance values for each paired sample (significance set at $p=.05$). In this case, the desired outcome was *non-significant* findings ($p>.05$) for each of the five behaviors to indicate that the two SPS were not significantly different from each other in their portrayals. Across each of the five communication behaviors there were no instances where there was a significant difference between the SPS; therefore, the SPS portrayals were not significantly different from each other.

Table 2*Statistical Analyses for SPS*

Communication Behavior Rated:	Maitlin Mean (SD)	Jackson Mean (SD)	P-Value
Auditory Comprehension	61.60 (30.413)	50.60 (32.962)	.186
Word Finding	82.70 (20.597)	77.70 (22.534)	.604
Grammar	84.50 (12.660)	84.70 (13.687)	.973
Gestures	58.10 (28.219)	59.60 (30.211)	.867
Overall	68.90 (22.913)	76.00 (21.224)	.088

DISCUSSION

The purpose of this study was to evaluate the believability of SPS portraying aphasia from the perspectives of people with aphasia and their family members. Participants viewed videos of SPS and provided quantitative ratings and qualitative comments about each of the SPS' portrayals. Results from the study were highly variable across both the PWA and the family member participants. Ratings were more variable, and fewer participants felt the SPS were believable in the behaviors of auditory comprehension problems and gestures, as well as for the overall portrayal. Greater consistency in ratings and higher ratings of believability were observed for the problems with word-finding and grammar behaviors. The qualitative comments suggested that most participants felt the SPS were representing symptoms of aphasia, but that they were not entirely believable.

The believability rating task proved to be a more challenging task for the PWA than had initially been anticipated. It appeared that a simple rating of the communication behaviors demonstrated by the SPS would have been easier (i.e. 'rate how much difficulty this SP has with word-finding'). Rating the *believability* of the portrayal of problems with word finding (or other behaviors) required an additional processing step that was challenging for participants. Despite

the difficulty that PWA had, the majority was able to provide the quantitative ratings when given communication support from clinicians; and their qualitative comments provided additional evidence that their views about believability were represented by their quantitative ratings. As expected, PWA also had different experiences in both the symptoms of aphasia that they personally experienced, and the aphasia symptoms that they had witnessed in other people they knew who had aphasia. This also added to the challenge for PWA when rating the SPs, because the SP cases did not portray the same type or severity of symptoms of all PWA in this study. The observations from this study suggest that, while people with aphasia can provide valuable insights into their disorder's characteristics, they should not likely serve as the *only* source of believability data for evaluating SPs. Some PWA in the study were somewhat concerned as to why the researchers did not use actual PWA as the SPs. At the least, several participants in this study suggested that the SPs should be given the opportunity to meet with PWA as part of their training.

There is very little existing data on the topic of SP accuracy in the field of speech-language pathology. Hill et al. (2013) examined the accuracy of SP portrayals during interview scenarios with SLP students and found that SPs portrayed key features with a high degree of accuracy in two out of three scenarios and a moderate degree of accuracy in the third scenario. In addition, Hill et al. (2013) found no significant differences across the SPs for their interviews and portrayals of the three scenarios, indicating high reproducibility and replicability. However, the SPs in the Hill et al. (2013) study were not portraying communication disorders themselves – they were portraying family members of someone with communication disorders so the SPs did not have to portray communication disorder symptoms. This is a clear difference compared to

the present study, which examined the believability of SPs portraying specific communication disorder symptoms.

Bressman and Brody used SPs in a training program with speech-language pathology students. Following the simulated patient experiences, students evaluated the realism and usefulness of the SPs using a 5-point interval scale questionnaire and were asked to elaborate on each of their ratings in the form of written comments. 27.5% of students responded, “agree” and 60% of students responded, “Strongly agree” that the SP performances were realistic. However, this study included SPs portraying patients with communication disorder symptoms (vocal nodules, voice amplification user) and SPs portraying parents of children with communication disorders (AAC user, child who is ineligible for a cochlear implant) and did not indicate whether or not there was a difference in the students’ opinions of the performances of each type of SP.

In the study by Zraick et al. (2003), SPs were used in training and evaluating speech-language pathology students’ interpersonal communication skills. Students participated in clinical evaluation sessions with SPs, during which the SPs evaluated the students’ use of interpersonal and communication skills. Following the sessions with the SPs, students provided feedback for nine items on a 5-point Likert scale ranging from 1 (strongly agree) to 5 (strongly disagree) (Zraick et al., 2003). Results from the rating scale indicated that 100% of students felt that the use of SPs was appropriate for evaluating specific skills for speech-language pathology students and 89% of students felt that the SPs should be included in other educational courses (Zraick et al., 2003). While this data provides information about the value of SP experiences, it does not speak to the believability of the SP portrayals.

Limitations and Future Directions

There were several limitations to this study. The study consisted of a small sample size. Although the sample size was large enough to observe some trends in feedback about the SP's, a larger sample size would have captured more viewpoints. The second key limitation was that the PWA had some difficulty using the believability rating scale. Future studies of this nature may consider modifying the scale to simply rate the behavior observed and not the believability of the behavior.

In the future, information from this study could be used to provide improved training for SPS so they are able to accurately portray the symptoms of communication disorders. Early research is suggesting that SPS are becoming more common as an instructional avenue for students in speech-language pathology as well as in other healthcare disciplines. As the incorporation of SPS into training programs increases, methods need to be put in place to ensure accurate portrayal of the conditions that they are representing. The quantitative ratings and qualitative feedback from participants in this study indicated that there are some areas in which the SPS would benefit from more training to improve their believability as persons with aphasia. The future training of SPS should place more emphasis on their use of a larger quantity and variety of gestures when trying to convey their message. Participants also indicated that the SPS would have been more believable if they had shown more facial expression and emotion in their portrayals. Some recommended that the SPS should show more anger and frustration and perhaps even cry due to their difficulty in conveying their message to the doctor. In addition, SPS should be instructed to show more signs of struggle when attempting to say longer, more difficult words, such as *insurance*, and less struggle on more automatic words, such as *my*, in order to increase the accuracy of their portrayals. The SPS should also show more signs of

difficulty with auditory comprehension, such as asking clarification questions, looking confused, and responding inappropriately to questions.

In addition to improving the portrayal of persons with aphasia as relevant to this study, additional future recommendations include incorporating individuals with the disorders to a greater extent in the training of the SPs so the SPs get to interact directly with individuals with the communication disorders to learn about and observe more directly the symptoms of the disorders. In addition, if individuals with communication disorders that impact language and/or cognition are to be included in the training and evaluation process for SPs, the rating and evaluation tasks need to be adjusted to a more concrete level for feasibility of the process and validity of the data.

Conclusion

In conclusion, this study has shown that, when using SPs to portray communication disorders, it is important that they go through sufficient training in order to accurately portray the specific symptoms of the disorders. Future studies might also look at using real patients with communication disorders in the training process of SPs and whether or not SPs are able to more accurately portray a communication disorder when they have interacted with someone who has the disorder they are portraying. There may be some question as to whether it is feasible for SPs to accurately portray the symptoms of a communication disorder as complex as aphasia. However, if SPs were provided with more in-depth training when learning to portray communication disorders, they may be able to accurately depict those disorders. The training of SPs to believably portray communication disorders would be helpful in the future training of doctors, nurses, and even speech-language pathology students in how to communicate with people who have impaired communication. In doing so, doctors, nurses, and students would be

better prepared for knowing how to facilitate successful communication interactions during important medical appointments, when time and insurance constraints are often barriers to providing the best quality services.

Acknowledgements

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Appendix A

Training Materials for SPs
Standardized Patient Case Blueprint
Aphasia (name)

Authors:

Carolyn Baylor (cbaylor@uw.edu)
Jennie Struijk (janim@uw.edu)
Mike Burns (mburns@uw.edu)
Kathy Yorkston (yorkston@uw.edu)

Edit record:

Initial draft by Carolyn Baylor (9-13-13)

Pseudo-name of SP: ?????

Case title (Focus): Aphasia after stroke

Major purpose of case:

Medical providers from all backgrounds need to know appropriate communication strategies to use with patients who have communication disorders so that these patients can be full participants in their health care.

Case-specific essential skills and behaviors to be tested:

- Demonstrate key features of effective patient-provider communication
 - Respectful tone of communication
 - Understanding patient's concern
- Demonstrate ability to implement supportive methods of communication with patient with language impairments
 - Awareness that patient needs more time to comprehend language along with simpler language input
 - Facilitates patient's ability to express himself/herself by helping patient to use multiple methods of communication (speech, gesture, writing/drawing, pictures etc.)

Primary challenge presented by the patient's behaviors:

- Patient has impaired language that impacts both receptive (comprehension) abilities and expressive abilities. Expressive abilities are impacted more than comprehension.
- Patient is very concerned about the topic of the message that s/he wants to convey

CASE TITLE (Focus): Non-fluent aphasia after stroke

SCENARIO for: _____
(Pseudo-name of patient)

- 1. The student clinicians should NOT be prompted by the SP to ask specific questions**
- 2. The student clinician should NOT be prompted by the SP to use a specific communication method UNLESS the student specifically asks the SP how s/he prefers to communicate**

Setting: outpatient general practice / family practice clinic

Patient's age: 60 (Preferable age range for SP: 55-65; could expand to 50-70 but may want to adjust age of patient accordingly)

Gender: Female

Race: Any

Chief complaint / concern: Will vary across SPs and/or visits

SP's occupation: Elementary school teacher (on leave since stroke)

Relevant prior history: Patient suffered a left-brain stroke approximately 18 months prior. She was hospitalized and then went to inpatient rehabilitation and continued on to outpatient rehabilitation. She has a history of hypertension but otherwise was relatively healthy prior to the stroke.

Clinician's task during visit: To understand the message the SP is trying to convey which is the main concern of the SP

SCENARIO

(the following portion to be shared with the student before the SP encounter)

You are a family practice / primary care provider OR nurse practitioner in an outpatient clinic.

(Name) is a (age) (gender) who is being seen by you for a first outpatient visit to establish care. The patient had previously been a patient of another physician in your practice who recently retired. You have been hired into the practice to replace that physician, and this patient is establishing care with you as her new primary care provider. You note from her chart that she has moderate aphasia.

(Name) is an elementary school teacher who has been on a leave of absence since her stroke.

You have 10 minutes to interview the patient to understand the patient's primary concerns and motivations for the visit. You do not need to offer a diagnosis or management plan at this time.

When you have finished with the encounter please write down the patient's primary concerns as you understand them and return the form to the researcher.

SP Recruitment Guide: Vital Statistics

1. What age range can the individuals who portray your SP have? Approximately 55-65 years (flexible)

2. Is the SP's weight, height, general nature or physical condition important to your case?

The SP should be in essentially normal condition

3a. Is the gender stated in your scenario essential to your case? While gender is not essential we have decided to use female SP's for the aphasia case.

4a. Is the SP's race, culture, or national origin essential to your case? NO

5. Would any specific medical conditions of individuals who portray your patient negatively effect your case?

A history of hearing loss should be ruled out because hearing loss could impact communication. The individual should not have any difficulties walking or upper extremity weakness that would be inconsistent with the impact of stroke as we have defined it for this SP.

6. Will the SP be expected to undergo any invasive procedures during the encounter? NO

7. Will the SP be expected to be completely or partially unclothed during the encounter? NO

9. What social history or personal attributes are important to your case (educational history, SES, general appearance, etc.)?

HISTORY OF SYMPTOMS

(may not be relevant except as pertains to targeted messages)

SOCIAL HISTORY

Family history: Is married, although her husband is running late from work and has not yet arrived at the appointment – he has phoned the office to say that he is unsure if he will be able to make it to the appointment. The patient and her husband have one adult child who does not live in Seattle although visits frequently and has been able to offer some help since the stroke.

Husband: John (or the SP can substitute a name that is easier to remember / own husband if desired). His age is same as SP's. He works as a liaison engineer at Boeing (this is the type of engineer who is out on the assembly line answering questions and checking quality as the airplane is built). He works on the 737 line in Renton. (this profile can change if the SP wants). He does have a hard time getting away from work during his scheduled shifts.

Child: Daughter named Elise (can choose other name if easier to remember). Lives in Denver. Age 30. Is employed as an elementary school teacher (first grade). Unmarried but moved to Denver because has a lot of friends there. Comes home to visit most school breaks especially since the stroke – comes home to help out.

Occupation: Elementary school teacher – has taught in several grades but was teaching third grade. Is on a leave of absence since the stroke – while she is realizing she will likely need to take early retirement she has not finalized those plans.

Socio-economic status: Successful middle class

Marital / partner status: Married – husband is very supportive although his work schedule is not very flexible so he has difficulty getting to some appointments with the patient

Activities: The SP is active in a book club. Has attended a few meetings since the stroke although more for social reasons because she struggles with reading and speaking. She hasn't really kept up with the books but goes to their social gatherings. She enjoys playing the piano although has not done this since the stroke due to her right-handed weakness.

Support systems: In addition to her husband and children described above, her sister (and sister's husband) also live in Seattle and are available to help. While her sister typically doesn't get involved in things as personal as medical appointments, she has helped a lot with cooking and cleaning around the house, taking the SP on shopping errands, etc. Sister's name – Pam (can change name if wish).

Instructions and Overview for Standardized Client Aphasia due to Stroke

Possible video examples:

Carol on Master Clinician Network

Kathy's restaurant video

Margaret's role play?

Student 496 videos?

From youtube: <http://www.youtube.com/watch?v=khOP2a1zL9s>

Overview for standardized client:

- The students are participants in a research study to understand the impact of training on their abilities to communicate with patients with communication disorders.
- The major task of the student is to try different communication methods with the client so that the student gains familiarity / comfort with different communication strategies beyond typical conversation.
- You will be provided with a message that you are to convey to the student. When the student has fully understood the message, the interaction can be ended. The message will contain details and nuances of meaning – try to continue the interaction (if time allows) until the student has understood the nuances / details beyond the main idea.
- In general, you should present with significant communication problems. Don't make it too easy for the students to communicate with you. When students try appropriate strategies (summarized in the 'communication strategies' section below), you can show that you can use those strategies more successfully to provide answers to the students' questions.
- Your obvious characteristics (e.g. gender, race, age) should be incorporated into your client story
- If the information below does not specify a "fact" you may make it up to provide a comprehensive or coherent narrative.
- Giving feedback to the students: During the first interview (before students participate in a training workshop), you will complete a rating form for the student but you will not give feedback directly to the student. After the second interview (after student training), you will have the opportunity to give feedback to the students if they ask for it. Giving feedback directly to the student is not required. You will also be asked to complete a rating form for each student after the second interview.

General presentation:

- Appearance: basically neat, casual
- Body language:
 - You are alert, attentive, and interested in what is going on around you. One of the common misperceptions of aphasia is that the person has cognitive impairments. This is not true. People with aphasia can have relatively intact memory, attention, reasoning, etc., - they just cannot

communicate well with language. We would like you to show that you are interested, engaged, and motivated to communicate, although you can show some frustration when communication is difficult.

- You have a paralyzed right hand. You are able to walk independently. You are not able to use your right (dominant) hand at all. (Perhaps we can place it in a sling or something if needed as a cue / prop).
- Communication: Aphasia affects the ability to communicate in four different ways – the ability to understand what people say to you, the ability to understand what you read, the ability to speak (think of the words you want to say), and the ability to write. Details about how to portray each of these areas follow:
 - Understanding what people say: You have difficulty understanding what people say to you, particularly if they speak quickly, use long sentences, and present complex information. You are generally aware that you do not understand someone. If a student speaks fast, or uses long or complex sentences, you can shake your head “no” and give a confused look to indicate that you don’t understand. Students may want to test your understanding by asking you yes/no questions or asking you to follow instructions such as “point to your eye.” If they do this testing, you can answer correctly to about 75% of the questions. Your responses should be a little delayed (3-4 seconds) indicating that it takes a little longer for you to understand information. Students can do several things to help you understand. When they do any of the following, show that you understand them by doing what they ask or answering their questions a little easier / more accurately: they might speak slower, use shorter phrases, pause between phrases, write down a key word, use gestures or body language to help you understand, show you a picture. These are all good. However, if you feel that they are “talking down” to you or using “baby talk” in their tone of voice, this irritates you. We do not want students to use that tone of voice.
 - Ability to read: You have difficulty understanding written information. If the students write down one or two key words you can understand those, although it takes you a few seconds to understand the words. But if they write something sentence length, or hand you anything to read that has sentences or paragraphs, that is too overwhelming and difficult, and you can indicate that you cannot read that.
 - Ability to talk: You experience three key problems with talking. First, you have difficulty thinking of the words you want to say. When a student asks you a question, you may have long pauses before answering while you think of the words (3-5 seconds). You can think of the right word to say about 25% of the time. The rest of the time you cannot think of something to say, or you may say a word that isn’t quite right. For example, if they ask you a question and the answer is “cat,” you might substitute “dog.” You are aware when you make mistakes so you get frustrated at your wrong words, but you cannot always fix them. You often get stuck on the word, “My” and repeat that over and over although you know that this is not what you intend to say. The second problem is that you have what we

call “telegraphic speech.” This means that you can think of some of the “content” words in sentences, but you cannot put the words together in a grammatically complete sentence. For example, if you wanted to say, “My husband went to the store,” you might be able to say, “Brother – no- no - Husband. Out.” You can’t say a complete sentence. The third problem is that sometimes you say “yes” when you mean “no” and vice versa. This happens about half the time you answer a yes/no question.

- Ability to write: You have difficulty writing for two reasons. First, your dominant hand (assume you are right handed – let us know if you are left-handed) is paralyzed so any attempt at writing requires using your non-dominant hand. The second problem with writing is the same reason you have difficulty talking – you struggle to think of the word you want to say and how to spell it. If the students ask you to write, you are willing to try but you have to use your LEFT (non-dominant) hand so this makes all writing efforts very cumbersome and awkward. You can write your first and last name slowly and with effort, but correctly. You can spell your husband’s name. Beyond that, if they ask you to spell words or communicate via writing, you can make an effort to write the first letter or two of a word (sometimes it is correct and sometimes not), but you cannot write more than that. You cannot write well enough to convey your ideas through writing.
- Openness: Open – no deception. No hidden agenda.

Presenting issue / problem:

We will need to have a set of different messages so that the students have to understand different messages pre-vs. post-training and across different clients. We will provide you with the specific message(s) that you are conveying at a later time. The following is an example of one message that may be used:

You have been taking a prescription medication for reflux that has been working but insurance is no longer covering the medication at the same rate as before so the medication is more expensive. You would like to know if the over-the-counter reflux medications that have become so prevalent are as effective as you would like to take those to save money. Or, could the doctor prescribe a different medication that would be covered by insurance? Three key elements to this message:

1. The reason you want to change medication is due to insurance / money, NOT because the medication is ineffective. You want to try to get the same / similar medication for less money.
2. Are there over-the-counter medications that would be just as safe and effective?
3. Are there other prescription medications that would be covered by insurance that the doctor could prescribe?

You may offer the following information spontaneously if you feel moved to do so or in the response to inquiry by the student:

(Background, personal history, etc.)

Communication strategies:

- Overall qualities we want students to portray in their communication
 - Respect for you as an adult
 - Patience
 - Willingness / flexibility to try different ways to make communication easier for you
- Responding to communication strategies: The students will likely try a variety of strategies to help you communicate. Here is how you should respond to each:
 - The general strategies we want students to use are: they slow down with communication to make it easier for you; they keep a respectful tone even though they are speaking slower and in simpler language; they use different ways of communication. They do not expect you to understand everything they say so they supplement their speech with writing key words, drawing pictures, gestures, etc. They also help you / encourage you to communicate other ways instead of speech such as having you use gestures, point to pictures, etc.
 - Yes/no questions: If they ask you a string of yes/no questions, you can answer correctly to about half of them. You get confused and fatigued with a long list of questions and can show confusion in your face or mixing up yes/no – even saying “I don’t know” on occasion.
 - They may ask you multiple choice questions by asking you a question and writing a list of possible words / phrases on a white board. This is a good strategy. You respond well by being able to point to or say the answer.
 - They may ask you to spell out your answer using an alphabet board where you point to letters. This is as difficult as writing because you still have trouble thinking of the word and how to spell it. You might be able to get out the first letter here or there but you make frequent mistakes that you recognize and this is frustrating. This is not a good way to have you communicate.
 - They may ask you to draw a picture. This is difficult. You may be able to make a rough drawing but nothing detailed. If the student draws a picture for you, that is good – you can point to details of a picture or add a small piece here or there to add information but you can’t really create much of a picture on your own.

- They may show you a communication board or pictures and ask you to choose if a picture represents what you want to say. This is good. You can choose the correct picture or something close to correct.
- They might use gestures / body language or encourage you to do the same. This is good. This helps you communicate. Any gestures you use are awkward but you can understand them well and use them to help you –i.e. pointing to things etc.
- The patient may carry a communication notebook or other communication aid. The SP should NOT volunteer this for use with communication, but if the student asks if the SP has it, the SP can bring it out and allow the student to use it.
- If the student asks the SP what communication methods word best, the SP should reply with suggestions similar to these:
 - Speak slowly
 - Give me time to talk
 - Drawing / writing sometimes helps
- Strategies that do not work well (you can respond by not changing your ability to communicate or showing mild frustration or more difficulty communicating):
 - The student is impatient – rushes you during communication, interrupts you, does not give you time to communicate
 - The student relies on verbal communication (speaking / listening) only and does not add other ways of communicating (such as gestures or pictures)
 - The student asks you a long list of yes/no questions which limits your ability to direct the conversation to the topic / details that you want. A long list of yes/no questions just wears you out.
 - The student abandons the conversation meaning the student gives up trying to understand. The student may say, “I’ll ask your family” or something like that, perhaps intending to be helpful but you want to communicate for yourself.
 - You easily fatigue with a strategy. If using a single strategy with a student starts to feel tedious, you can indicate fatigue or just have more difficulty with the strategy and this should compel them to try something else.

Appendix B

Quantitative Rating Form

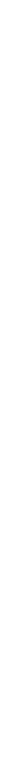
**Rating Standardized Patient Believability
Aphasia
Community Form
(Persons with aphasia and family)**

Instructions: We are training people without aphasia to portray aphasia. Doctors and nurses will practice with these actors to learn how to talk to someone with aphasia. We want your opinion as to how well this actor portrays aphasia. This actor may not portray the same problems you have. But we want to know if this actor resembles you or others you may know with aphasia closely enough to be believable.

Understanding what people say:

Many people with aphasia have problems understanding what other people say. Is this actor believable showing this?

VERY
Believable



NOT at all
Believable

Comments:

Speaking:

Word finding: People with aphasia often have lots of problems coming up with the words they want to say. They may not be able to think of a word. They may say a word they do not intend to say. Is this actor believable for this?

VERY
Believable



NOT at all
Believable

Comments:

Grammar: People with aphasia often have problems with grammar. They may be able to say a few words but cannot always make a complete sentence. Is this actor believable for this?

VERY
Believable



NOT at all
Believable

Comments:

Reading:

People with aphasia often have trouble reading. They may be able to read short words or sentences but not long sentences. Pictures are helpful. Is this actor believable for this?

VERY
Believable



NOT at all
Believable

Comments:

Writing:

People with aphasia often have trouble writing. They may be able to write some words and draw some pictures to communicate. Sentences are difficult. Is this actor believable for this?

VERY
Believable



NOT at all
Believable

Comments:

Gestures:

People with aphasia often use other ways to communicate when speech is hard. They use gestures, body language or facial expression. They may point to things around them. They pay close attention to their environment for clues. Is this actor believable for this?

VERY
Believable



NOT at all
Believable

Comments:

Overall:

Overall, how believable is this actor in portraying someone with aphasia?

VERY
Believable



NOT at all
Believable

Comments:

Participant Demographic Forms

**Participant Information Page
Aphasia**

The page asks for information about you. You do not have to answer any question you do not want to answer.

1. What is your age? _____

2. What is your gender? MALE FEMALE

3. How long ago was the onset of your aphasia? _____

4. The researcher will ask you about the symptoms of aphasia. We would like to get a general idea of the symptoms of aphasia that you experience. The researcher will take notes about the symptoms you describe.

How much difficulty do you have understanding what people say?

How much difficulty do you have thinking of words you want to say?

How much difficulty do you have reading and writing?

Family Member / Caregiver Information Form

1. What is your age? _____

2. What is your gender? Male Female

3. What is your relationship to the person with the speech disorder (e.g., are you a spouse / partner, child, sibling, friend, other)?

4. Which statement below best describes how often you are in contact with this individual?

_____ I live with him / her

_____ I do not live with the person but see him/her almost daily

_____ I do not live with the person but see him/her 3 – 4 times per week

_____ I do not live with the person but see him/her 1 – 2 times per week

_____ I see the person less than once a week, but we talk on the phone or email almost daily

_____ I see the person less than once a week, but we talk on the phone or email 3 – 4 times per week

_____ I see the person less than once a week, but we talk on the phone or email 1 – 2 times per week

_____ I am in contact with the person less than once per week

Appendix D

Pilot Data

Table D1*Quantitative Ratings for Mrs. Maitlin*

	PWA 1 Male; Age 80 15 years post	Family Member Age 73 Wife
Auditory comprehension impairments	77	50
Word-finding impairments	67	50
Grammatically incomplete utterances	84	24
Nonverbal communication	68	71
Overall portrayal	82	52

Table D2*Quantitative Ratings for Mrs. Jackson*

	PWA 1 Male; Age 80 15 years post	Family Member Age 73 Wife
Auditory comprehension impairments	77	15
Word-finding impairments	75	31
Grammatically incomplete utterances	77	65
Nonverbal communication	72	25
Overall portrayal	72	71

Appendix E

Tables Corresponding to Figures 1 and 2

Table E1

Quantitative Ratings for Mrs. Maitlin (corresponding to Figure 1)

	Auditory Comprehension	Word Finding	Grammar	Gestures	Overall
PWA 1	99	96	94	98	99
PWA 2	77	34	68	31	75
PWA 3	56	97	97	76	70
PWA 4	75	95	63	93	88
PWA 5	61	57	89	53	19
PWA 6	86	89	94	54	78
PWA 7	36	89	88	24	50
PWA 8	94	93	91	60	54
PWA 9	19	88	69	76	71
PWA 10	13	89	92	16	85

Table E2

Quantitative Ratings for Mrs. Jackson (corresponding to Figure 2)

	Auditory Comprehension	Word Finding	Grammar	Gestures	Overall
PWA 1	92	98	99	100	89
PWA 2	93	92	88	100	90
PWA 3	16	88	86	54	68
PWA 4	20	97	95	84	93
PWA 5	49	56	85	54	21
PWA 6	55	84	58	69	88
PWA 7	57	25	92	21	79
PWA 8	91	88	92	62	75
PWA 9	24	69	62	41	70
PWA 10	9	80	90	11	87