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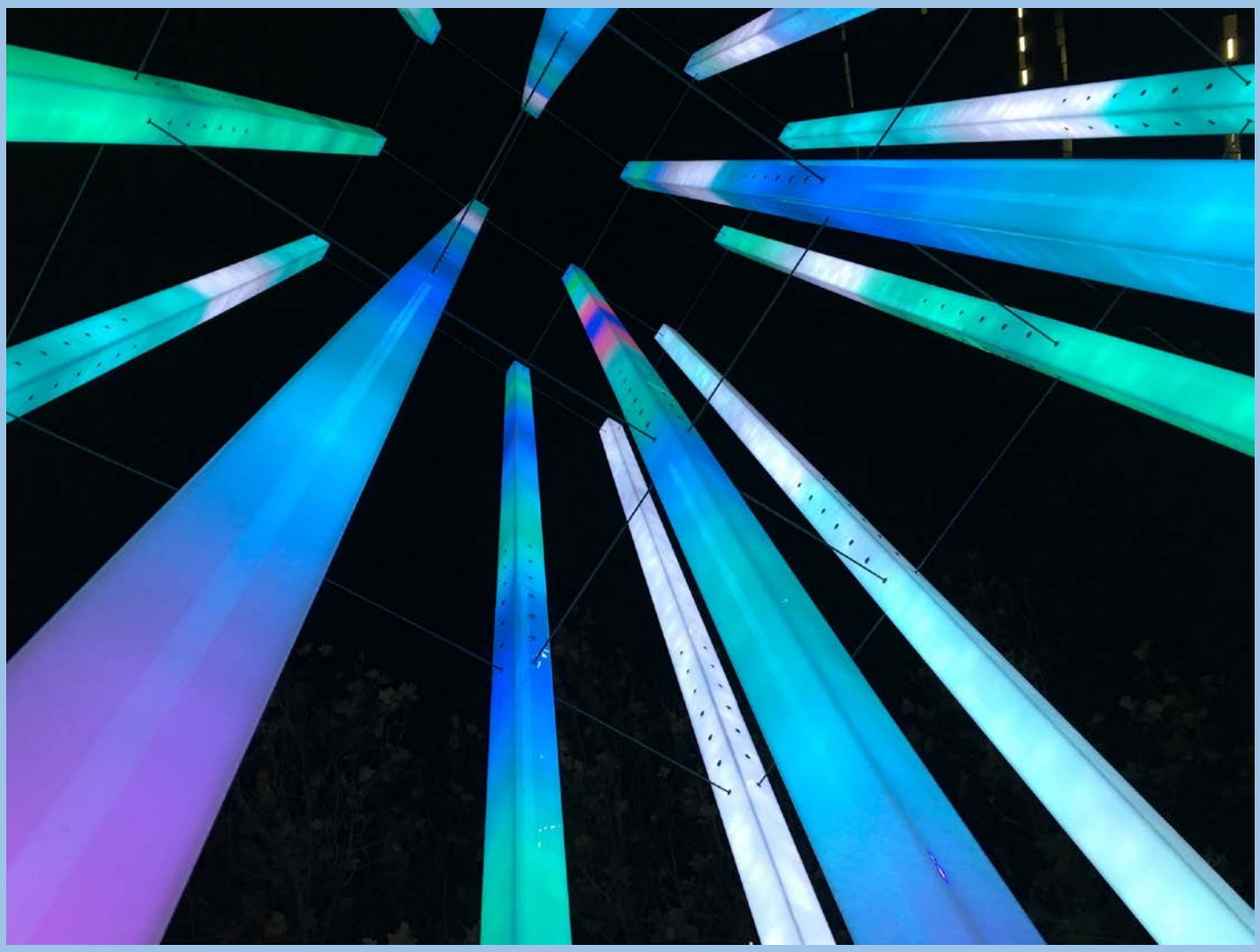

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Knowledge and Perception of Speech-Language Pathologists by Allied Health Personnel in the Acute Care Hospital Setting

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HO 402: Independent Study II

Introduction

Today's healthcare system is complex and requires a tremendous amount of teamwork and interdisciplinary effort. Particularly during the past few decades, "interprofessional collaboration in educational and health care settings has increased with the recognition that no one professional can meet all of the complex needs of an individual" (Sullivan & Cleave, 2003, p. 98). As with any system, while this collaborative treatment approach has significant benefits for both the patients and personnel involved, it does have its difficulties.

The difficulties most pertinent to this study are those that may arise when team members are unaware of each discipline's specific role. When professionals receive interdisciplinary education, their overall awareness of "how each discipline relates to the continuum of client care" improves, and their knowledge "allows for proper referrals to be made and sets the foundation for collaborative practice" (Loy, Micheff, Nguyen, & O'Brien, 2015, p. 2). On the other hand, when individuals are uncertain of another profession's role within the team, the consistency, frequency, and nature of referrals will be affected, and there is a greater likelihood of increased healthcare costs, greater length of patient stay, and more medical complications (Loy et al., 2015; Smith & Mackenzie, 2011).

Speech-language pathology is one of many professions that makes up the acute care hospital setting's interdisciplinary team. Speech-language pathologists (SLPs) work closely with other professionals such as physicians, nurses, dietitians, social workers, case managers, and other rehabilitation providers (American Speech-Language Hearing Association, n.d.). Therefore, members of these professions must possess an adequate understanding of the SLP's role, so they may encourage appropriate referrals and effectively contribute to serving the needs of the patient.

The general objective for each speech-language pathologist, no matter the place of employment, is to "optimize individuals' ability to communicate and swallow, thereby improving quality of life" (American Speech-Language-Hearing Association, 2015, p. 7). Those in the acute care hospital setting, however, have slightly different responsibilities than those who work in other practice settings. Speech-language pathologists in acute care evaluate, diagnose, treat, and help prevent oral motor, swallowing, cognitive-linguistic, speech, and language disorders that may result from strokes, head injuries, respiratory issues, cancer, seizures, progressive diseases, or other medical conditions (American Speech-Language-Hearing Association, n.d.; Mayo Clinic, n.d.). Among other things, they may recommend alternate nutrition, suggest diet level modification, design individualized augmentative communication systems, offer education to patients and caregivers, and conduct and interpret examinations such as the modified barium swallow and videoendoscopic examinations (American Speech-Language-Hearing Association, n.d.; Mayo Clinic, n.d.).

Because the realm of speech-language pathology in the medical setting is dynamic and continues to develop, other members of the acute care interdisciplinary team may have an incomplete understanding of the SLP's role. The profession of speech-language pathology is subject to "constant reconsideration and realignment" and continues to expand, because "new research-based evidence for diagnosis and treatment is emerging on a regular basis" (Johnson & Jacobson, 2007, p. 5). Therefore, as the SLP's scope of practice continues to change, those professionals who work with SLPs may not be aware of all they are qualified to do. Due to the nature of a team-based approach to patient treatment, any misunderstandings of any professional's role, including that of the speech-language pathologist, may hinder the quality of care a patient receives (Loy et al., 2015; Sullivan & Cleave, 2003).

Review of the Literature

If any team of healthcare providers hopes to offer the best and most efficient care to their patients, it is necessary for each individual within the group to understand the role of the other team members so that they may most effectively work together (Loy et al., 2015). The extent of knowledge that a professional has of his/her coworkers' scope of practice can impact patient discharge times, the amount and appropriateness of referrals, and the suitableness of the environment for both the staff and patients involved (Loy et al., 2015). Due to this direct impact on the patient, there have been a number of studies conducted evaluating public and professional perception of and knowledge of certain occupations and how these factors impact interdisciplinary collaboration. Among these studies are several which examine the perceived role and value of speech-language pathologists. An overarching consensus of this research is that the role of the SLP is often not fully understood by all healthcare professions, and this lack of understanding may contribute to larger issues within the workplace.

Many speech-language pathologists have jobs within the educational system rather than in the hospital setting, and their work involves close interaction with teachers and administrators. Due to the many collaborative efforts among these individuals, the perception that educators have of the school speech-language pathologist can play an important role in student success (Jones, 2009). Sanger, Hux, and Griess (1995) found that even though the educators involved in their study did not understand the entire role of the SLP within the education system, they did, as a whole, view the speech-language pathology services offered within their school in a positive manner. The researchers went on to conclude that these educational professionals were not fully aware of the SLP's training or areas of expertise and would continue to have misconceptions about their scope of practice until they had been taught otherwise (Sanger et al., 1995). Jones

(2009) documented similar results. She concluded that administrators in the school system, as a whole, recognized the impact that speech therapy services have, but training was needed in order to help them better understand the field of speech-language pathology (Jones, 2009).

Even more pertinent to this study is the research that has been conducted regarding the perception of speech-language pathologists among other allied healthcare professions. In Lesser and Hassip's study (1986) which judged the knowledge and opinion of speech therapy among three different potential referrers, nurses were the most well-informed in comparison to the teachers and doctors who were also surveyed. However, erroneous responses were given by all three professions in regards to the education needed in order for an SLP to practice, locations in which speech-language pathologists work, and the ages of clients and types of disorders that an SLP is qualified to treat (Lesser & Hassip, 1986). Similar results were obtained by Medina (2006) in her study which sought to determine the extent of knowledge that neonatal care nurses have regarding the speech-language pathologist's role. She found that because the role of the SLP has recently expanded allowing speech-language pathologists to work in different areas such as the neonatal intensive care unit, the overwhelming majority of nurses in this setting were unaware of the SLP's role with the patients and personnel in this unit (Medina, 2006). In another study which evaluated nurses' perception of speech-language pathologists, Boyd, Hooker, Reynolds, and Byrne (2006) found that most of the nurses included in the research did not fully understand the SLP's scope of practice. However, although they failed to recognize which diagnoses the speech-language pathologist is or is not qualified to treat, the nurses were found to have a positive view of speech-language pathologists (Boyd et al., 2006).

Doctors also closely interact with speech-language pathologists, and there have been several studies conducted evaluating their understanding of the SLP's role. McCauslin,

Florance, and Rabidoux (1980) found that physicians who completed their survey were uncertain about the types of patients and disorders speech-language pathologists treat. While this study was conducted 36 years ago and physicians are now being taught a great deal more about the profession of speech-language pathology, a 2011 study conducted by Jeanne, Phillips, and Molt, found there were still areas in which doctors lacked understanding. Jeanne et al. (2011) discovered that while the doctors included in the study held speech-language pathologists in high regard and the knowledge of the SLP's scope of practice had grown tremendously since 1980, there were still disorders which the physicians did not recognize as being disorders treated by the SLP.

The perceptions that allied healthcare students have of the speech-language pathologist's role is another area several studies have investigated. By administering a survey which asked the participants to prioritize professional services for a number of health case scenarios, Sullivan and Cleave (2003) determined that although students in medicine, nursing, physical therapy, and occupational therapy programs were learning about the role of the speech-language pathologist, there were still a number of inaccuracies in their knowledge. The participants' understanding was particularly limited in regards to the SLP's role in cognitive and language therapy (Sullivan & Cleave, 2003). Among the professions included in the study, the occupational therapy students and physical therapy students tended to place a greater significance on the SLP's services than the other students (Sullivan & Cleave, 2003). In a different study conducted by Byrne and Pettigrew (2009), a similar method was used to determine the perception occupational therapy and physical therapy students had of speech-language pathologists in the stroke unit. The results of this research showed that, while the participants, overall, had an adequate understanding of the

SLP's role, they failed to recognize several key treatments which speech-language pathologists were qualified to provide to patients in the stroke unit (Byrne & Pettigrew, 2009).

The studies that have been mentioned examined the knowledge and perception of specific groups of professionals such as educators, nurses, and physicians with which speech-language pathologists work or, in the case of the student participants, will one day work. This research study was created to obtain similar information. However, its design also yielded data which are useful in comparing the perception of acute care personnel within the same hospital setting. Factors such as profession, assigned unit, and shift were evaluated and compared to provide new information which was not addressed in any of the aforementioned studies.

Method

Participants

Surveys were administered to allied health personnel who work on acute care floors at a community hospital in Mississippi. Those asked to participate in the study included registered nurses, certified nursing assistants, registered dietitians, physicians, respiratory therapists, occupational therapists, and physical therapists. Professionals from the following units were included in the study: orthopedics/neurological, post-surgical, women and children's, general medical, surgical intensive care, medical intensive care, neurological/pediatric intensive care, oncology, geriatric/psychiatric, adult psychiatric, cardiology, and acute rehabilitation. To aid in recruiting subjects for the study, any personnel who chose to participate were included in a drawing to win a $50 Visa gift card. A consent form was given to the participants informing them the survey was both optional and confidential and that they had the right to provide or to refuse any information.

Research Design

A brief questionnaire was administered to gather information. Demographic and background information including years of experience, unit and shift worked most often, profession, and amount of interaction with a speech-language pathologist were collected prior to beginning the quantitative portion of the survey. This method of data collection was chosen, because it allowed comparisons between variables to be easily drawn and any notable factors to be determined. The survey's ease of participation contributed to a larger group of participants and, thereby, a larger data collection.

The survey questions were divided into the following three sections: participant's demographics and background information, participant's perception of the value of speech-language pathology, and participant's understanding of the speech-language pathologist's scope of practice. The questions intended to judge the participant's perception of the speech-language pathologist were not designed to have a correct or incorrect response. However, the questions designed to determine the participant's knowledge of the SLP's scope of practice did have correct and incorrect answers.

Procedures

The questionnaire was administered in person by going floor to floor in the hospital, once during the day shift and once again during the night shift. After introductions by a hospital staff member, any personnel who had the time and chose to participate signed consent forms (see Appendix A) and then completed a brief questionnaire (see Appendix B). The results were collected, and statistical analyses were performed to determine if significant differences existed between the results from different groups separated by the variables of shift, profession, and unit.

Data Analyses

For each questionnaire, the mean rating for the section determining participant's value of speech-language pathology was calculated. The percent correct for the section determining participant's understanding of the speech-language pathologist's scope of practice was then calculated. The individual results were compiled and the mean ratings and scores for each demographic group (classified by the variables of shift, profession, and unit) were calculated. The results between these groups were then compared. To determine if there was a significant difference between the mean scores of the groups, the t-test was conducted when comparing only two population means—day shift and night shift. The one-way ANOVA test was conducted when comparing more than two population means, as in the case of comparing the performance of different hospital units as well as the performance of different professions. To determine whether there was a correlation between the perception ratings and the scenario scores, a simple linear regression test was conducted.

Results

Survey responses were organized in a spreadsheet format, separated by profession, unit, and shift. Of the 128 participants, there were 76 registered nurses, 21 certified nursing assistants (CNA), 7 physicians, 6 respiratory therapists, 7 dietitians, 5 occupational therapists, and 3 physical therapists. There were three participants whose surveys were not included in the data analyses, because their professions—social worker and pharmacy discharge associate—were not intended to be a part of the study. Of the respondents, 87 worked day shift most often, and 38 worked night shift most often. For a summary of participants categorized by unit worked most often, see Table 1.

Table 1 Summary of Participants – Unit Worked Most Often

Unit	**Number of Participants**
Multiple Units in the Hospital	23
Oncology	10
Orthopedics/Neurological/Post-Surgical	14
Cardiology	8
Women and Children's	9
General Medical	13
Acute Rehabilitation	15
Psychiatric Units	14
Intensive Care Units	19

In order to meet the standard deviation requirements necessary to run the chosen statistical analyses, the seven groups of professionals were combined to form four broader groups of professions. These groups are as follows: nurses, CNAs, physicians, and all other ancillary staff including respiratory therapists, dietitians, occupational therapists, and physical therapists. When performing data analyses for surveys grouped by shift and unit, it was not necessary for any of the demographic subgroups to be combined.

When examining participants' performance on the scenario questions, several noticeable trends emerged. The four most frequently missed questions were number 10 at 33.6% correct, number 5 at 56% correct, number 3 at 60.8% correct, and number 7 at 68.8% correct. Of these, numbers 3, 7, and 10 were included on the survey to serve as foils. The three patients in these scenarios—a patient with diabetes and a mild mental disability, a patient with nausea and vomiting, and a patient having hallucinations due to the street drug commonly called Spice—are not patients with conditions or circumstances that would fall within the speech-language

pathologist's scope of practice. Number 5, the final most frequently missed question is, however, not a foil. The patient in this scenario suffered a traumatic brain injury and requires cognitive therapy which is within the SLP's scope of practice. The mean percent correct for all other questions were within an acceptable range of performance with 80% correct or higher. A full summary of performance on this portion of the survey can be seen in Figure 1.

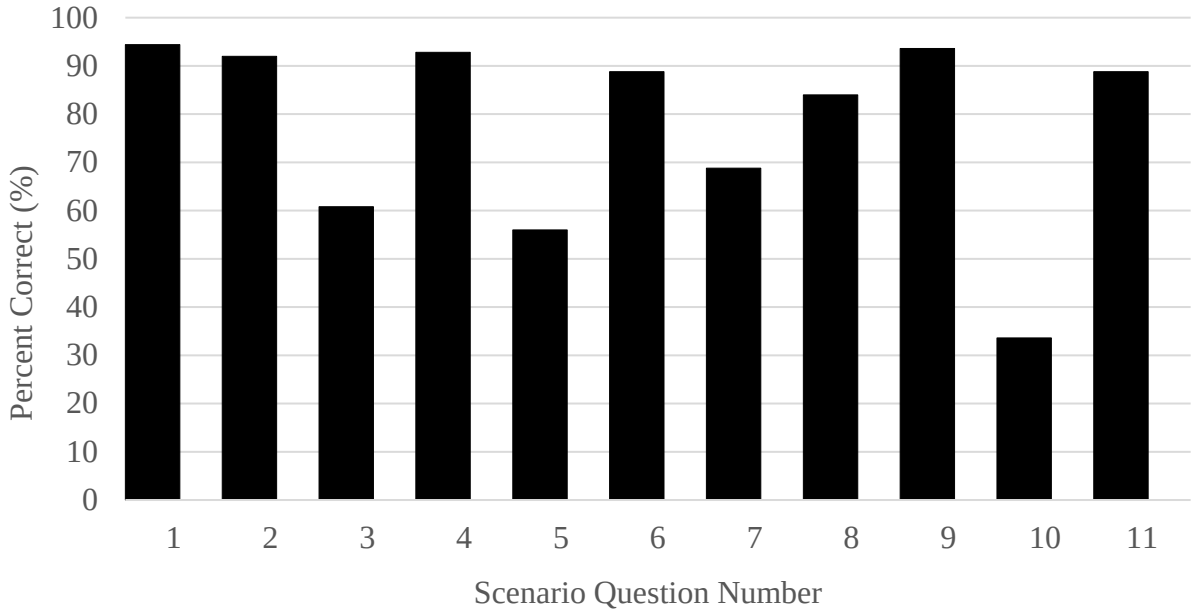

Figure 1. Mean percent correct for each question on the scenario portion of the survey.

To compare the survey results between day shift and night shift, a t-test was conducted. The null hypothesis for the test was $\mu_1 = \mu_2$ while the research hypothesis was $\mu_1 \neq \mu_2$. According to the t-test performed, the p-value for the data was 0.2739. For this research study a 5% significance level was selected. Thus the data was not strong enough to reject the null hypothesis, and therefore, there was no statistically significant difference between the day shift mean score and the night shift mean score. A boxplot depicting the difference between shift performance can be seen in Figure 2.

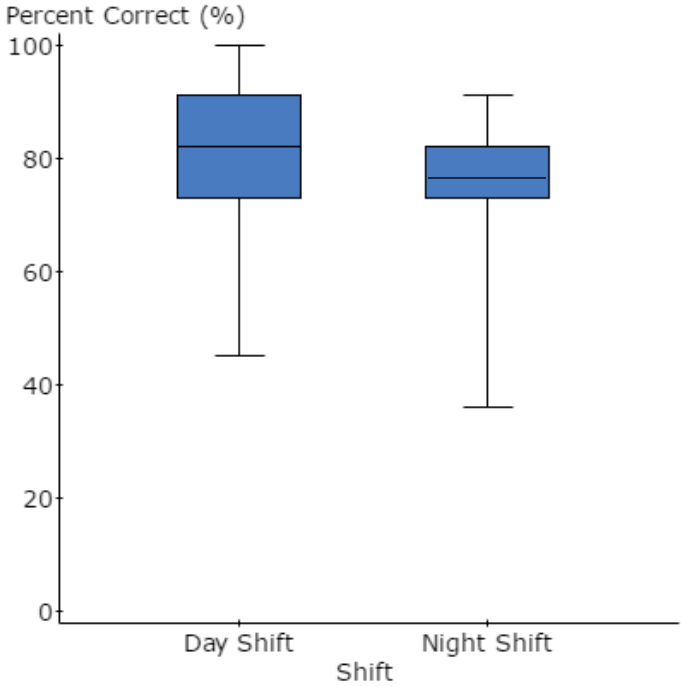

Figure 2. Boxplot of day shift survey scenario scores as compared to night shift survey scenario scores.

A one-way ANOVA test was conducted to compare the survey results of the different units in the hospital. The groups that were compared are as follows: oncology unit, orthopedics/neurology/post-surgical units, cardiology unit, women and children's unit, general medical unit, acute rehabilitation unit, psychiatric units, and intensive care units. The final group included in this comparison was comprised of the participants who served as ancillary staff and worked multiple units in the hospital. The null hypothesis for this test was that the means for all nine groups were the same. The research hypothesis was that not all the means were the same, meaning that at least one of the means was different. The p-value was calculated to be 0.0953. At the 5% significance level, there was not enough evidence to reject the null hypothesis. For this data comparison, therefore, it can be concluded that there was no statistically significant difference between the survey results of the personnel who work different units in the hospital. While the differences were not statistically significant, it remains important to note each unit's

level of performance. A summary of mean scores for each unit, ranked from highest to lowest, can be found in Table 2, and a visual presentation of the performance of each unit can be seen in Figure 3.

Table 2 Summary of Units – Ranking of Mean Scenario Scores

Unit	**Mean Scenario Score**
Intensive Care Units	82.9%
Multiple Units in the Hospital	82%
Cardiology	80.8%
Orthopedics/Neurology/Post-Surgical	76.1%
Psychiatric	76.1%
Acute Rehabilitation	74.7%
Women and Children's	74.1%
General Medical	73.6%
Oncology	72%

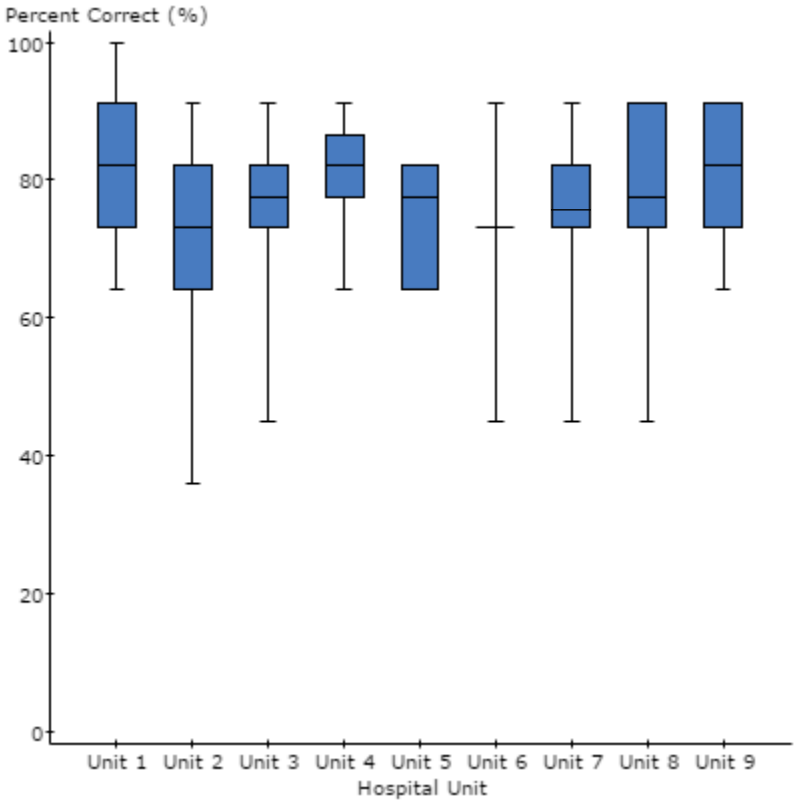

Figure 3. Boxplot of scenario scores for each hospital unit with unit 1 representing participants who work multiple units, unit 2 representing Oncology, unit 3 representing Orthopedics/Neurology/Post-Surgical, unit 4 representing Cardiology, unit 5 representing Women and Children's, unit 6 representing General Medical, unit 7 representing Acute Rehabilitation, unit 8 representing the Psychiatric units, and unit 9 representing the Intensive Care Units. There are no top whiskers for Units 5, 8, or 9, because the maximum score is equal to the 3rd quartile. There is no bottom whisker for Unit 5, because the minimum score is equal to the 1st quartile. No 2nd or 3rd quartile is visible for Unit 6, because both quartiles and the median are the same score of 73.

To examine the differences between the survey results of differing professional groups, a one-way ANOVA test was conducted. The groups for this comparison were as follows: registered nurses, CNAs, physicians, and ancillary staff. For this test, the null hypothesis was that the means for all four groups are the same. The research hypothesis was that not all four means are the same, meaning at least one of the means was different. The p-value calculated was less than 0.0001. This p-value is extremely small—much smaller than the .05 significance level—so there was very strong evidence that the null hypothesis was false. The null hypothesis

may, therefore, be rejected, meaning at least one mean was different from the others. There was a statistically significant difference between the performance of different professional groups. A boxplot portraying these differences between professional groups can be seen in Figure 4.

Post hoc t-tests were performed to determine the specific statistically significant differences among these four groups. There were statistically significant differences between the physicians' mean and the means for the registered nurses ($p = 0.0371$), ancillary staff ($p = 0.0083$), and CNAs ($p = 0.0062$), meaning the group of physicians performed significantly different than each other group. The mean of the CNA group was significantly different from that of registered nurses ($p < 0.0001$), physicians ($p = 0.0062$), and ancillary staff ($p = 0.0037$), indicating the group of CNAs performed significantly different than all other professional groups. There was no statistically significant difference between registered nurses and ancillary staff at the 5% significance level ($p = 0.7954$).

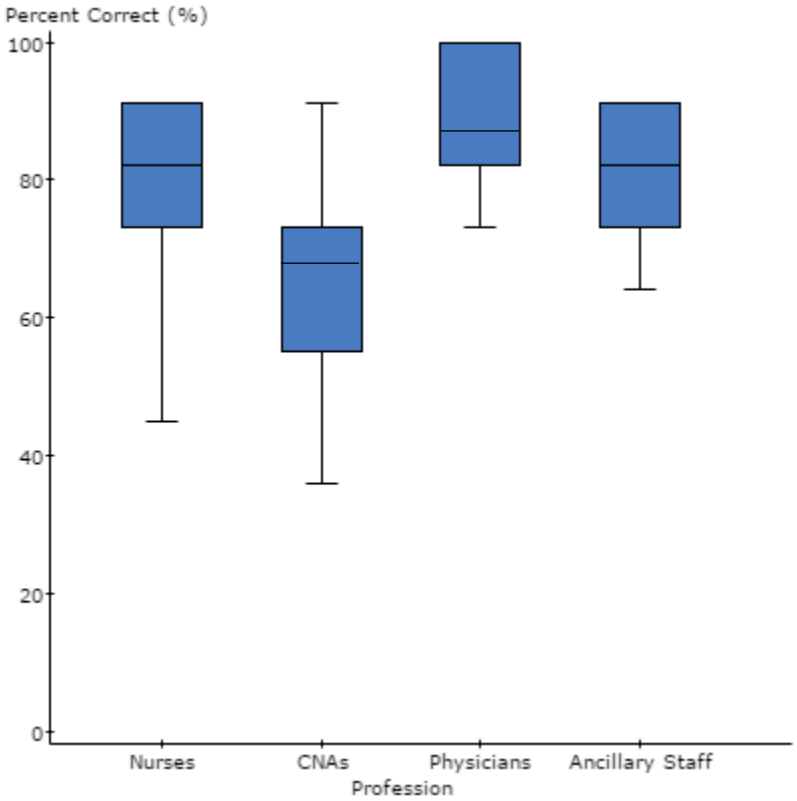

Figure 4. Boxplot of scenario scores for each professional group involved in the acute care team. There are no top whiskers for the group of nurses, physicians, or ancillary staff, because the maximum score is equal to the 3rd quartile.

To obtain a set of comparable numbers from the perception portion of the survey, the mean perception ratings were calculated. Each question in the rating section received between one and four points. The foil questions were set to a reverse scale, because for these, a low rating was more appropriate than a high rating and, thereby, was deserving of a greater amount of points. The mean perception rating was then calculated for each questionnaire, and the overall mean perception rating for all acute care hospital participants was calculated as 3.24 out of 4, suggesting a positive perception of SLPs and the therapy they conduct.

The final data analysis conducted was a simple linear regression test, intended to compare the relationship between participant perception and knowledge. The set of mean perception ratings was compared to the set of mean percent correct on the scenario portion of the survey.

The correlation coefficient was calculated to be r = 0.28574516. With R-values on a scale from -1 to 1, with 0 indicating no linear correlation, this R-value indicated a weak positive linear correlation between the variables. Thus, there was only a very slight positive relationship between overall participant perception and overall participant knowledge. A scatterplot depicting this correlation can be seen in Figure 5. The correlation indicated that participants who rated SLPs as important in providing services to patients tended to receive a higher score on the scenario portion of the survey. However, the correlation was so weak that a causal relationship between perception and knowledge could not be determined.

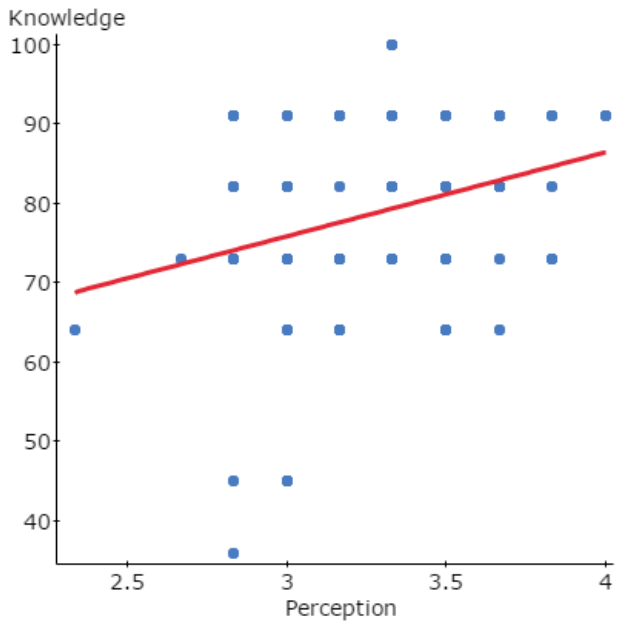

Figure 5. Scatterplot relating perception (mean perception rating) to knowledge (mean percent correct). The correlation coefficient is r = 0.28574516, and the regression line is included.

Discussion

Through the analyses conducted, several trends were identified in the data, with the first of these being the scenario questions most frequently missed. Of the four questions missed most, three of them were foils. Many participants indicated that the patients in these scenarios—a patient with diabetes, a patient with nausea and vomiting, and a patient experiencing drug-

induced hallucinations—should be seen by the speech-language pathologist, however, none of these scenarios provide any indication that the SLP ought to be referred. The SLP's scope of practice does not extend to these patients or scenarios.

The other most frequently missed question involves a client who has suffered a traumatic brain injury and should receive cognitive therapy. According to ASHA's scope of practice for speech-language pathologists, service delivery encompasses cognition therapy, including the realms of attention, memory, problem solving, and executive functioning (American Speech-Language-Hearing Association, 2015). The patient in this scenario, therefore, should receive speech therapy services. A large portion of the participants, however, answered that the SLP should not be referred in this instance, indicating a lack of awareness about this area of speech-language pathology. This finding is consistent with the conclusion reached by Sullivan and Cleave (2003) that knowledge of the role of the SLP is especially limited in regards to cognitive and language therapy.

In general, the scenarios regarding stroke patients and swallowing disorders were recognized by participants as pertinent to the SLP. There are several apparent misunderstandings regarding the speech-language pathologist's scope of practice, however, as may be evidenced by the frequency of erroneous responses on the other aforementioned scenarios. The misconceptions regarding cognitive therapy may be founded due to the lack of emphasis on cognition therapy in the acute care hospital setting, yet it is important for all personnel to possess an understanding of this role of the speech-language pathologist just as much as the other roles.

The comparison of day shift and night shift revealed no trends and no statistically significant difference between the performance of these two groups. While the null hypothesis could not be rejected, it is important to note how the mean score for day shift was slightly higher

than that of night shift. No definitive conclusion may be drawn of a true difference, however, and this lack of discrepancy between mean scores is preferable. It is important that all shifts on a hospital team possess the same degree of knowledge regarding the roles of the SLP within the acute care setting. While the day shift may encounter the SLP more frequently and have a greater level of exposure to speech therapy services, it is important for all individuals, regardless of shift, to be equipped with the knowledge necessary to refer to the SLP if a patient indicates the need for speech therapy services.

In comparing the units that make up the acute care hospital setting, no statistically significant difference was found. While no trends were evident in this regard, the differences between the performance of different units revealed potential for a significant difference to be found between them in future studies. This study, however, does not provide strong enough evidence to do so, and as with the comparison of shifts, this lack of significant difference between mean scores is preferable to the alternative. It is important for personnel on all the units that make up the acute care hospital to possess similarly adequate understandings of the roles and responsibilities of the SLP. There may be patients on each unit who warrant speech therapy services, and it is the duty of the staff to know for which patients and which instances it is necessary to refer to the speech-language pathologist.

When comparing among professional groups, statistically significant differences were found, and several trends were noted. Physicians demonstrated the greatest amount of knowledge regarding the role of the SLP, and CNAs demonstrated the least. These differences in performance are to be expected, however. Of the professional groups surveyed, physicians attain the highest level of education, followed by ancillary staff, registered nurses, and CNAs. It is logical that those who receive more years of professional training will have a fuller

understanding than those who receive less training. All these professionals, nonetheless, come into contact with patients, regardless of their level of training or job title. During patient interaction, each team member has an opportunity to observe patient behavior, detect any problems there may be, and alert the necessary professionals. Consequently, it is important that all acute care personnel have sufficient knowledge to discern when a referral to another team member should be made.

While there was a trend—a positive linear correlation—between greater knowledge and higher perception of speech-language pathologists, it was extremely weak. The correlation was so weak, because the overwhelming majority of participants rated speech-language pathologists highly. The spread of data was, therefore, grouped so closely together at the high end of the scale, and a strong correlation was unable to be drawn. Without evidence of a stronger correlation, the relationship between knowledge and perception remains inconclusive.

With an overall perception rating of 3.24 out of 4, the acute care personnel involved in this study, as a whole, indicated their high regard of speech therapy services. The data provide indications that these members of the interdisciplinary acute care hospital team value speech-language pathologists and the therapy they provide.

These findings of a lack of knowledge accompanied by a positive perception are consistent with the findings of prior research. The studies of Sanger, Hux, and Griess (1995), Jones (2009), Boyd et al. (2006), Jeanne et al. (2011) and Sullivan and Cleave (2003) all found that while the professionals involved in their studies did not fully understand the role of the SLP, they did perceive speech therapy services positively.

Positive perception of SLPs and sufficient knowledge of the therapy they provide is vital to the interdisciplinary team and the hospital as a whole. Without an adequate awareness of each

discipline's role within the team, patient care may be negatively affected. When there is uncertainty of a professional's role, the timeliness, frequency, and appropriateness of referrals is likely to be impacted. This may cause patients to face a longer hospital stay, a greater financial burden, and/or more medical complications.

All the findings from this study indicate an overarching need for further education regarding the role of the speech-language pathologist in the acute care hospital setting. Providing opportunities of continuing education for hospital staff, expanding academic program curriculum to more fully address interdisciplinary collaboration, and self-advocating by speech-language pathologists themselves are among the many viable options to address the areas in which understanding is lacking.

Several limitations were identified within this study. These limitations included time constraints, limited location, specificity of scenario questions, and lack of supervision. Due to the time constraints of the study, data collection was constricted to one day and could not be spread out over time to collect a more thorough sample. This study is also limited due to the possibility that the subjects from one hospital location are not entirely representative of all acute care hospital settings. There is a limitation with the questionnaire format as well. In order to minimize the length of the survey, only a certain number of scenarios could be included. Only 11 specific fictional cases were listed, and while these scenarios were intended to represent the SLP's scope of practice in the acute care setting, different scenarios may have led to different results and different conclusions. Lastly, there was a limitation in the method of data collection. In some instances, it was necessary that surveys be left at the nurses' station for participants to complete while the student researcher visited another unit. This lack of supervision introduced

the possibility of collaboration among participants rather than independent survey completion, and the data could be skewed in this regard.

More research should be conducted in this area of study. In continuing research, future studies may obtain a larger sample size by increasing the number of participating hospitals and broadening the geographic area for a more representative data collection. Further research is needed to build upon the body of information regarding the knowledge and perception of speech-language pathologists, so appropriate evidence-based improvements to the interdisciplinary team may be enacted.

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Appendix A

Consent Form

Study Title: Knowledge and Perception of Speech-Language Pathologists by Allied Health Personnel in the Acute Care Hospital Setting

What is the study about? The purpose of this study is to investigate both the understanding and perception that acute care hospital staff have regarding speech-language pathology.

What will you be asked to do? If you agree to participate, you will respond to the survey located at the end of this document, answering the questions as honestly as possible and to the best of your knowledge. This survey should not take more than 5-10 minutes to complete.

Are there any risks or benefits associated with participation in the study? There are no risks or direct benefits associated with this study.

Your answers will be confidential. This survey will be anonymous, and the records of this study will be kept private. They will be kept in a locked file, and only the research committee and primary researcher will have access to the records.

Participation is voluntary. Participation in this study is completely voluntary. You may skip any questions that you do not want to answer. If you decide not to take the survey or to skip some of the questions, it will not produce negative consequences or affect your relationship with the institution involved in the research. You are free to withdraw at any time.

Who can I contact for more information about this study? If you have any questions or concerns, you may contact the primary researcher, Elizabeth King, at eeking@myapps.muw.edu. The project advisor is Dr. Marie Byrne, and you may contact her at mebyrne@muw.edu. If you have any questions or concerns regarding your rights as a subject in this study, you may contact Mississippi University for Women's Institutional Review Board (IRB) by calling the Vice President of Academic Affairs at 662-329-7142, or you may access their website at http://www.muw.edu/academicaffairs/research/irb.

By returning this document and survey, I am providing my consent to participate in this research. I am also acknowledging that I have been given a second copy of this form to keep for my records.

Your Signature _____ Date:_____

Your Name (printed) _____

Appendix B

Questionnaire

Please answer the following questions.

1. Unit that you work most often: _____
2. Shift that you work most often: ☐ Day ☐ Night
3. Profession:

☐ Registered Nurse ☐ Respiratory Therapist
☐ Certified Nurse Assistant ☐ Occupational Therapist
☐ Registered Dietitian ☐ Physical Therapist
☐ Physician ☐ Other: _____

4. Number of years that you have been employed in the acute care setting: _____
5. How many times per month do you communicate with or refer to a speech-language pathologist?

☐ 0 times ☐ 1-10 times ☐ 10-20 times ☐ More than 20 times ☐ Don't know

6. How many patients each month are cared for by both you and the speech-language pathologist?

☐ 0 patients ☐ 1-10 patients ☐ 10-20 patients ☐ More than 20 patients ☐ Don't know

7. How familiar are you with the role of the speech-language pathologist in the acute care hospital setting?

☐ Not familiar ☐ Somewhat familiar ☐ Familiar ☐ Very familiar

8. Have you or anyone you know personally received speech therapy services? ☐ Yes ☐ No

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Please rate responses from 1 to 4 with 1 being not at all important, 2 being possibly important, 3 being important, and 4 being extremely important.

1. How important is a speech-language pathologist for providing services to a patient who:

1	2	3	4	a. has had a stroke or brain injury
1	2	3	4	b. was on the ventilator for several days
1	2	3	4	c. is in a persistent vegetative state with tubefeeding
1	2	3	4	d. is having trouble swallowing food
1	2	3	4	e. has acute vomiting due to a bowel obstruction
1	2	3	4	f. is receiving head/neck radiation

2. Do you think a patient's communicative abilities can change as a result of speech therapy?

☐ Yes ☐ No ☐ Uncertain

3. Do you think a patient's swallowing abilities can change as a result of speech therapy?

☐ Yes ☐ No ☐ Uncertain

4. Do speech therapy services make a substantial contribution to patient care within the hospital setting?

☐ Yes ☐ No ☐ Uncertain

For each of the following scenarios, please indicate all professionals who should be involved in the patient's treatment. Check all that apply.

1. Lee, 46 years old, was recently the victim of a hit and run car accident and suffered a traumatic brain injury. He was on the ventilator for two weeks but was extubated yesterday. The physician wants Lee to get out of bed today and to start him on food by mouth.

☐ Dietitian
☐ Nurse
☐ Occupational Therapist
☐ Pharmacist
☐ Physical Therapist
☐ Social Worker
☐ Speech-Language Pathologist
☐ Other _____

2. Mary is 70 years old and recently suffered a stroke. She is not eating or drinking much and often coughs, chokes, and clears her throat during meals. She does not have any problems speaking or understanding others. Mary lives alone and does not know how she will take care of herself when she goes home.

☐ Dietitian
☐ Nurse
☐ Occupational Therapist
☐ Pharmacist
☐ Physical Therapist
☐ Social Worker
☐ Speech-Language Pathologist
☐ Other _____

3. Thirty-five-year-old Darrell has diabetes and is mildly mentally challenged. He has had problems maintaining the required diet for his diabetic needs, and he is experiencing developing complications as a result of his poor diet.

- ☐ Dietitian
- ☐ Nurse
- ☐ Occupational Therapist
- ☐ Pharmacist
- ☐ Physical Therapist
- ☐ Social Worker
- ☐ Speech-Language Pathologist
- ☐ Other _____

4. Dorothy, age 56, suffered a left hemisphere stroke. She is eating and drinking well but has a chronic problem with movement. She is speaking clearly, but her sentences do not make sense and consist mostly of jargon.

- ☐ Dietitian
- ☐ Nurse
- ☐ Occupational Therapist
- ☐ Pharmacist
- ☐ Physical Therapist
- ☐ Social Worker
- ☐ Speech-Language Pathologist
- ☐ Other _____

5. Tim, 37 years old, was in a car accident and suffered a traumatic brain injury. He has been in the hospital for eight days and is being discharged tomorrow. He complains of memory problems, impaired reasoning and judgment, and difficulty with concentration. He is concerned with medication costs after discharge.

- ☐ Dietitian
- ☐ Nurse
- ☐ Occupational Therapist
- ☐ Pharmacist
- ☐ Physical Therapist
- ☐ Social Worker
- ☐ Speech-Language Pathologist
- ☐ Other _____

6. Eliza is worried about her 67 year old husband, Frank. He has been experiencing lapses in his memory and periods of disorientation. She has also noticed that he sometimes has problems with word-finding, and occasionally he appears to be confused when she speaks to him.

- ☐ Dietitian
- ☐ Nurse
- ☐ Occupational Therapist
- ☐ Pharmacist
- ☐ Physical Therapist
- ☐ Social Worker
- ☐ Speech-Language Pathologist
- ☐ Other _____

7. Jane, 70 years old, was admitted to the hospital with nausea and vomiting. She denied weight-loss and states that she ate well until the development of this acute illness. She has no medical insurance and is worried about paying for her hospital visit.

- ☐ Dietitian
- ☐ Nurse
- ☐ Occupational Therapist
- ☐ Pharmacist
- ☐ Physical Therapist
- ☐ Social Worker
- ☐ Speech-Language Pathologist
- ☐ Other _____

8. Bill is 90 years old and has had Alzheimer's dementia for eight years. He resides in a nursing home and was sent to the hospital with pneumonia. Bill is eating poorly, will not feed himself, and will not chew food when someone feeds him. He has lost 20 pounds this year.

- ☐ Dietitian
- ☐ Nurse
- ☐ Occupational Therapist
- ☐ Pharmacist
- ☐ Physical Therapist
- ☐ Social Worker
- ☐ Speech-Language Pathologist
- ☐ Other _____

9. Rick is a 54-year-old man who recently suffered a left hemisphere stroke. Although he seems to understand the conversation around him, his speech is slow and effortful. He also has trouble walking and feeding himself.

- ☐ Dietitian
- ☐ Nurse
- ☐ Occupational Therapist
- ☐ Pharmacist
- ☐ Physical Therapist
- ☐ Social Worker
- ☐ Speech-Language Pathologist
- ☐ Other _____

10. Joe, 26 years old, was admitted to the hospital having hallucinations. His family reports that he has a long history of drug abuse and frequently uses Spice. He is very combative, and his speech is not clear.

- ☐ Dietitian
- ☐ Nurse
- ☐ Occupational Therapist
- ☐ Pharmacist
- ☐ Physical Therapist
- ☐ Social Worker
- ☐ Speech-Language Pathologist
- ☐ Other _____

11. Paul is 40 years old and was just diagnosed with laryngeal cancer. He is scheduled to have his larynx surgically removed three weeks from today and will begin a six-week course of radiation.

- ☐ Dietitian
- ☐ Nurse
- ☐ Occupational Therapist
- ☐ Pharmacist
- ☐ Physical Therapist
- ☐ Social Worker
- ☐ Speech-Language Pathologist
- ☐ Other _____

Thank you for completing this questionnaire.