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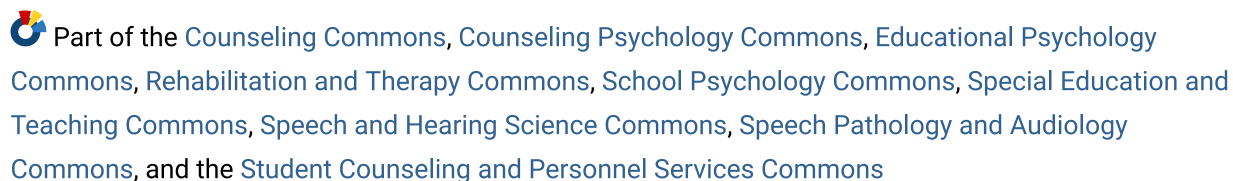

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BARRIERS TO CHANGE FOR AUGMENTATIVE AND ALTERNATIVE COMMUNICATION USE

A Thesis

By Lauren Brown

Presented to

The Faculty of the Department of Communication Disorders

Murray State University

Murray, Kentucky

In Partial Fulfillment

of the Requirements for the Degree

Master of Science in Speech-Language Pathology

BARRIERS TO CHANGE FOR AUGMENTATIVE AND ALTERNATIVE COMMUNICATION USE

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BARRIERS TO CHANGE FOR AUGMENTATIVE AND ALTERNATIVE COMMUNICATION USE

ABSTRACT

The purpose of this study was to identify the effects of counseling training on speech language pathologists' (SLPs) perceived competency to address Attitude Barriers within the augmentative and alternative communication (AAC) assessment process as presented by Beukelman and Mirenda (2005). Counseling techniques, such as the use of the Readiness to Change© tool, are within the scope of practice for SLPs. Unfortunately, there is a lack of research on how to apply these tools and techniques with individuals who use AAC .

A training seminar was conducted to educate participants in the use of the Readiness to Change© tool. Data was collected using a mixed-methods pre-and post-test survey. The quantitative results indicated a statistically significant change in participants' perceived competency to use the counseling tools. The qualitative results identified several interesting themes within SLPs responses. Continuation of this research topic is recommended based on the both the outcomes of the data as well as the need for further knowledge on the subject.

Keywords: Readiness to Change©, Barriers to Change, augmentative and alternative communication, counseling techniques

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CHAPTER ONE

INTRODUCTION

In recent literature, there has been a marked increase in importance placed upon understanding what factors both positively and negatively impact the progress made by a client and that client's family in response to speech and language therapy. Traditionally, clinicians utilize standardized assessment scores to mark the areas of strength, areas of weakness, and overall progress related to the clients they are working with. Today, clinicians prioritize evidence-based practice (EBP) when making clinical decisions, focusing on not only clinical expertise and best evidence, but also client and caregiver perspectives, or preferences (American Speech, Language and Hearing Association, 2018).

The context surrounding a person's individual, complex communication needs is extremely important when applying EBP to making clinical decisions. Specifically, when fitting a client for an augmentative and alternative communication (AAC) device, clinicians must devise the most effective, efficient, and evidence-based manner to identify the device that is the best fit for their lifestyle and mental and physical capabilities.

In defining AAC, according to the ASHA Leader (2016), the Individuals with Disabilities Education Act (IDEA) defines it as, "any item, piece of equipment or product system, whether acquired commercially off the shelf, modified or customized, used to increase, maintain, or improve the functional capabilities of a child with a disability" (p. 1). IDEA also recognizes AAC as "any service that directly assists a child with a disability in the selection, acquisition or use of an assistive technology device" (p. 1).

In consideration of the context and EBP for AAC, Beukelman and Mirenda (2005) in their book *Augmentative and Alternative Communication*, note several Barriers to Participation which hinder a client or client's family from adequately accepting the use of an AAC device. These barriers can be divided into two primary categories: Opportunity Barriers and Access Barriers. Together, these two types of barriers hinder individuals from fully embracing the changes necessary to benefit from the therapy they are participating in, namely, AAC training.

What if there was an instrument to measure a client's potential progress based on the barriers they currently experience? It just so happens that there is a tool to measure an individual's aptness to ferry changes that are presented to them, both in therapy and in their day-to-day lives.

Readiness to Change© Tool

Readiness to Change© parameters are a counseling tool regularly utilized by nurses and business administrators who desire to predict how a new change will impact their internal structure and ability to continue functioning smoothly (Holt & Vardaman, 2013). According to Weiner (2009), the two major factors that influence an individual's Readiness to Change© are their change commitment, or their resolve to implement the change, and change efficacy, or their belief in their ability to implement the change. Simply put, an individual must both want to change and believe that they can in order to do so (Schwarzer, Jerusalem, Weinman, Wright, & Johnston, 1995).

It is hardly a simple matter to deliver the news to parents of children who are having trouble accepting change that their children, or even they themselves, have a negative Attitude. Gold and Gold (2018), discuss the delivery of bad news within the scope of practice of speech-

language pathology and that there is a significant lack of training given to SLPs on how to deliver sensitive news, despite the fact that this job is often given to them.

Counseling Techniques

This line of research posits that Barriers to Change could be overcome faster and more efficiently through the use of the aforementioned counseling tool and counseling techniques. Three particular counseling techniques have been adapted by Kaderavek, Laux, and Mills (2004) to suit the needs of speech-language pathologists. These three techniques are: Therapeutic Relationship or Attending Behaviors, Open Versus Closed Questions or Focusing on Feelings, and Paraphrasing and Summarizing Feelings and Content or Handling Negative Emotions. These specific counseling tools and techniques will be the focus for both the training in future inquiry for speech pathologists in the West Kentucky Special Education Cooperative.

Purpose of the Study

This pilot study was conducted in order to explore the potential benefits of utilizing the Readiness to Change© Tool in speech-language therapy with stakeholders who demonstrate Attitude Barriers regarding the use of AAC devices (Schwarzer, Jerusalem, Weinman, Wright, & Johnston, 1995). Individual change has been only sparsely addressed in recent literature, and a tool to address this topic has never been applied within the realm of speech-language pathology.

Significance of the Study

This study is the first of its kind. Never before have Readiness to Change© parameters, AAC therapy, and counseling techniques been brought together. This is especially notable given that no Readiness to Change© tool currently exists within the field of Speech-Language Pathology. Indeed, there is also very little research that connects any form of speech-language

therapy to Change Theory rooted in counseling or psychology (Schwarzer, Jerusalem, Weinman, Wright, & Johnston, 1995). It is the hope of this author that the data collected during this study will spark further research and development in the areas of Readiness to Change©, Change Theory, Barriers to Change, AAC therapy, and counseling within the realm of Speech-Language Pathology.

CHAPTER TWO

REVIEW OF LITERATURE

Barriers to Change

Beukelman and Mirenda (2005) were the first to develop and categorize the specific barriers that individuals bring to the table when beginning to be fitted for or utilize an AAC device. They defined Opportunity Barriers as barriers which were imposed by outside forces, and divided them further into five sub-categories: Policy, Practice, Knowledge, Skill, and Attitude.

In contrast, Access Barriers are hindrances that arise from the limitations of the person using the AAC device. These limitations can be both intellectual and physical, and are typically well-established prior to the decision to introduce an AAC device into speech and language therapy.

Within the category of Opportunity Barriers, there is a type of barrier called an Attitude Barrier which includes "the attitudes and beliefs held by an individual" (Beukelman & Mirenda, 2005, p. 26). As the authors point out, however, it is ill-advised to approach a client or caregiver with a statement that would imply one believes they have the wrong kind of attitude. Nevertheless, it is commonly observed that an individual's attitude can hinder or negate progress in therapy with AAC devices.

Readiness to Change©

The addition of an AAC system within an individual's life changes the communication dynamics to a significant degree. Any change in our lives can be accepted or rejected in overt or subtle ways. There is a tool that has been used with positive results in the fields of business and

psychology that helps assess stakeholders' attitudes towards this change, i.e. Readiness to Change© guidelines (Lehman, Greener, & Simpson, 2002).

Readiness to Change© guidelines have been studied and developed for many years as Holt and Vardaman (2013) attested when they set out to refine the concept of Readiness to Change©. Ultimately, they came to the conclusion that Readiness to Change© must be determined using a multi-step process that assesses an individual's resolve as well as their ability. Holt and Vardaman (2013) didn't reference Beukelman and Mirenda (2005) in an effort to better understand barriers to change, but many of their findings are similar. "One crucial element of the readiness to make such changes is the attitude of individual administrators and teachers regarding the change" (p. 11).

Understanding the concept of Readiness to Change© requires more than an understanding of its potential applications. It requires an understanding of change theory, particularly structured around the Transtheoretical Model (Prochaska, 1997). Readiness to Change© principles are rooted in psychology as well as individual beliefs and perceptions. Two theories in particular have been connected with this concept of Readiness to Change© via the Preventive Cardiovascular Nurses Association (PCNA): the Transtheoretical Model (Prochaska, 1997) and the Self-Efficacy concept (Bandura, 1998).

Prochaska's Transtheoretical Model (1997) is a five-step process of change. It seeks to clarify the steps in the changing process and helps explain how people transition through them. The five steps are: (a) precontemplation, (b) contemplation, (c) preparation, (d) action, (e) maintenance. These five steps are represented as a scale in Prochaska's model, and individuals who are seeking to change often move up and down it. Precontemplation is where the process

begins, with the individual being unmotivated to change or unaware of the need for it. Once the individual is made aware of their own need for change, they enter into the contemplation stage, i.e. they begin to seek out ways to bring this change about and build up the desire to make plans for it. During the preparation stage, the individual is preparing and planning to make the necessary change, and then in the action stage they are actively working toward their goals, following their plan. Maintenance is where the individual eventually finds themself once the change has been completely incorporated in their life. Prochaska noted that the majority of individuals require periodic maintenance of their resolution to keep the changes they made in place. A person who is unwilling to take steps to maintain their changes will fall back into a lower step of the scale, typically preparation or contemplation (Prochaska, 1997).

The other underlying theory for Readiness to Change© is Bandura's (1998) well-established Self-Efficacy concept. Bandura found that individuals change according to their perceived Self-Efficacy—that is, the amount of Self-Efficacy that an individual judges themself to have. An individual who wishes to make a change has to first believe themself capable of it. In order to judge this capability, certain tools such as the General Self-Efficacy Scale (GSF) have been developed. This scale prompts individuals to identify their attitudes toward particular statements and produces a score which can give them an idea of how much Self-Efficacy they have.

There are four considerations that must be applied when using the Readiness to Change© parameters to support an individual's need for change. These parameters have been listed and described by Holt and Vardaman (2013). The first of these is the appropriateness of the change, or the degree to which the individual feels the change is right for their life. The second of these is

the principal supports behind the change, such as the degree to which their primary caregivers support the change. The third of these is the change efficacy, a crucial element which encompasses the individual's belief that they are capable of making the change. Finally, the last of these is the valence of the change, or the degree to which the individual believes the change will be personally beneficial. These four elements are always present when deciding to make significant changes whether any individual involved in the process is consciously aware of them or not (Holt & Vardaman, 2013).

Field and Hoffman (2012) were not inspired by the concept of Readiness to Change©, but rather came to the conclusion that there was period of change which needed to be addressed when working with students who were transitioning from one level of schooling to another. Field and Hoffman noticed that there was a significant struggle being experienced by children, both with and without special needs, who were faced with this transition. In order to better understand this struggle and how to help, they developed the concept of self-determination in order to improve student confidence in their own abilities. This was accomplished primarily through bettering their relationships with their teachers and peers. The main idea behind self-determination is for students to understand that they control their own experience both within the school and without.

Field and Hoffman (2012) developed a means of determining a student's self-determination levels and spent a great deal of time studying the overall effect that a high level of self-determination has on a student's academic career and their ability to transition. Ultimately, the authors found that self-determination was a necessary component of a successful transition for school-aged children, and that it was increased through the strengthening of peer and

instructor relationships. Transitions are not limited to academic levels however--transitions can include transitions from one step of therapy to the next. Therefore it is imperative to have a tool which aids in beginning a conversation with students about their own ability to move on to the next step in both school as well as therapy, such as the Readiness to Change© questionnaire.

Counseling

After you apply the Readiness to Change© questionnaire, what then does a SLP do? One answer is, 'It depends'. If there are positive attitudes and acceptance of the new system, the SLP's job is then to merely support the family in its integration of the device within all current communication settings. What do you do if they have thoughts or beliefs that may be barriers to the use of the system? That is when the SLP applies the use of counseling techniques to better identify the barrier and move all the stakeholders towards use of the communication system for the benefit of the user.

Not all SLPs are comfortable in their application of counseling skills. In a survey conducted by Phillips and Mendel (2008) of clinical fellows, they desired to know the extent to which counseling coursework was included in the training of speech-language pathologists as well as how comfortable individuals were with using counseling techniques in everyday practice. This survey inquired after a number of topics including any coursework related to counseling, the number of hours clinicians counsel others in their current job, opinions regarding counseling within SLP's scope of practice, level of comfort providing counseling services, and views on where counseling experience should be obtained (Phillips & Mendel, 2008). Their survey revealed that not only did 93.3% of SLPs state that they strongly believed counseling to be a

necessary skill for professionals within the field, but 80% of the respondents a lack of any coursework pertaining to counseling while in graduate school (Phillips & Mendel, 2008).

The data in Phillips and Mendel's (2008) study suggests that a significant percentage of speech-language pathologists are utilizing counseling in their practices without any educational background in the area of counseling whatsoever. In a field increasingly dominated by person-first therapy delivery guidelines, the need for counseling training at the graduate level is greater than ever. The World Health Organization (WHO) has created the International Classification of Functioning (ICF) in order to regulate standards that govern any kind of clinical work with human beings.

Kaderavek, Laux, and Mills (2004) took into account the speech-language pathologist's scope of practice and determined three different areas of counseling which they considered to be important for any SLP to keep in their toolbox. These three areas were the Therapeutic Relationship or Attending Behaviors, Open Versus Closed Questions or Focusing on Feelings, and Paraphrasing and Summarizing Feelings and Content or Handling Negative Emotions (Kaderavek, Laux & Mills, 2004).

The first of these, Therapeutic Relationship or Attending Behaviors, refers to the roles held by the clinician and the client and the bond created through therapy. According to Kaderavek, Laux, and Mills (2004), it should be established early that the clinician's duty is not to "fix" the client's emotions. Rather, it is the clinician's responsibility to listen and focus on the client's feelings rather than the facts surrounding the problem (Kaderavek, Laux & Mills, 2004). The SLP should act as a facilitator for the client's exploration of their emotions. The authors also describe several skills which could be vital to this process, such as nonverbal communication

behaviors, prolonged pauses in conversation, and minimal encouragers. Minimal encouragers are simply short responses with little to no content, such as “mmhm,” “I see,” or even just a simple head nod. Their intent is to encourage the speaker to continue speaking without interrupting their train of thought. In general, everyone uses minimal encouragers from time to time when having conversations with friends and acquaintances. Minimal encouragers also have the advantage of periodically reassuring the speaker that the listener is listening, which bolsters their confidence (Kaderavek, Laux & Mills, 2004).

The second of these, Open Versus Closed Questions or Focusing on Feelings, emphasizes several things. Initially, questions are secondary to comments when counseling clients. However, the types of questions utilized are also very important to consider. For example, when responding to clients’ questions, it is more beneficial to use affect- or feeling-related responses. Affect or feeling related responses acknowledge and validate the client’s emotions. Clients often feel the need to withhold emotional reactions to their communication difficulties, but this is counterproductive to achieving therapy outcomes. When a client denies sharing their own emotions about the therapy goals they are working toward, they prevent the therapist from working through or around them properly, thus reducing the effectiveness and the efficiency of the therapy they are attempting to provide (Tambyraja, Schmitt, & Justice, 2017).

The final technique, Paraphrasing and Summarizing Feelings and Content or Handling Negative Emotions, is one that the authors point out as being vital to the SLP’s skillset when speaking with clients about sensitive issues (Kaderavek, Laux & Mills, 2004). Paraphrasing a client’s utterance can serve many purposes, including, but not limited to: expressing empathy, drawing a conversation to a close, and allowing the SLP to confirm that they have gotten the

message right (Kaderavek, Laux & Mills, 2004). For example, if a client is telling a story about a time when they froze up speaking in public an SLP may paraphrase their message by saying, "So you are afraid of experiencing that same situation again." This would allow both parties to be assured that the SLP understood the content of the client's message. Paraphrasing is also a good way to respond when one is uncertain how to address a tough or sensitive topic, such as strong emotional reactions (Kaderavek, Laux & Mills 2004). By asking for clarification through the use of paraphrasing, the SLP can also encourage the individual to decide how comfortable they are with sharing more details, some of which may be painful to share if the relationship between client and therapist is not strong.

Counseling techniques such as these are useful for approaching subjects that clients may not feel eager to broach but which may hinder progress in therapy, i.e. Attitude Barriers. Many clients, as well as the caregivers of clients, do not realize that their attitudes toward an AAC device or the changes it may bring may be hindering them from benefiting from its use.

Current research into this topic is very limited. Counseling research itself has a large foothold in the area of stuttering therapy (Andrews, 2004), but very little research has been conducted in other areas of speech and language pathology. Similarly, current research regarding barriers to AAC use is virtually nonexistent. However, research into the Readiness to Change© protocol is well-established outside of the realm of speech language pathology, and within psychology, theories that examine the process and psychological implications of change are numerous (Lizar, Mangundjaya, & Rachmawan, 2015).

Communication is a basic human right. For many with complex communication needs, there are Barriers to this right. In our interactions with stakeholders, addressing the various

Barriers to Opportunities is important for the AAC user so they can communicate what they want, when they want it, as quickly as possible. One difficult area to address is attitudes, which are simply the reactions that the individual has to the AAC device and its myriad of uses. As can be seen from the research above, there is a lack of evidence regarding the application of either the Readiness to Change© tool or the use of counseling techniques to support positive communication on the topic (Schwarzer, Jerusalem, Weinman, Wright, & Johnston, 1995).

Hypothesis

It is this researcher's hypothesis that when provided with training in this Readiness to Change© Tool and specific counseling techniques, SLPs will present with greater levels of perceived competency when addressing and managing their clients' Attitude Barriers regarding the use of AAC devices (Schwarzer, Jerusalem, Weinman, Wright, & Johnston, 1995).

This hypothesis leads us to ask several questions:

1. What are the speech-language pathologists' perceived levels of competency for addressing negative attitudes toward AAC?
2. What are speech-language pathologists' perceived levels of competency for the use of the Readiness to Change© tool in treatment with clients who use AAC devices?
3. What are the current counseling techniques administered by speech-language pathologists to counsel stakeholders in the use of AAC?

Based on these research questions, three survey questions were developed:

1. On a scale of 1-5, 1 being the least competent and 5 being the most competent, please identify your competency in addressing negative attitudes toward AAC.

2. On a scale of 1-5, 1 being the least competent and 5 being the most competent, please identify your competency in applying Readiness to Change© techniques in treatment with clients who use AAC devices.
3. Describe how you typically counsel stakeholders in the use of AAC.

CHAPTER THREE

METHODS

Participants

The participants in this study were speech-language pathologists in the West Kentucky School Cooperative region. A total of 126 SLPs were invited to participate, however only 66 responded, attended, and participated. The criteria for participation included completion of their clinical fellowship year and their Certificate of Clinical Competence from the American Speech, Language, and Hearing Association. SLPs could be either full-time or part-time employees within the Cooperative region.

A convenience sampling was used. Participants were individuals participating in an all-day seminar training session for the speech-language pathologists in the West Kentucky School Cooperative region. To advertise the training, informational emails and flyers were sent out to all SLPs in the co-op.

Participants received an in-person survey before and after the completion of the training. Participants received Continuing Education Units (CEUs) for their participation in the training seminar regardless of their participation in the survey.

Materials

The training was a face-to-face meeting. The protocol included a PowerPoint presentation and printed handouts. The handout included the Readiness to Change© Questionnaire and descriptions of Prochaska's Transtheoretical Model and Bandura's Self-Efficacy Concept. Permission to use the Readiness to Change© tool was granted from The Preventive Cardiovascular Nurses Association, as it is their intellectual property (Schwarzer, Jerusalem,

Weinman, Wright, & Johnston, 1995). Prior to the start of the training seminar, the Readiness to Change© tool was printed out and given it to the participants, who were then trained to utilize it.

Development of the survey was completed prior to the date of the training seminar. The survey questions along with the letters of consent were reviewed by the thesis committee and an expert panel of six individuals for validity and reliability of the survey protocol.

The following questions were developed from the research questions:

Research Question One: What are the speech-language pathologists' perceived levels of competency for addressing negative attitudes toward AAC?

Survey Question One: 'On a scale of 1-5, 1 being the least competent and 5 being the most competent, please identify your competency in addressing negative attitudes toward AAC.'

Research Question Two: On a scale of 1-5, 1 being the least competent and 5 being the most competent, please identify your competency in applying Readiness to Change© techniques in treatment with clients who use AAC devices.

Survey Question Two: On a scale of 1-5, 1 being the least competent and 5 being the most competent, please identify your competency in applying Readiness to Change© techniques in treatment with clients who use AAC devices.

Research Question Three: What are the current counseling techniques administered by speech-language pathologists to counsel stakeholders in the use of AAC?

Survey Question Three: Describe how you typically counsel stakeholders in the use of AAC.

The Pretest survey was printed out and distributed to the training participants prior to the start of the training seminar. The Posttest survey was likewise printed out and distributed to the

participants after the end of the training seminar (See Appendix A-D for Pretest and Posttest surveys).

Procedures

The study was conducted during a training seminar titled, *Overcoming Barriers to Using AAC*. It was part of an all-day seminar for the speech-language pathologists in the West Kentucky School Cooperative Region. The training was conducted by the research author. At the beginning of the Overcoming Barriers to Using AAC session, the participants were informed of the research purpose of the training verbally and in writing. The procedures, benefits, and risks of the study were listed. Participants were informed that participation was voluntary. They indicated their consent for participation through the completion of the Pre and Posttest surveys (see Appendix A-D).

Both before and after the hour-and-a-half-long session, participants anonymously wrote their responses to the survey. Questions consisted of one open-ended and two agreement-scale questions. The survey took approximately three to five minutes to complete.

Training Outline

The training was a combination of lecture, presented by the researcher, and group interaction which spanned a period of one-and-a-half hours. The program began with a broad overview of Opportunity Barriers for the use of AAC in the educational setting (Beukelman & Mirenda, 2005). One specific Barrier, Attitude Barriers, was then the main focus of the training session. The training provided the evidence-based research and supporting documents for the counseling techniques introduced. These techniques reviewed included Therapeutic Relationship or Attending Behaviors, Open Versus Closed Questions or Focusing on Feelings, and

Paraphrasing and Summarizing Feelings and Content or Handling Negative Emotions (Kaderavek, Laux & Mills, 2004). The main focus of the training was on the use of the Readiness to Change© Tool (Schwarzer, Jerusalem, Weinman, Wright, & Johnston, 1995). Its guidelines were introduced and the potential benefit of utilizing them was described.

A variety of teaching techniques was used, including lecture and guided practice. The guided-practice took the form of modeling and role-playing throughout the interaction portion of the training session. During the session, participants identified a behavior they wanted to modify and completed the Readiness to Change© tool to learn through their own personal experience (Schwarzer, Jerusalem, Weinman, Wright, & Johnston, 1995).

The training began with an overview of what the Barriers to Change are with an emphasis on Attitude Barriers. It then delved deeper into Change Theory, particularly Prochaska's Transtheoretical Model and Bandura's Self-Efficacy concept (Prochaska, 1997; Bandura, 1994). Participants were asked to consider changes they had made or wanted to make within their own lives and to determine how ready they were for change using both the theories and the General Self-Efficacy Scale (GSF) (Bandura, 1994). Discussion was generated around the answers the participants provided. At the end of the presentation, participants further discussed how they could apply the Readiness to Change© tool in their own therapy with clients who use AAC devices and their caregivers or other stakeholders (Schwarzer, Jerusalem, Weinman, Wright, & Johnston, 1995). The presentation concluded with an brief overview of the three primary counseling techniques identified by Kaderavek, Laux, and Mills (2004) and an explanation of how they could be useful in addressing Attitude Barriers (Beukelman & Mirenda, 2005).

Data Collection

Data was collected on three survey questions before and after the training to identify any changes in the participants' perceived abilities. A quasi-experimental, quantitative chi-squared analysis was completed on questions one and two, and qualitative analysis was completed on question three.

Survey Question One: 'On a scale of 1-5, 1 being the least competent and 5 being the most competent, please identify your competency in addressing negative attitudes toward AAC'

This question investigated the participants' perceived competencies when handling negative 'attitudes' expressed by the various stakeholders for AAC systems. The question provided ordinal-level quantitative data (five-level Likert scale) that was analyzed using chi-squared analysis. Tables and bar graphs were used to present visual data regarding participant responses.

Survey Question Two: 'On a scale of 1-5, 1 being the least competent and 5 being the most competent, please identify your competency in applying counseling techniques in treatment with clients who use AAC devices'.

This question investigated the participants' perceived competency applying counseling techniques while treating clients who use AAC devices. The question provided ordinal-level quantitative data (five-level Likert scale) that was analyzed using chi-squared analysis. Tables and bar graphs were used to present visual data regarding participant responses.

Survey Question Three: 'Describe how you typically counsel stakeholders in the use of AAC.'

The final questions asked participants to provide qualitative data about the training seminar. Participants were given the opportunity to explain their perceptions of the training seminar's benefits. Grounded theory was used to analyze this information. Themes and trends were identified in the pre- and post-training written responses. This data is visually represented through the use of graphs and percentages.

CHAPTER FOUR

RESULTS

The training and data collection was completed on September 21, 2018. A total of 66 participants completed the pre-survey and 65 participants completed the post-survey.

Quantitative

The results of the data collected for questions one and two was analyzed using the Statistical Package for the Social Sciences (SPSS). This program efficiently and reliably performs the chi-squared calculations and presents the data to the user. The level of significance used for the data was an alpha level of .05.

Both quantitative questions 1 and 2 were answered by all respondents.

1. On a scale of 1-5, 1 being the least competent and 5 being the most competent, please identify your competency in addressing negative attitudes toward AAC.
2. On a scale of 1-5, 1 being the least competent and 5 being the most competent, please identify your competency in applying Readiness to Change© techniques in treatment with clients who use AAC devices.

The mean responses and standard deviations for questions one and two are displayed below in Table 1.

Table 1.

Survey Question Means and Standard Deviations

	Q1		Q2	
	Pre-Test	*Post-Test*	*Pre-Test*	*Post Test*
Mean	2.45	3.35	1.92	3.25
Standard Deviation	.826	.717	.882	.848

Note. Q1 = Survey Question 1; Q2 = Survey Question 2

The difference in the response ratings for the pre-test and post-test for both questions one and two were found to be significant. The alpha numbers are shown below in Table 2.

Table 2.

Chi-Squared Results

Survey Results	Q1	Q2
Chi-square	.000*	.000*

Note. Alpha level < .05.; Q1 = Survey Question 2. Q2 = Survey Question 2.

Further analysis of the survey data was completed. The results of the Likert scores are reported in Table 3. The Likert scores were consistent in their response numbers and percentages across content areas as can be seen within Table 3 below.

Table 3.

Likert Response Numbers and Percentages

	Pretest		Posttest		Pretest		Posttest	
Likert Scale	Q1	Q1 %	Q1	Q1 %	Q2	Q2 %	Q2	Q2 %
1	6	9.1	0	0	27	40.9	0	0
2	30	45.5	5	7.7	18	27.3	13	20
3	26	39.4	36	55.4	20	30.3	27	41.5
4	2	3	20	30.8	1	1.5	21	32.3
5	2	3	44	6.2	0	0	4	6.2
Totals	66		65		66		65	

Note. Q1 = Survey Question 1; Q2 = Survey Question 2; Note: 1 = strongly disagree, 2 = somewhat disagree, 3 = neither agree nor disagree, 4 = somewhat agree, 5 = strongly agree.

As can be seen from the table above, respondents' perceived competency increased from the pretest to the posttest with 18 more people answering 4 for Question One and 20 more people answering 4 for Question Two in the posttest questionnaire.

Qualitative

A total of 46 of the 66 individuals responded to the qualitative survey question. In response to the third survey question, 'Describe how you typically counsel stakeholders in the use of AAC,' several notable themes emerged.

The most common theme was education. The type of education identified could be for the stakeholder, stakeholder's parents, and the stakeholder's teachers, as well as other individuals not specified. A number of participants identified research and data as an important part of this

education, but not separate from it. It makes a certain sort of sense that education would be the most popular theme. Within the field of speech-language pathology, education is a constant due to both national and state Continuing Education Unit (CEU) requirements. When SLPs are tasked with bringing research regarding therapy tools and practices to clients and other stakeholders, they often rely upon the methods which were used to help them understand in the first place.

The second theme identified was collaboration. Collaboration was with stakeholders, which includes parents as well as other professionals, such as teachers and other therapy specialists. Several individuals identified collaboration in conjunction with education, i.e. they intended to educate their coworkers or viewed the stakeholders they were educating as collaborative partners. It is unclear in many of the responses whether SLPs were referring to collaborative efforts made during therapy or simply in the overall lives of the clients they work with, however it can be concluded that, due to the nature of AAC therapy, because both are required, both would be included.

The third theme found was modeling. How modeling was used was not specified, which could indicate that these participants viewed modeling as a self-explanatory therapy technique. On the contrary, this is unclear. Several different types of modeling have been developed in the history of speech and language research, for example naturalistic modeling and video modeling. Some research into aided modeling with an emphasis on AAC when used in therapy with children on the Autism spectrum has been done by Drager, K. D. (2009). Throughout this study, the author emphasized that aided modeling in AAC therapy most closely mimics natural speech and language encouragement. O'Neill, Light, & McNaughton (2017) performed a study that took

into consideration video modeling within the context of AAC training. A look into the more traditional use of modeling in therapy paints the idea of modeling as a larger therapy concept, one that can be incorporated into a myriad of therapy techniques and practices (Weismer & Murray-Branch, 1989). Thus, it is to be speculated that the participants who mentioned modeling each had their own ideas of what modeling looks like and how it might be used in therapy with individuals who use AAC devices.

Finally, there were several outliers. Interestingly, of the 46, only three responses identified some form of counseling. There were also three individuals who specifically listed "encouragement" as a necessary component. One individual only identified behavior modification, while a separate individual identified Readiness to Change©. Several individuals wrote responses that identified two or three different themes.

The frequency of qualitative response themes is laid out in Table 4 below.

Table 4

Qualitative Response Themes

Themes	Frequency
Education	29
Collaboration	15
Modeling	13
Counseling	9
Encouragement	7
Behavior Modification	1
Readiness to Change©	1

Discussion

Question One

Examining the results from survey question one, it can be seen that the training did provide a statistically significant improvement in the perceived competency of the school SLPs in addressing negative attitudes toward AAC. When looking at the shift in the Likert scale values in Table 3, there was a 3.2% shift for Survey Question 1 between the Pretest Likert scale value 5 and the Posttest Likert scale value 5 (Strongly Agree). This positive shift suggests that participants' perceived competencies increased as a result of the training seminar that was provided directly after the presentation of the Pretest and directly prior to the presentation of the Posttest.

Again, looking at the shift in the Likert scale values in Table 3, there was a 9.1% shift for Survey Question 1 between the Pretest Likert scale value 1 and the Posttest Likert scale value 1 (Strongly Disagree). Each individual who expressed the lowest level of perceived competency in the Pretest regarding negative attitudes altered their answer in the Posttest to reflect the knowledge and skills they gained as a result of the training seminar.

A number of questions arise from the outcomes of this data. Specifically, what are examples of "negative attitudes" that SLPs may encounter? Beukelman & Mirenda (2005) noted that Attitude Barriers can be broad in presentation. A child with a negative attitude will display that negative attitude very differently than an adult would, just as emotions such as sadness and anger can appear very different to other people. For instance, a child who is experiencing

negative reactions toward an AAC device could just as easily throw their device against a wall as silently pretend they are using it when they aren't. In adults, neglect of a device is a more common sign of negative attitudes toward it. The exact causes for negative attitudes can be equally difficult to pin down (Beukelman & Mirenda, 2005). Reasons behind lack of use, for example, could stem from fear, anxiety, defiance, or some combination of all three. Simply put, the only way for an SLP to discover these reasons and address them is to talk about them. And the best way to talk about them is through the use of counseling techniques (Kendall, 2000).

The Readiness to Change© tool exists not so much to help the SLP identify these negative attitudes, but rather to help the client identify them (Schwarzer, Jerusalem, Weinman, Wright, & Johnston, 1995). Once these Barriers have been identified, it then becomes the SLP's duty to utilize counseling techniques along with other types of training to help the client overcome them and work through them. Throughout the session, the participating SLPs described several of the common negative attitude barriers they faced in their respective practices, such as: parents not requiring use of AAC devices at home, teachers finding the use of AAC devices too daunting, and students feeling ashamed of their AAC devices because of others' lack of understanding.

Additionally, while the data represents a significant positive shift in perceived competency, more data would be required in order to determine whether actual competency and ability to utilize the Readiness to Change© tool improved (Schwarzer, Jerusalem, Weinman, Wright, & Johnston, 1995). Perceived competency is no substitute for tried and tested understanding of a concept, and in fact this data can truly only tell us that the participants understood the potential that the Readiness to Change© tool has. As this tool has yet to be tested

within therapy with actual students and clients, there do not exist yet individuals who can provide empirical data about their competency when it comes to the use of this therapy tool

Similarly, the data has little way of highlighting the specific Barriers that the participants face in their respective settings and with their respective clients. For SLPs working with children, the primary stakeholders would likely be the parents and therefore the tool would need to be applied to them. However, in adult-focused therapy settings, the client's own readiness to accept change is what is most in need of assessment.

There are a myriad of other factors that need to be considered in the case of each individual SLP who might want to utilize this Readiness to Change© tool (Schwarzer, Jerusalem, Weinman, Wright, & Johnston, 1995). These other factors include but are not limited to the SLP's experience, the SLP's relationships with their clients, and the SLP's available time frame when seeing clients. For example, SLPs working with clients in in-patient hospital settings would probably not see such a tool as essential to client progress.

No matter the setting or client ages, it has been well-established that SLPs greatly benefit from increased confidence in utilizing counseling techniques and skills (Kaderavek, Laux & Mills, 2004). Tangentially, the question then becomes: how do we apply these counseling techniques efficiently in real-time therapy situations? More data, coming from working with clients who use AAC devices and their caregivers, would be required for such a hypothesis to be proposed.

Question Two

In looking at the results from question two, it can be seen that the training did provide a statistically significant improvement in the perceived competency of the school SLPs in applying counseling techniques in treatment with clients who use AAC devices.

The largest percentage shift came with Survey Question 2. Exactly 40.9% (nearly half) of participants identified their perceived competency as Likert scale value 1 (Strongly Disagree) in the Pretest. However, in the Posttest this percentage shifted to 0%. This shift suggests that each individual who expressed little to no perceived competency in the use of counseling techniques to address negative attitudes toward AAC prior to the seminar gained at least some perceived competency by the time the Posttest was presented to them. With no individuals citing a lack of preparedness to address stakeholders in AAC therapy, it is logical to conclude that the participants who increased their perceived competency felt the information provided in the seminar useful.

Similarly, for Likert scale value 5 (Strongly Agree), there was a 6.2% shift for Survey Question 2 between the Pretest and the Posttest. This significant positive shift suggests, as it did for the shift in Survey Question 1, that the participants as a whole increased their perceived competency as a result of the seminar which was presented directly after the Pretest and directly prior to the Posttest.

The application of the Readiness to Change© questionnaire to Barriers for AAC use is a logical choice. The data provided in this study now gives school SLPs one possible counseling option when assessing the opportunities for AAC use in the user's current communication environments. Additionally, the Readiness to Change© tool is useful for school-based SLPs for a number of reasons (Schwarzer, Jerusalem, Weinman, Wright, & Johnston, 1995). It can help

determine a student's, caregiver's or colleague's awareness of their own need for change and help the SLP address possible underlying issues. Understanding one's reason for not wanting change may well be a first step towards that change occurring. For example, a student may come to see that their primary Attitude Barrier stems from fear of the potential reaction by their peers (Beukelman and Mirenda, 2005). According to Field and Hoffman (2018), the concept of self-determination is one that has been used successfully in the past to assist students with taking the necessary steps toward making changes in their lives once they are aware of their need for change. Self-determination is acquired through the use of counseling techniques, particularly development of a Therapeutic Relationship with the teacher, as well as through strengthened relationships with peers.

Even though the tool may prove beneficial, the data outcomes of this research only demonstrates that the provided training supported the SLP's perceived competency for future use. Further research needs to be applied to address the use of this tool with stakeholders. The application of this tool also raises the question of what to do when the stakeholder shows no readiness for that change. This question has ethical implications in an environment where a child must receive a free and appropriate education through federal mandate. Any SLP who is required to consider billing when making decisions about how much time should be given to working with clients understands that not all tools, however useful, are efficient or necessary. However, it is the hope of this author that this tool might be developed to be useful in determining an efficient path of treatment or in cutting down on the amount of time needed to determine whether AAC is likely to be accepted immediately by a client's circle of caregivers.

This issue also underlines the need for further counseling training for SLPs. SLPs can utilize counseling techniques, specifically attending behaviors and paraphrasing, to aid in stakeholder understanding of the implications of fully utilizing an AAC device in the client's home and familiar environment. However, if SLPs are not fully confident in their abilities to utilize these techniques, then their use will be limited and outcomes uncertain.

Question Three

The responses to the qualitative question underline the need for further validation of the data outcomes. There was only a minor shift in the SLP descriptions of how they 'typically counsel stakeholders in the use of AAC'. After the completion of the training, 72% of SLPs continued to mention their prior methods of education, collaboration, and modeling. Even with the low response rate, it is apparent that the majority of the school SLPs did not change their views on working with stakeholders.

There are several distinctions that must be made between what responders meant by counseling, education, modeling, and collaboration. Based on on-site discussion and definitions provided during the seminar, it is to be understood that where responders mentioned counseling they were referring to the counseling techniques outlined by the speaker. Collaboration is deemed to refer to the work that clients, SLPs, and other stakeholders shoulder together in the best interest of the client. Education is the information and resources that is provided by the SLP for the improvement of understanding by the client and the other stakeholders. Modeling is simply the time the SLP spends demonstrating directly to the client and other stakeholders how to use a particular AAC device.

The few individuals that did demonstrate a shift in their responses expressed a heightened understanding of the concepts outlined in the training seminar as well as the research basis for the Readiness to Change© tool (Schwarzer, Jerusalem, Weinman, Wright, & Johnston, 1995). These included the six individuals who listed counseling as an important factor in AAC therapy delivery as well as the one individual who identified the Readiness to Change© tool specifically. The fact that the other responders did not identify a shift from the themes which were included demonstrates that they did not recognize the gaps in their knowledge. Perhaps in their own ways the participants who were unable to recognize these gaps could not see their own need for change regarding the usefulness of the materials provided. This is, of course, only speculation on the part of the author.

In conclusion, the information gained from the survey questionnaires indicates that the training program did provide a change in the perceived ability of the school SLPs to address negative attitudes and the use of a Readiness to Change© tool (Schwarzer, Jerusalem, Weinman, Wright, & Johnston, 1995). There were minor changes in the responses of the counseling techniques the SLPs would use, but the outcomes of the qualitative question were limited by the number and length of responses and the subjectivity of analysis. All the same, the overall findings are promising. Training on specific counseling techniques and tools can prove one means by which SLPs can overcome some of the Barriers to the use of AAC by stakeholders. With the significant abandonment rate of devices and consequences of that abandonment to the quality of life to the user, this line of inquiry needs to be further pursued and expanded.

CHAPTER FIVE

LIMITATIONS AND IMPLICATIONS

Limitations

There were a number of limitation in this research inquiry. For one, the term and population regarding negative attitudes needs further investigation. The question did not define what those attitudes were nor did it identify which population was demonstrating those characteristics. Other limitations included the limited post-test qualitative response to question three. As a result, only tentative conclusions can be made regarding any actual change in the participants understanding of the counseling techniques

Another limitation which must be noted is that the Readiness to Change© tool was not created by the researcher, nor was the researcher trained in its use by the original creators, i.e. the Preventative Cardiovascular Nurses Association (Schwarzer, Jerusalem, Weinman, Wright, & Johnston, 1995). The training was created based on studying the tool as well as the research and theories it is based upon. Additionally, the tool was created

Implications for Future Research

Perhaps one of the more unique aspects of this tool is its ability to be applied not only to individual students and clients, but also to parents, caregivers, and teachers. However, as was stated previously, Barriers to Change are not experienced exclusively by the individual receiving the AAC device, and a lack of acceptance on the part of a third-party stakeholder can have a dire effect on the ability for an AAC device to be utilized effectively.

BARRIERS TO CHANGE FOR AUGMENTATIVE AND ALTERNATIVE COMMUNICATION USE

Therapy surrounding the use of AAC devices is not performed in a vacuum, however carryover between the therapy facility, school, and client's home can vary widely. A great deal of personal acceptance and dedication to using the device must be done not only on the part of the client, but on the part of the client's community and primary communication partners as well. Lifestyle changes, however, can only be accomplished if all stakeholders are in agreement about the need for the AAC device.

Dissention among stakeholders in school-aged therapy delivery is not uncommonly reported, although the literature reports that teacher approval of speech and language services has only been increasing in recent decades (Sanger, Hux, & Griess, 1995). According to Tambyraja, Schmitt, & Justice, (2017), collaboration between professionals and caregivers is one of the pillars of successful therapy implementation and of client satisfaction. Therefore, the student, the SLP, the student's caregivers, and the student's teachers are all required to be prepared for change. The application of this tool to meet the demands of such a collaborative effort require further study.

The results of our study call for further development of a Readiness to Change© tool within the scope of practice of speech language pathologists (Schwarzer, Jerusalem, Weinman, Wright, & Johnston, 1995). Ideally, this tool would be developed to meet the needs of an SLP as they work with an AAC user and other stakeholders within the AAC assessment process. Action research to validate its use and outcomes with this population would also support SLP's understanding of other possible uses of this counseling tool (e.g. older students with articulation impairments, students with voice impairments, etc.).

According to Kaderavek, Laux, & Mills (2004), SLP graduate students are currently seeing a lack of opportunities for personal growth in the area of counseling within their classes. Graduate students are having to learn counseling techniques on-the-job at externships and placements and are often unprepared for the emotional undertaking. In general, SLP graduates find that they are in need of greater instruction regarding how and when to apply counseling techniques as well as where to begin when seeking to establish a Therapeutic Relationship with their clients.

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Appendix A

Survey Preamble and Consent

Dear Colleague:

Augmentative and alternative communication (AAC) is an area of clinical and educational practice that offers a set of strategies and approaches to supplement or replace natural speech and/or handwriting. This study is being conducted by Lauren Brown, a Speech-Language Pathology Graduate Student from Murray State University (MSU) as the primary investigator. This research is sponsored by the Speech Language Pathology Division of the College of Education and Human Services (COEHS).

Taking part in this study is voluntary. By completing this questionnaire, you are agreeing to take part in the study. You will be presented with both a pre-and post-training survey. It will take 3 - 5 minutes to complete. You may decline to answer any of the questions. There are no risks or benefits to participation in the study; however, the knowledge gained from your survey responses will help us identify the efficacy of utilizing counseling techniques during speech and language therapy with clients who use AAC devices.

Your completed and confidential questionnaire will be stored in a secured location for three years in an office in Alexander Hall on the MSU campus. Individuals from the COEHS, the Institutional Review Board (IRB), and the Human Subjects Protection Program Office (HSPPO), and other regulatory agencies may inspect these records. In all other respects, your data will be held in confidence to the extent permitted by law. Should the data be published, your identity will not be disclosed.

By completing the attached questionnaire, you are voluntarily agreeing to participate. You are also acknowledging that all your present questions have been answered in language you can understand, and all future questions will be treated in the same manner. You may refuse to participate without being subject to any penalty of losing any benefits to which you are otherwise entitled.

If you have any questions, concerns, or complaints about this study, please contact the principal investigators, Lauren Brown at (270) 584-5623 or lbrown49@murraystate.edu as well as Dr. Karen Coulter at (502) 338-5373 or kcoulter@murraystate.edu.

If you have any questions about your rights as a research subject, you may call the Human Subjects Protection Program Office at (270) 809-2916 or email them at msu.irb@murraystate.edu . You can discuss any questions about your rights as a research subject, in private, with a member of the Institutional Review Board (IRB). You may also call this number if you have any other questions about this research, and cannot reach the research staff, or want to talk to someone else. The IRB is an independent committee made up of people from the University community, staff of other institutions, as well as people from the community not connected with these institutions.

If you have any concerns or complaints about the research or the research staff and do not wish to give your name, you may again call (270) 809-2916 or email msu.irb@murraystate.edu.

The IRB has reviewed this research study. The dated approval stamp on this consent form indicates that this project has been reviewed and approved by the Murray State University Institutional Review Board (IRB) for the protection of human subjects.

Appendix B

PRETEST QUESTIONNAIRE

1	On a scale of 1-5, 1 being the least competent and 5 being the most competent, **please identify your competency in addressing negative attitudes toward AAC.**	**1**	**2**	**3**	**4**	**5**
2	On a scale of 1-5, 1 being the least competent and 5 being the most competent, **please identify your competency in applying Readiness to Change© techniques in treatment with clients who use AAC devices.**	**1**	**2**	**3**	**4**	**5**

3. Describe how you typically counsel stakeholders in the use of AAC.

Appendix C

Email to Participants

Dear Colleague:

Augmentative and alternative communication (AAC) is an area of clinical and educational practice that offers a set of strategies and approaches to supplement or replace natural speech and/or handwriting. You will have the opportunity to participate in a free training seminar regarding AAC and counseling tools and techniques. This study is being conducted by Lauren Brown, a Speech-Language Pathology Graduate Student from Murray State University (MSU) as the primary investigator. This research is sponsored by the Speech Language Pathology Division of the College of Education and Human Services (COEHS).

Taking part in this study is voluntary. You will be presented with both a pre-and post-training survey. It will take 3 - 5 minutes to complete. You may decline to answer any of the questions. There are no risks or benefits to participation in the study; however, the knowledge gained from your survey responses will help us identify the efficacy of utilizing counseling techniques during speech and language therapy with clients who use AAC devices.

Your completed and confidential questionnaire will be stored in a secured location for three years in an office in Alexander Hall on the MSU campus. Individuals from the COEHS, the Institutional Review Board (IRB), and the Human Subjects Protection Program Office (HSPPO), and other regulatory agencies may inspect these records. In all other respects, your data will be held in confidence to the extent permitted by law. Should the data be published, your identity will not be disclosed.

By completing the attached questionnaire, you are voluntarily agreeing to participate. You are also acknowledging that all your present questions have been answered in language you can understand, and all future questions will be treated in the same manner. You may refuse to participate without being subject to any penalty of losing any benefits to which you are otherwise entitled.

If you have any questions, concerns, or complaints about this study, please contact the principal investigators, Lauren Brown at (270) 584-5623 or lbrown49@murraystate.edu as well as Dr. Karen Coulter at (502) 338-5373 or kcoulter@murraystate.edu.

If you have any questions about your rights as a research subject, you may call the Human Subjects Protection Program Office at (270) 809-2916 or email them at msu.irb@murraystate.edu . You can discuss any questions about your rights as a research subject, in private, with a member of the Institutional Review Board (IRB). You may also call this number if you have any other questions about this research, and cannot reach the research staff, or want to talk to someone else. The IRB is an independent committee made up of people from the University community, staff of other institutions, as well as people from the community not connected with these institutions.

If you have any concerns or complaints about the research or the research staff and do not wish to give your name, you may again call (270) 809-2916 or email msu.irb@murraystate.edu.

The IRB has reviewed this research study. The dated approval stamp on this consent form indicates that this project has been reviewed and approved by the Murray State University Institutional Review Board (IRB) for the protection of human subjects.

Appendix D

PRETEST QUESTIONNAIRE

1	On a scale of 1-5, 1 being the least competent and 5 being the most competent, **please identify your competency in addressing negative attitudes toward AAC.**	**1**	**2**	**3**	**4**	**5**
2	On a scale of 1-5, 1 being the least competent and 5 being the most competent, **please identify your competency in applying Readiness to Change© techniques in treatment with clients who use AAC devices.**	**1**	**2**	**3**	**4**	**5**

3. Describe how you typically counsel stakeholders in the use of AAC.