

5-2024

Understanding the Clinician's View of Pragmatics in Pediatric Therapy

Shelby Oliver

Follow this and additional works at: https://aquila.usm.edu/honors_theses



Part of the [Speech and Hearing Science Commons](#), and the [Speech Pathology and Audiology Commons](#)

Recommended Citation

Oliver, Shelby, "Understanding the Clinician's View of Pragmatics in Pediatric Therapy" (2024). *Honors Theses*. 954.

https://aquila.usm.edu/honors_theses/954

This Honors College Thesis is brought to you for free and open access by the Honors College at The Aquila Digital Community. It has been accepted for inclusion in Honors Theses by an authorized administrator of The Aquila Digital Community. For more information, please contact Joshua.Cromwell@usm.edu, Jennie.Vance@usm.edu.

Understanding the Clinician's View of Pragmatics in Pediatric Therapy

by

Shelby Oliver

A Thesis
Submitted to the Honors College of
The University of Southern Mississippi
in Partial Fulfillment
of Honors Requirements

May 2024

Approved by:

Amy LeBert, Ed.D., Thesis Advisor,
School of Speech and Hearing Sciences

Steve Cloud, Ph.D., Director,
School of Speech and Hearing Sciences

Joyce Inman Ph.D., Dean
Honors College

ABSTRACT

Pragmatics is one of the most integral components of language, yet it often seems to receive little attention in therapy settings. Previous research indicates the importance of intentionally targeting pragmatic skills for children with language disorders and/or autism spectrum disorders, as well as the lack of current pragmatic evaluations. This thesis used an online survey to record how clinicians view pragmatics, how they evaluate pragmatics, and how they target pragmatics. Participants were all certified clinicians, and the research survey featured a variety of open and closed questions. Results revealed a deep pragmatics knowledge base. However, results indicated the use and knowledge of pragmatic evaluation methods and targeting strategies were lackluster. These results can help bolster and increase knowledge to improve clinician's therapy techniques.

Keywords: Pragmatics, Social Communication, Children, Intervention, Clinicians, Survey

DEDICATION

To my parents, who always believed in me, and my friends, who have made my college community a home.

ACKNOWLEDGMENTS

This project would not be possible without Dr. Kelly Koch, who believed in my research ideas and inspired my passion for the field of speech pathology. I am also extremely, deeply grateful for Dr. Amy LeBert, who saw the potential in my partially completed research idea, and who pushed my writing and research to be the best it can be. You have shown me a driven and exceptional career to look up to and strive to emulate.

TABLE OF CONTENTS

LIST OF TABLES	ix
LIST OF ILLUSTRATIONS	x
LIST OF ABBREVIATIONS	xi
CHAPTER I: INTRODUCTION AND LITERATURE REVIEW	1
Pragmatics Approaches and Definitions	1
Previous Analyses of Pragmatics in Speech Therapy	4
Current Assessment Techniques	5
The Clinician’s Viewpoint	7
CHAPTER II: METHODS	10
Research Question	10
Research Design	10
Participants	11
Procedures and Instrument	11
Analysis	12
CHAPTER III: RESULTS	13
Participant Demographics	13
Multiple Choice Question Analysis	14
Likert Scale Analysis	17
Emerging Themes in Open-Ended Questions	21

Social Language and Nonverbal Communication	22
Emotional Awareness and Empathy	23
Pragmatics as it interacts with Semantics	24
Neurotypical Pragmatics vs. Neurodivergent Pragmatics	24
CHAPTER IV: DISCUSSION	26
Limitations	28
Implications.....	28
CHAPTER V: CONCLUSION.....	29
APPENDIX A: RESEARCH SURVEY AND INFOGRAPHIC	30
APPENDIX B: IRB Approval Letter.....	40
REFERENCES	41

LIST OF TABLES

Table 1	17
Table 2	19
Table 3	20

LIST OF ILLUSTRATIONS

Figure 1	22
----------------	----

LIST OF ABBREVIATIONS

ASD	Autism Spectrum Disorder
ASHA	American Speech Language Hearing Association
CAS	Childhood Apraxia of Speech
CCC	Children's Conversation Checklist
CE	Continuing Education
ITPA-3	Illinois Test of Psycholinguistic Abilities
OWLS-2	Oral and Written Language Scales- 2 nd Edition
SCDC	Social and Communication Disorders Checklist
SCIP	Social Communication Intervention Programme
SCORE	Sharing ideas, complimenting others, offering help or encouragement, recommending changes nicely, and exercising self-control
SLP	Speech-Language Pathology/Pathologist
TOPICC	Targeted Observation of Pragmatics in Children's Conversations
TOPL-2	Test of Pragmatic Language- Second Edition

CHAPTER I: INTRODUCTION AND LITERATURE REVIEW

Within language, pragmatics acts as a glue that holds all other aspects of language together. However, intentionally targeting pragmatics in speech therapy could be improved upon. This thesis aims to analyze what pragmatics is, how it has been previously used, and how it is being currently viewed and assessed by clinicians. Using an online survey allowed clinicians to reflect on their own use and assessment of pragmatics in therapy. Seeing how the field can better improve upon targeting pragmatic skills in therapy can be a benefit to both the clinician and the client.

Without pragmatics as an essential aspect of our language, meaningful communication would cease to exist. This review examines literature showing the importance of recognizing pragmatics assessment and targeting. Literature focuses on previous analyses of pragmatics use and assessment in speech therapy, with a final note on literature also assessing a clinician's viewpoint within speech-language pathology.

Pragmatics Approaches and Definitions

A myriad of pragmatic definitions exist within the literature. There are varying viewpoints that try to define how pragmatic elements relate to language systems holistically. In truth, there is not one single or simple definition of this element of language. According to Perkins (2013), “Pragmatics is as much about *language* use as it is about language *use*” (p. 234). Pragmatics is as much a part of language as language is a part of pragmatics. One cannot exist without the other. According to Nelson (2010), as cited by the American Speech Language Hearing Association (ASHA) (n.d), pragmatics is “communication that focuses on goal-consistent language use in social contexts” (para. 5). While this definition is narrow compared to other definitions, it is an appropriate place

to begin understanding the process of pragmatics and how it relates to language. Essentially, pragmatics is the way that we apply language to real world settings and thus create meaningful communication.

ASHA continues to focus on social communication disorder, which creates further hardships for patients when compounded with pragmatic and social communication issues. These issues often extend to negatively impact life, career choices, and romantic success due to the inhibition to communicate socially, which is crucial in the process of meaning making in communication (ASHA, n.d.). Social communication disorder directly correlates to issues with pragmatics in language as they both hinder linguistic interactions with the speaker's environment.

While the definition of pragmatics from Nelson (2010), as cited by ASHA, provides a textbook idea of pragmatics, this once consistent viewpoint does not exist in isolation. In contrast to ASHA's definition, the approach to pragmatics that is upheld by Damico and Nelson (2005) gives the precise richness in perspective that views pragmatics as a continuous spectrum validating all communicative intentions. Damico and Nelson (2005) evaluated the behaviors of individuals with autism and found their pragmatic ability to be exceptionally different from "socially standard" pragmatic skills, but capable of communicating meaning, nonetheless. In this study, pragmatic skill levels were not considered a pass or fail ability but rather placed in a spectrum (Damico & Nelson, 2005).

In addition to the Damico and Nelson approach to pragmatics, an article from Perkins (2005) accompanies this holistic approach to pragmatics. In this perspective, pragmatics is defined as "entities such as language, social cognition, memory, intention

and inferential reasoning collide in socio-culturally situated human interaction, rather than being instantiated or uniquely grounded in any single one of these” (Perkins, 2005, p. 371). This approach to pragmatics combines multiple sources of language and social interaction creating the idea of pragmatics. Perkins’ concept of pragmatics as an “emergent phenomena” gives weight to the expansiveness of pragmatics (Perkins, 2005). This viewpoint is consistent in his other research, with a separate article by Perkins (2010) found in the *Handbook of Language and Speech Disorders* focusing on pragmatic impairment and the multiple sources of pragmatic impairment. Scholars can see how the scope of pragmatic impairment impacts other aspects of language, from social cognition and theory of mind to syntax, morphology, and semantics (Perkins, 2010). Given this impairment impacts so many facets of language, it implies that pragmatics is an aspect of language that overarches all components of language. Perkins (2010) also claimed that we should “be extremely cautious in linking pragmatically anomalous behaviors directly to a single underlying deficit,” further validating the idea that this aspect of language with multiple sources will be involved in the function and practice of multiple outlets of language (p. 237).

Using these sources as the foundation to define pragmatics, it can be understood how the practice of speech-language pathology can benefit from incorporating pragmatics into therapy services in an intentional way. While pragmatics occurs throughout every language interaction, there is a way to intentionally focus on improving pragmatic ability. This can help the speech approach therapy services with a holistic focus which can enhance the client’s ability to communicate in activities of daily living (Weiss, 2004, p.44). Realizing how important pragmatics can be to improving a client’s well-being and

quality of life creates a need for speech-language pathologists (SLPs) to show awareness of approaching therapy, which is what this research aims to accomplish.

The way two people interact with each other in the domain of communication and language is the foundation for understanding and creating meaning. According to research from Leahy (2004), discourse from client to clinician and vice versa is crucial to the success of therapy and the rehabilitation that follows this intervention. This research expounds on the principle that therapy is a set of social interactions that are set with the intention of wellness and proves the importance of conscious pragmatics throughout this process.

Previous Analyses of Pragmatics in Speech Therapy

In research on pragmatics in speech therapy, two comprehensive reviews were considered. Both came to harrowing conclusions when pertaining to pragmatics. Studies from Alduais et al. (2022) and Parsons et al. (2017) illustrated the reality of pragmatics targeting and assessment in therapy services.

First, a review on pragmatic impairment, assessments, treatments, and definitions uncovered several pragmatics assessment tools were used “without considering the importance of critically assessing this disorder” (Alduais et al., 2022, p. 34-35). Comprehending all aspects of a specific disorder when it applies to the client is crucial, especially when the disorder relates to pragmatics. Moreover, the literature review from Alduais et al. (2022) finds that the definition of pragmatic language impairment as a topic of “major debate” (p.36). The issue of pragmatics intervention in speech-language pathology arises when clinicians do not realize *how* aware they need to be of pragmatics

targeting to provide effective and efficient therapy services to the client. This knowledge of clinicians' awareness of pragmatics is what this thesis research aims to accomplish.

A systematic review from Parsons et al. (2017) finds similar results from the literature review conducted by Alduais et al. and finds current assessment procedures and therapy techniques, specifically for individuals with autism spectrum disorder (ASD), to be less than ideal. According to Parsons et al. (2017), there was no "evidence for any effective pragmatic language interventions for adolescents with ASD" (p.28). Both reviews indicated clear evidence that the process of applying intentional pragmatic practices in therapy is simply not occurring.

It can prove arduous to effectively target pragmatics in therapy because according to previous research, there is "no one intervention" that has "targeted all of pragmatic language skills" (Parsons et al., 2017, p. 31). As previously discussed, pragmatics impacts and overarches every other component of language. Therefore, it can be naturally inferred that trying to improve a client's pragmatic skills with a singular therapy technique or exercise is impossible and not within the scope of best practices. Utilization of multiple techniques and practices should be expected to target such a complex structure of language.

Current Assessment Techniques

After examining varying viewpoints on pragmatics and how it applies to language theory and language learning, the current assessments and measures of pragmatics revealed how the field of speech pathology is applying theory into practice. Pragmatic knowledge and its impact in each language area is foundational in clinician's knowledge.

Many assessment techniques are available for speech-language pathologists to use for a variety of language or speech sound disorders.

One study by Yuan and Dollaghan (2018) examined the use of current assessment practices to assess social communication disorders because “no assessment tools for social (pragmatic) communication disorder (SPCD) are recommended” (p.647). The lack of social communication assessment tools further proves the need for attention in social and pragmatic aspects of language. Throughout the study, several assessment tools were analyzed for ways they can effectively identify social communication disorders. Yuan and Dollaghan (2018) analyzed nine assessment tools commonly used for pragmatic language impairment. These nine assessment tools included tests such as Children’s Communication Checklist-2(CCC-2), Social and Communication Disorders Checklist (SCDC), Targeted Observation of Pragmatics in Children’s Conversations (TOPICC), and the Test of Pragmatic Language- Second Edition (TOPL-2) among others (Yuan & Dollaghan, 2018). The background knowledge from Yuan and Dollaghan (2018) allows for the creation of the research survey within this thesis. The knowledge provides clinicians with accurate information about assessments they may already be using. Noting the number of assessment procedures that are targeted to pragmatic disorders indicates an understanding of how to view and identify social language in various ways. This is crucial in holistically understanding the client and how other areas of their speech and language may be impacted.

A study from Adams et al. (2015) focused on a case study outlining common assessment tools. Adams et al. used the Clinical Evaluation of Language Fundamentals- Fourth Edition, Core Language, Receptive Language and Expressive Language Scales,

and Targeted Observation of Pragmatics in Children’s Conversations, which provided a basis for clinically used pragmatic measures (Adams et al., 2015). Notably, the study reported therapy techniques associated with social aspects of language. Throughout the study, a new intervention method, Social Communication Intervention Programme (SCIP) (Adams et al., 2015, p.294) was being tested. According to Adams et al. (2015), “A unique characteristic of SCIP is that therapy content is inclusive of social, pragmatic, and language components” which proves to the point that pragmatic targeting in therapy is to be highly catered to the individual sensitive social needs” (p. 305). Considering models such as SCIP for pragmatic intervention therapy is important for recognizing how effective targeting pragmatics can be when considering how complex pragmatics is.

Reviewing the literature regarding current pragmatics assessment and assessment tools is crucial when creating a survey on how clinicians approach pragmatics. For this thesis research to be accurate and valid, generating a thorough survey with legitimate tools from the current field of research is critical.

The Clinician’s Viewpoint

This thesis survey aims to uncover the various viewpoints of current clinicians as it pertains to a myriad of pragmatic issues. Therefore, analyzing previous literature that also surveys clinicians and investigates the impacts of their responses creates a precedent for this thesis research to follow. While the following study does not research pragmatics specifically, the structure and nature of surveying current clinicians aligns with the purpose of this thesis survey.

One research study from Randazzo (2019) was very influential in the foundation of this thesis research. Randazzo’s (2019) project surveyed practicing clinicians’ views of

Childhood Apraxia of Speech (CAS). Clinicians who were specializing in CAS were asked questions about their experience and treatment approaches., finding that the “results of this survey suggest new avenues of research that would be beneficial in understanding current clinical practice in the area of CAS” (Randazzo, 2019, p.1668). Valuable insight was garnered from this student about SLP’s mindsets towards CAS. The aim for this thesis research is to use Randazzo’s (2019) model of research and apply it to surveying SLP’s concerning pragmatic pediatric therapy services. Using a survey in this manner allows research to reflect how the speech language pathology field is currently operating in their knowledge and how it could be improved. Additionally, a study from Leahy (2004) focused on stuttering in speech therapy, and most importantly, investigated the notion of speech-language pathologists reflecting on an analysis of their work and therapy sessions for ways to improve their practice and conversation. Leahy’s (2004) study will not directly reflect in this thesis in the same way Randazzo’s (2019) will. However, evaluating the results from Leahy’s (2004) study that show the impacts of reflecting on one’s work to lead to advancement in therapy gives merit to this thesis that attempts to mimic the same principles.

Understanding the various viewpoints of pragmatics in previous literature created a foundation for this thesis research that allowed self-reflection from the clinician. Pragmatics is an integral aspect of language. Evaluating the varying ways the current speech-language pathologists understand and assess pragmatics is meaningful for clinicians to improve their therapy techniques. The literature review evidenced not only the importance of pragmatics, but also how important pragmatics is to therapy interactions and how beneficial it is for clinicians to participate in self-reflection.

CHAPTER II: METHODS

The purpose of this project was to gain insight into the views and perspectives of current working speech-language pathologists about their uses of pragmatics in pediatric speech therapy. Uncovering these insights will allow the field to have a better understanding of themselves and a starting point for more reflection on ways to improve therapy for children which can lead to possible changes in what is incorporated into pediatric speech therapy. This will allow children receiving speech services to be able to apply their acquired therapy techniques to real world situations.

Research Question

The questions in this survey were meant to generate answers providing insight into how speech-language pathologists viewed pragmatics. Furthermore, the survey offered information on how they implemented intentional pragmatics techniques in their therapy services. The following research questions generated the questions used in the survey:

R1: How do pediatric speech-language pathologists currently view pragmatics in their scope of practice?

R2: How do pediatric speech-language pathologists implement pragmatics into their therapy sessions in intentional ways?

Research Design

The research data was collected through an online survey, with the purpose of such a design to be convenient for the participant and create increased access to a larger variety of participants. The survey itself was designed to look at the clinician in a holistic way, as well as look at pragmatics in pediatric therapy from multiple angles. Because of

that, the survey was designed to collect quantitative and qualitative data. Multiple choice questions were offered so the participant could answer objectively, as well as several Likert scale questions that allowed the participant to rate their answers quantitatively. Additionally, open-ended questions were added so the participant could voice their own answer in a way that generated qualitative data.

Participants

The main objective of this research was to survey current clinicians who were working with children or who had previously worked with children. The participants were certified speech-language pathologists who consented to taking the survey. Due to the online platform, recruitment was completely virtual. An infographic outlining the survey, participant qualifications, and how to access the survey was shared on a social media group containing speech-language pathologist from various areas. The infographic was shared twice, six weeks apart, and the participants could access and participate in the survey through the QR code found on the infographic or through the link found in the post's description.

Procedures and Instrument

The infographic was shared throughout the social media group and contained a QR code that led to the survey for the participants to complete. Potential participants were offered a consent form at the beginning explaining that no personal information would be gathered or kept, and responses would be anonymous. The survey contained twenty questions and included Likert scales, multiple choice questions, and open-ended questions, as well as general demographic and experience questions at the end of the survey. Research from Randazzo (2019) illustrating clinicians' views on Childhood

Apraxia of Speech inspired and shaped the survey. These questions were referenced and modified to apply to the clinicians view of pragmatics in pediatric speech therapy. The questions involving Likert scales were used to rate agreeance with a statement or to rate how often a particular assessment of method therapy was used.

Analysis

The researcher used descriptive statistics to capture trends within the data. This statistical method was used for quantitative questions, such as the multiple choice or Likert scale questions. The descriptive statistics gathered information on the answer choices that were chosen most or least, as well as percentages of ratings for the Likert scale questions. The open-ended questions were analyzed using a thematic pattern and analysis method, where each answer was analyzed for content and structure. Each open-ended answer was evaluated for key words that were commonly found amongst answers, as well as general themes that appeared in multiple answers. The survey data was viewed as a whole, creating connections across questions where data from one question supported data from another.

CHAPTER III: RESULTS

This survey was designed to investigate clinicians' view of pragmatic skills and pragmatic uses in pediatric speech therapy settings. Clinicians voiced opinions and definitions of pragmatics through their own professional lived experiences in the survey. The survey focused on how clinicians address pragmatics in speech therapy and how they view pragmatics as it relates to established language disorders. Demographics of the survey are presented in the first section. Then, analysis of standard multiple-choice questions is shared followed by the analysis of Likert scale questions. Lastly, qualitative data analysis is presented and evaluated through qualitative content analysis.

Participant Demographics

While there were 21 recorded responses that consented to participate in the survey, the responses with answers to most of the questions were 61.9% (n=13). Of those 13 responses, 100% of the respondents were female, and 92.30% of the respondents were white (n=12) with 7.69% of the respondents being Hispanic/Latino (n=1). All the participants were eligible to partake in the survey, with 84.6% (n=11) of the respondents holding the ASHA Certificate of Clinical Competency and the remaining two obtaining certification in either Speech Pathology Australia, or a member of the regulatory college in British Columbia, respectively. To further contextualize the responses given throughout this survey, the experience level of each clinician, including their clinical fellowship year, was gathered. Most respondents (46.15%, n=6) had been working in the field for over 15 years. Similarly, 30.76% (n=4) of the respondents had been working in the field for 10-15 years, whereas 23.07% (n=3) of the respondents had been working in the field for 1-5 years. Almost 70% of the respondents reported working in the field for at

least 10 years. Many of the respondents were relatively local, with 92.30% (n=12) of the respondents were practicing in the United States/North America, and 7.69% (n=1) practicing in Australia.

Multiple Choice Question Analysis

The respondents were asked to provide the percentage of their specific caseload addressing significant pragmatic issues. Additionally, they were asked the percentage of their therapy goals that measured pragmatic or paralinguistic skills. The majority of the respondents (46.15%, n=6) indicated approximately 25% of their caseload included significant pragmatic issues, with 30.76% of the respondents (n=4) indicating that 50% of their caseload deals with significant pragmatic issues. Interestingly, 3 respondents (23.07%) indicated 75% of their caseload addressed significant pragmatic issues. The majority of the respondents (61.53%, n=8) responded with 25% of their therapy goals specifically targeted pragmatics. 30.76% of the respondents (n=4) indicated that 50% of their goals targeted pragmatics, while only 7.69% (n=1) of the respondents indicated that 0% of their goals targeted pragmatics.

Several questions throughout the survey asked the respondent to indicate views on various statements which pertained to the correlation between pragmatics and varying language issues. Respondents were asked to rate how they viewed the correlation between children with language disorders and children with poor pragmatic skills on a scale of 0-5, with 0 indicating no correlation and 5 indicating a strong correlation. Results showed that 30.76% (n=4) of the respondents rated this question at a 4, just below a “strong correlation.” There were three answers (23.07%) for both the rating of 3 and the rating of 5, which indicated that a majority of the answers were favorable in viewing a

correlation between language disorders and pragmatics concerns. Respondents also rated the statement “pediatric clients with language disorders have difficulties with recognizing social cues or emotions in language” where they were given seven answer choices ranging from “strongly disagree” to “strongly agree.” Many of the respondents, 38.46% (n=5), responded with “strongly agree” while the second most popular answer was “disagree” with 3 responses (23.07%). The remaining five answer choices each had only one response. Next, respondents indicated how strongly they agreed with the statement “Children with language disorders do not possess pragmatic abilities.” Overwhelmingly, most of the responses were either “strongly disagree” (61.53%, n=8) or “disagree” (23.07%, n=3). Furthermore, only one respondent chose “somewhat disagree” and one respondent chose “somewhat agree.” Lastly, respondents indicated how strongly they agreed with the following statement “Children with Autism Spectrum Disorder do not possess pragmatic abilities.” Results showed that 38.46% (n=5) of the respondents indicated “strongly disagree,” 23.07% (n=3) indicated “disagree,” while 15.38% (n=2) indicated somewhat agree, and another 15.38% indicated somewhat disagree. Only one respondent indicated “agree.”

The respondents were asked to choose between three definitions of pragmatics. The definitions were “Communication that focuses on goal-consistent language use in social contexts (N. Nelson, 2010),” “Pragmatics is what you get when entities such as language, social cognition, memory, intention and inferential reasoning collide in socio-culturally situated human interaction, rather than being instantiated or uniquely grounded in any single one of these ” (Perkins, 2005) or “A branch of linguistics that is concerned with the relationship of sentences to the environment in which they occur” (Merriam-

Webster, n.d.). The purpose was to gauge how clinicians viewed one definition of pragmatics compared to the variety of other existing definitions. Evaluating the respondents viewpoints on varying pragmatic definitions gives a greater context for evaluating other questions throughout the survey. Overwhelmingly, 84.61% (n=11) of the respondents indicated agreement with the second definition of pragmatics the most, which combines the social, linguistics, cognitive, and reasoning aspects of pragmatics together. Additionally, 15.38% (n=2) of the respondents indicated the most agreement with the first definition, which places pragmatics in a social context and less of a holistic context. None of the respondents indicated they agreed with the last definition of pragmatics.

There were three questions addressing the clinician's education and continuing education throughout their career. The first question asked how strongly they agreed with the following statement "My undergraduate/graduate training as an SLP addressed pragmatics in language and therapy." The purpose of this question was to further contextualize the respondents' answers for other questions, and possibly shed light on current training. Respondents were given five answer choices, ranging from "strongly disagree" to "strongly agree." Surprisingly, the answers were relatively varied. Most of the respondents indicated "somewhat disagree" (38.46%, n=5), and 30.76% (n=4) of the respondents indicated "somewhat agree," while only 15.38% (n=2) indicated "strongly disagree." One respondent indicated "neither agree or disagree" and only one respondent indicated "strongly agree." The next two questions were concerned with Continuing Education (CE) hours, specifically regarding pragmatics. One question asked if the respondent has participated in CE hours regarding pragmatics, where 46.15% (n=6) of the

respondents indicated “no,” and 53.84% (n=7) of the respondents indicated “yes.” When asked how many of their CE hours were related to pragmatics, the respondents had four answer choices, “0,” “1-5,” “5-10,” and “10+.” The survey indicated 38.46% (n=5) of the respondents indicated “0,” which aligns with data from the previous question.

Additionally, 23.07% (n=3) indicated they had participated in 1-5 hours, while another 23.07% indicated they had participated in 10+ hours. 15.38% (n=2) of the respondents indicated they participated in 5-10 hours of CE that related to pragmatics.

Likert Scale Analysis

Throughout the survey, three questions used a Likert scale to ask the respondents about their therapy assessment and treatment techniques. Those three questions will be analyzed in the next section. These responses allowed the respondents to further explain their familiarity with and use of pragmatic skills in therapy settings.

The Likert scale question asked the clinician to rate how often they used various assessment tools in their therapy practice. All the assessment tools listed as a rating choice involved assessment for pragmatics. The respondent rated each item from a scale of 0-5, with 0 representing the respondent was not aware of the assessment tool/never used said assessment tool, and 5 representing the respondent always used said assessment tool. The results of the Likert scale for this question are listed in Table 1.

Table 1

Rating the frequency of use of various Pragmatic Assessment methods

Assessment Method	n	0	1	2	3	4	5
TOPL-2 (Test of Pragmatic Language-2 nd Edition)	13	61.53%	23.07%	7.69%	7.69%	0%	0%

TOPICC (Targeted Observation of Pragmatics in Children's Conversations)	13	92.30%	7.69%	0%	0%	0%	0%
CCC (Children's Conversation Checklist)	13	61.53%	15.38%	0%	7.69%	15.38%	0%
OWLS-2 (Oral and Written Language Scales- 2 nd edition)	12	33.33%	16.66%	8.33%	33.33%	0%	8.33%
ITPA-3 (Illinois Test of Psycholinguistic Abilities)	13	92.30%	0%	0%	7.69%	0%	0%

These individual scale questions were combined into a Likert scale question to compare the use of each assessment tool simultaneously. The least used assessment tools were TOPICC and ITPA-3, as both had 92.30% (n=12) of the respondents indicating unfamiliarity with the assessment tool/do not ever use it. The OWLS-2 assessment method had 8.33% (n=1) of the respondents indicated 5 on the scale, meaning that assessment method was always used. Interestingly, the OWLS-2 assessment had the most varied answers, with respondents indicating almost every number of the scale. The CCC also received popular ratings, with 15.38% (n=2) of the respondents indicating 4 on the scale of use. For every assessment tool, except for OWLS-2, the majority of the respondents indicated they have not heard of/do not use the pragmatic assessment tool.

The second Likert scale question was formatted similarly. This question asked the respondents about which therapy intervention methods used are targeted specifically

towards pragmatics. The same scale of 0-5 applied to this question as well. The results are summarized in Table 2.

Table 2

Rating the frequency of use of various pragmatic intervention methods

Intervention Method	<i>n</i>	0	1	2	3	4	5
Behavior Interventions	13	23.07%	23.07%	15.38%	23.07%	23.07%	0%
Peer mediated interventions	13	30.76%	23.07%	7.69%	23.07%	7.69%	7.69%
SCORE skills strategy	13	76.92%	15.38%	0%	7.69%	0%	0%
Social Scripts	13	7.69%	23.07%	7.69%	23.07%	23.07%	15.38%

The results for this Likert scale were more varied than the previous question. Most respondents indicated they have never heard of/never use the “sharing ideas, complimenting others, offering help or encouragement, recommending changes nicely, and exercising self-control” (SCORE) skills strategy, with 76.92% (n=10) of the respondents indicating 0 (Vernon et al., 2005). The intervention method with the most respondents who indicated they always use this method was the social scripts method, with 15.38% (n=2) of the respondents indicating 5. One respondent indicated they always use peer mediated interventions in their intervention methods. Peer mediated interventions and the social scripts methods were the most varied, with every option of the scale being selected at least once (there were no levels of the scale that were never selected). Interestingly, the social scripts method also had the least number of respondents indicating they have never heard of/never used that intervention method, with only 7.69% (n=1) of the respondents indicating 0.

The third question asked the respondent to answer how indicative certain statements are of a client exhibiting pragmatic issues. The respondent was asked to answer on a scale of 0-5, with 0 being not indicative at all of issues in pragmatics, and 5 being very indicative of pragmatics. The results are summarized in Table 3.

Table 3

Rating how indicative certain statements are of issues in pragmatics

Statement	<i>n</i>	0	1	2	3	4	5
Client has a hard time maintaining topics in conversation.	13	0%	15.38%	15.38%	23.07%	15.38%	30.76%
Client does not maintain eye gaze.	12	16.66%	16.66%	25.00%	16.66%	16.66%	8.33%
Client regularly replaces certain phonemes or excludes certain phonemes.	13	46.15%	30.76%	7.69%	0%	15.38%	0%
Client has challenges with greetings/ other social interactions.	13	0%	23.07%	7.69%	15.38%	30.76%	23.07%
Client has difficulty with inference skills.	13	7.69%	7.69%	7.69%	23.07%	38.46%	15.38%

This Likert scale question showed clear indications of what the respondents considered to be pragmatic issues. The two statements “Client has a hard time maintaining topics in conversation” and “Client has challenged with greetings/ other social interactions” both had no responses for the 0 of the scale, meaning that all respondents indicated these two statements have at least some indications of pragmatic issues. Additionally, the statement “Client has a hard time maintaining topics of

conversation” had the most indicative rating of pragmatic issues, with 30.76% (n=4) of the respondents rating that statement as a 5 on the scale. Similarly, 23.07% (n=2) of the respondents also rated “Client has challenges with greetings/other social interactions” as a 5. The two points of the Likert scale with the largest percentage answers, indicating that most respondents thought this way, concerned two statements. The first, “Client regularly replaces certain phonemes or excludes certain phonemes,” showed 46.15% (n=6) of the respondents indicated 0 on the scale, meaning that this was not indicative at all of pragmatic issues. The second statement, “Client has difficulty with inference skills,” has 38.46% (n=5) of the respondents rating it as a 4, which is close to being very indicative of pragmatic issues.

Emerging Themes in Open-Ended Questions

The survey contained one open-ended question. It asked the respondent to define pragmatics for children’s language and literacy. The respondents could write as much or as little as they wanted. The open-ended question had ten responses. The purpose of this question was to allow the respondent to freely express their views on pragmatics and how they conceptualized the idea in their own words. This insight helped contextualize many of the answers throughout the survey. Moreover, there were several themes that emerged from the responses. One respondent defined pragmatics as “social use of language” while another respondent defined pragmatics in much more detail, explaining that “Pragmatics are the child’s social skills as they pertain to language, such as how they use verbal and non-verbal language to communicate with others. This starts very young with nonverbal turn taking and attention that creates the give and take required for communication between two people.” This variation in response could be due to time constraints while

answering the question, personality/personal tendencies of each respondent, or their knowledge/experience with pragmatics in children’s language and literacy. Using the Qualtrics software, a word cloud with the most common words across answers was generated and can be seen in Figure 1. The major themes that spanned across multiple answers will be discussed below.

Figure 1

Word cloud based on open ended responses



Social Language and Nonverbal Communication

The first and most important theme was the concept of social language. Out of the 10 open-ended responses, seven explicitly mentioned social skills in some way. One answer, while not directly mentioning social skills, referred to pragmatics as “Communication that serves a purpose of connecting, interacting, or relating to others”

which implied the social use of language through the interactions with others. This running theme should be an obvious one, as the generally accepted definition of pragmatics is the aspect of language that must deal with social communication and interaction. Several of the responses focused on the social use of language as it interacts with others, with many of the responses including nonverbal communication and verbal communication. For example, one response said, “Pragmatics can be described as the social use of language including verbal and nonverbal communication.” Most of these responses that pointed at social aspects of language involve taking language and applying it to everyday situations, as the social situations always involve other people and environments.

Emotional Awareness and Empathy

Another theme emerging from the data was the idea that pragmatics includes emotional aspects of language. This can include knowing how to communicate our own emotions as well as how to understand the emotions others are communicating to us. Two responses explicitly mentioned the emotional aspect of pragmatics, one stating that “pragmatics is the use of multi-sensory language input in social / everyday situations which includes emotion / empathy / exchange / and direct functional results” and another stating “Social interactions and ability to interact with others while using language in social situations. This includes the ability to identify feelings and interpret emotions.” This theme was slightly unexpected, but understandable in nature, as many of our social interactions involve emotional connotations. This theme of emotional awareness involves being able to understand the message being conveyed to you by others, which would aid in social competencies in language.

Pragmatics as it interacts with Semantics

The last major theme extracted from the data was the idea of pragmatics interacting with semantics. Many of the responses centered around making meaning out of another's communication and being able to clearly communicate their own meaning. This meaning making skill is a clearly defined aspect of pragmatics, as communicating effectively aids in social interaction. However, this same ability also has major overlapping themes with the semantic aspect of language, involving how the listener and communicator are creating meaning based on their social perceptions of the environment and the other person. Several of the responses pointed towards semantics stated, "Speaking what they want/mean" or "where use of language gives child access to the environment around them and meaningful exchanges with peers that are reciprocated." These responses viewed pragmatics as a tool giving meaning to their social interactions and communication exchanges.

Neurotypical Pragmatics vs. Neurodivergent Pragmatics

There were two responses delineating the differences between neurotypical pragmatics and neurodivergent pragmatics, or how a child may strive to achieve neurotypical pragmatic interactions. One response stated, "Neurotypical skills demand a rigid set of 'social skills' that many children don't have because of their neurotype" while another stated "A child's want to learn why other neurotypes may react the way they do when the child does something that is considered "different" from the neurotypical standpoint." These two responses indicated a few participants understood the difficulties that might face neurodivergent children with language disorders as they navigate not only the complexities of their own language, but also how to apply it to the highly complex

and nuanced social interactions experienced daily. Understanding struggles in pragmatics demands a look at what social interactions are considered neurotypical and which ones are not.

Overall, these major themes revealed that the respondents view pragmatics as a social aspect of language that involves multiple layers of semantics and emotional intelligence. Most of these pragmatic skills give rise to how the child interacts with the people and the environments around them, which may be a struggle for children who struggle with disordered language or have a type of neurodivergence. This struggle with communicating is supported by the research from Damico & Nelson (2005) as they observed participants who dealt with problematic behaviors in communication due to autism. The thesis results highlighted the complex layers of cognition, social skills, and language skills involved in pragmatics. Realization of pragmatic complexity can help clinicians understand the challenges neurodivergent patients face. Encouraging clinicians to view pragmatics through both a neurotypical and neurodivergent lens could change assessment and treatment practices in a positive way. Furthermore, this lens can improve the clinicians' understanding and build from those language skills, allowing for further advancement of pragmatics targeting therapy.

CHAPTER IV: DISCUSSION

The purpose of this study was to investigate how clinicians view pragmatic issues and language disorders. Data from the survey revealed that most of the participating clinicians understand the connection between pragmatics and other language disorders but lack a complex understanding of how to implement pragmatics assessment and treatment. Responses indicated an understanding of the prominent connection between poor pragmatic skills and language disorders while noting that children with language disorders still possess some type of pragmatic ability. This concept is a highlighted viewpoint of Damico and Nelson (2005) in which pragmatics is placed on a spectrum arguing that pragmatic ability is present at some capacity in every child. According to survey responses, this positive viewpoint regarding pragmatic skills from a spectral lens is due to the Continuing Education hours that many clinicians earn on an annual basis. Likert scale ratings regarding the common indications of pragmatic issues (difficulties with eye contact, maintaining topic conversations, social interactions, and inference skills) revealed clinicians could identify how pragmatics impacts social language and conversation skills. These responses illustrated foundational understanding of how poor pragmatics skills can impact children with language disorders. Open-ended responses contained explanations about how pragmatics is applicable to communication holistically and where pragmatics use can be identified in verbal or nonverbal skills. Furthermore, these responses revealed understanding of neurotypical pragmatic abilities as opposed to neurodivergent pragmatic abilities, making it clear that pragmatics skills can change with varying neurotypes, but being neurodivergent does not implicate a complete lack of pragmatic ability, rather a difference in pragmatic use.

Survey data also revealed a separate, contrasting narrative concerning the application of pragmatics in speech therapy. Likert Scale questions addressing use of pragmatic assessment tools and pragmatic intervention methods (TOPL-2, TOPICC, OWLS-2, behavior intervention methods, social scripts, peer mediated intervention) revealed that clinicians do not know about or use many of the pragmatic assessment techniques and assessments available. Results indicated more awareness of pragmatic intervention methods than pragmatic assessment tools, evidencing a gap in the knowledge of pragmatic skills and the application of that knowledge is still present. This absence of understanding could be an effect of poor teaching at the undergraduate level. Respondents indicated undergraduate courses did not always prepare clinicians about pragmatic impacts on language and social interactions. Results indicated respondents can identify the signs of poor pragmatic skills. However, there is a lack of use and/or knowledge in how to test and objectively identify these issues. This can lead to ineffectiveness in clinical settings, when the patient may need more focused pragmatic intervention, but the clinician lacks the effective tools for this situation. This knowledge to application gap was the primary focus of the survey. Surveying clinicians revealed how respondents viewed pragmatics, its importance in the therapeutic process, its presence with neurodivergent language systems, and where those views were lacking or not implemented. Analyzing this knowledge allows clinicians and the speech language pathology community to reflect on ways to improve the implementation of pragmatic assessments and interventions.

Limitations

Although this survey provided insightful and useful data, the limitations from the research should be addressed. The survey gathered a limited number of responses, all of which were female. Having all female respondents fairly represents the overall ration of female to male SLP in the US, with females making up 95.2% of the workforce and men being only 4.76% of the workforce (“Speech Language Pathologists, n.d.). This limited number of responses could impose a potential bias on the nature and variety of the responses, but offered insight into the limited sample nonetheless. Evaluating responses while understanding the demographics of the responses collected creates a space for results to be shared and analyzed without overgeneralizing these results to the entire SLP community.

Implications

Comparing these results to previous literature, it is clear respondents understood the spectrum of pragmatics, as seen in research by Damico and Nelson (2005), which approached pragmatics with the idea that all communication attempts, regardless of their efficiency, have pragmatic value. However, there could be improvements in the application of knowledge, which is consistent with the information about the lack of pragmatic assessments from Yuan & Dollaghan (2018). Future research should be conducted to allow more insight into how pragmatics relates to communication skills as a whole. Further research could also improve the efficacy of identifying and targeting poor pragmatic skills.

CHAPTER V: CONCLUSION

Moving forward, clinicians can utilize this data to better understand their own practices and understanding of intentional pragmatic intervention in therapy. This study was designed to evaluate the clinician's view of pragmatics skills, interventions, and assessment tool knowledge in speech therapy. Moreover, drawing on these views to identify areas in need of improvement in practice is imperative. As hypothesized, a lack of application of pragmatic assessments and interventions do exist. Surprisingly, findings showed a remarkable understanding of the pragmatic complexities, where respondents indicated a firm belief that the presence of a language disorder or autism spectrum disorder did not automatically negate all pragmatic skills. To elaborate, clinicians showed a standing viewpoint where all clients are capable of improving pragmatic skills and abilities, even if these skills are impaired in some way by some other disorder. To enumerate, increasing sample size and use of deeper qualitative methods can add to the existing research and current knowledge base. Using this data to further contextualize the knowledge of the SLP community can allow participants and researchers to better develop their own clinical skills.

APPENDIX A: RESEARCH SURVEY AND INFOGRAPHIC

Project title: Understanding the Clinician's View of Pragmatics in Pediatric Speech Therapy

Protocol Number: 23-0107

Principal Investigator: Shelby Oliver

Phone:(251)689-0113

Email: shelby.R.Oliver@usm.edu

College: Nursing and Health Professionals

School and Program: Speech and Hearing Sciences

1. Purpose: The project aims to investigate current speech-language pathologists and their view and perception of pragmatics in pediatric speech therapy. Pragmatics involves the social aspect of language, the application and use of language in practical ways. In a therapy setting, pragmatics is vital to children's improvement both inside the therapy clinic and outside of the therapy clinic. A simple survey/questionnaire will be dispersed to certified SLPs in order to poll their perspectives and views of pragmatics.

2. Description of Study: This study will be conducted through an online survey that should take no more than 15 minutes to complete. The results of this survey will be analyzed once all results are collected. This survey is available for the participant to complete completely virtually, with no direct contact to the researcher. All answers will be anonymous.

3. Benefits: The participants of this survey will benefit from being in a field that better understands pragmatics once the results of the study are analyzed.

4. Risks: There are no known physical, psychological, social, or financial research-related risks, inconveniences, or side effects (expected and potential).

5. Confidentiality: Data from the survey will not collect names. Data will be stored on Shelby Oliver's password protected, encrypted, personal Macbook laptop. Data will be deleted at the end of the project.

6. Participant's Assurance: This project and this consent form have been reviewed by the Institutional Review Board, which ensures that research projects involving human subjects follow federal regulations. Any questions or concerns about rights as a research participant should be directed to the Chair of the Institutional Review Board, The University of Southern Mississippi, 118 College Drive #5125, Hattiesburg, MS 39406-0001, 601-266-5997.

Any questions about this research project should be directed to the Principal Investigator using the contact information provided above.

I understand that participation in this project is completely voluntary, and I may withdraw at any time without penalty, prejudice, or loss of benefits. Unless described above, all personal information will be kept strictly confidential, including my name and other

identifying information. All procedures to be followed and their purposes were explained to me. Information was given about all benefits, risks, inconveniences, or discomforts that might be expected. Any new information that develops during the project will be provided to me if that information may affect my willingness to continue participation in the project.

CONSENT TO PARTICIPATE IN RESEARCH By selecting “yes” below, I give my consent to participate in this research project. If you do not wish to participate in this study, please select “no” as the answer for the following question.

Do you consent to taking part in this survey and answering the questions in full?

Yes

No

1. What percentage estimated of your caseload deals with significant pragmatic issues?

0%

25%

50%

75%

100%

2. Please rate how you view the correlation between children with language disorders and children with pragmatic issues (0= no correlation, 5= strong correlation)

- 0
- 1
- 2
- 3
- 4
- 5

3. Please rate how often you use these assessment tools with clients as they pertain to pragmatics (0= not aware of technique/never, 5=always)

	0	1	2	3	4	5
TOPL (Test of Pragmatic Language)						
TOPICC (Targeted observation of pragmatics in children's conversations)						
CCC (Children's Conversation Checklist)						
OWLS (Oral and Written Language Scales)						
ITPA-3 (Illinois Test of Psycholinguistic Abilities)						

4. Please indicate how much you agree with the following statement: “pediatric clients with language disorders have difficulties with recognizing social cues or emotions in language”

- Strongly disagree
- Disagree
- Somewhat disagree

Neither disagree nor agree

Somewhat agree

Agree

Strongly agree

5. Please indicate how much you agree with the following statement: “Children with Language Disorders do not possess pragmatic abilities.”

Strongly disagree

Disagree

Somewhat disagree

Neither disagree nor agree

Somewhat agree

Agree

Strongly agree

6. Please indicate how much you agree with the following statement: “Children with Autism Spectrum Disorder do not possess pragmatic abilities.”

Strongly disagree

Disagree

Somewhat disagree

Neither disagree nor agree

Somewhat agree

Agree

Strongly agree

7. Please indicate which therapy techniques you use and or have used for pragmatic abilities and how often you have used them (0= not aware of assessment/never, 5= always)

	0	1	2	3	4	5
Behavior Interventions						
Peer mediated interventions						
SCORE skills strategy						
Social Scripts						

8. What percentage of your therapy goals are targeted specifically towards pragmatic and/or paralinguistic skills?

0%

25%

50%

75%

100%

9. Please indicate which definition of pragmatics you agree with the most.

- communication that focuses on goal-consistent language use in social contexts (N. Nelson, 2010)
- Pragmatics is what you get when entities such as language, social cognition, memory, intention and inferential reasoning collide in socio-culturally situated human interaction, rather than being instantiated or uniquely grounded in any single one of these.
- a branch of linguistics that is concerned with the relationship of sentences to the environment in which they occur

10. Please rate the following statement based on how much you agree with it: "My undergraduate/graduate training as an SLP addressed pragmatics in language and in therapy"

Strongly disagree

Disagree

Somewhat disagree

Neither disagree nor agree

Somewhat agree

Agree

Strongly agree

11. Have you participated in any type of Continuing Education in regards to pragmatics?

Yes

No

12. How many CE hours have you participated in that relate to pragmatics?

0

1-5

5-10

10+

13. For the following statements, how indicative are they of pragmatic issues in social situations and/or language? (0= not indicative at all, 5= very indicative)

	0	1	2	3	4	5
Client has a hard time maintaining topics in conversation						
Client does not maintain eye gaze						
Client regularly replaces certain phonemes or excludes phonemes						
Client has challenges with greetings/ other social interactions						
Client has a difficulty with inference skills						

14. In your own words, what is your definition of pragmatics in children's language and literacy?

15. Please provide your gender

Male

Female

Non-binary/ third gender

Prefer not to say

16. Please describe your ethnicity/race

African American

Hispanic/Latino

White

Asian

Other _____

17. Are You ASHA Certified with a Certificate of Clinical Competence (CCC)?

Yes

No

18. If you are not ASHA certified, what clinical certification do you possess?

19. Please identify how long you have been working as Speech Language Pathologist
(including CFY)

Less than 1 year

1-5 years

5-10 years

10-15 years

Over 15 years

20. Please select approximately where you are currently practicing.

United States/North America

Europe

South America

Asia

Australia

Africa

Other_____

A CLINICIANS VIEW OF PRAGMATICS IN PEDIATRIC SPEECH THERAPY

THE UNIVERSITY OF SOUTHERN MISSISSIPPI

Are you a licensed SLP?

Have you worked with children?

Do you currently work with kids?

Scan the QR code to fill out our short survey and contribute to our study!

This survey seeks to learn about clinicians views, experiences, and opinions on pragmatics in pediatric speech therapy.

CONTACT: SHELBY OLIVER
EMAIL: SHELBY.R.OLIVER@USM.EDU
IRB NUMBER: 23-0107
THIS IRB HAS BEEN APPROVED BY USM'S IRB

APPENDIX B: IRB APPROVAL LETTER

Office of
Research Integrity



118 COLLEGE DRIVE #5116 • HATTIESBURG, MS | 601.266.6756 | WWW.USM.EDU/ORI

NOTICE OF INSTITUTIONAL REVIEW BOARD ACTION

The project below has been reviewed by The University of Southern Mississippi Institutional Review Board in accordance with Federal Drug Administration regulations (21 CFR 26, 111), Department of Health and Human Services regulations (45 CFR Part 46), and University Policy to ensure:

- The risks to subjects are minimized and reasonable in relation to the anticipated benefits.
- The selection of subjects is equitable.
- Informed consent is adequate and appropriately documented.
- Where appropriate, the research plan makes adequate provisions for monitoring the data collected to ensure the safety of the subjects.
- Where appropriate, there are adequate provisions to protect the privacy of subjects and to maintain the confidentiality of all data.
- Appropriate additional safeguards have been included to protect vulnerable subjects.
- Any unanticipated, serious, or continuing problems encountered involving risks to subjects must be reported immediately. Problems should be reported to ORI using the Incident form available in InfoEd.
- The period of approval is twelve months. If a project will exceed twelve months, a request should be submitted to ORI using the Renewal form available in InfoEd prior to the expiration date.

PROTOCOL NUMBER: 23-0107
PROJECT TITLE: Understanding the Clinician's View of Pragmatics in Pediatric Speech Therapy
SCHOOL/PROGRAM: Speech & Hearing Sciences
RESEARCHERS: PI: Shelby Oliver
Investigators: Oliver, Shelby~Koch, Kelly~LeBert, Amy~
IRB COMMITTEE ACTION: Approved
CATEGORY: Expedited Category
PERIOD OF APPROVAL: 11-May-2023 to 10-May-2024

Donald Sacco

Donald Sacco, Ph.D.
Institutional Review Board Chairperson

REFERENCES

- Adams, C., Gaile, J., Lockton, E., & Freed, J. (2015, October). Integrating language, pragmatics, and social intervention in a single-subject case study of a child with a developmental social communication disorder. *Language Speech, and Hearing Services in Schools, 46*(4), 294-311. AHSA Wire. https://doi.org/10.1044/2015_LSHSS-14-0084
- Alduais, A., Majorano, M., Andrés- Roqueta, C., Hamaguchi, P., Persici, V., & Qasem, F. (2022, November). Conceptualizing, defining, and assessing pragmatic language impairment in clinical settings: A scoping review. *Infant and Child Development, 31*(6). Wiley Online Library. <https://doi.org/10.1002/icd.2368>
- American Speech Language Hearing Association. (n.d.). *Social Communication Disorder*. [Practice Portal]. <https://www.asha.org/practice-portal/clinical-topics/social-communication-disorder/>
- Damico, J. S., & Nelson, R. L. (2005, July-August). Interpreting problematic behavior: Systematic compensatory adaptations as emergent phenomena in autism. *Clinical Linguistics & Phonetics, 19*(5), 405-417. 10.1080/02699200400027163
- Leahy, M. M. (2004, January). Therapy talk. *Language, Speech, and Hearing Services in Schools, 35*(1), 70-81. AHSA Wire. [https://doi.org/10.1044/0161-1461\(2004/008\)](https://doi.org/10.1044/0161-1461(2004/008))
- Merriam-Webster. (n.d.). Pragmatics. In Merriam-Webster.com dictionary. Retrieved April 9, 2024, from <https://www.merriam-webster.com/dictionary/pragmatics>
- Parsons, L., Cordier, R., Munro, N., Joosten, A., & Speyer, R. (2017, April). A systematic review of pragmatic language interventions for children with autism

spectrum disorder. *PLoS ONE*, 12(4), 1-37. PLoS ONE.

<https://doi.org/10.1371/journal.pone.0172242>

Perkins, M. R. (2005, July-August). Pragmatic ability and disability as emergent phenomena. *Clinical Linguistics & Phonetics*, 19(5), 367-377.

10.1080/02699200400027155

Perkins, M. R. (2010). Pragmatic impairment. *The Handbook of Language and Speech Disorders*, 227–246. <https://doi.org/10.1002/9781444318975.ch10>

Randazzo, M. (2019, November). A survey of clinicians with specialization in childhood apraxia of speech. *American Journal of Speech Language Pathology*, 28(4), 1659-1672. ASHA Wire. https://doi.org/10.1044/2019_AJSLP-19-0034

Speech language pathologists. Data USA. (n.d.).

[https://datausa.io/profile/soc/speechlanguage-pathologists#:~:text=Employed%20people-.The%20workforce%20of%20Speechlanguage%20pathologists%20in%202021%20was%20169%2C894%20people,39%20years%20\(23%2C572%20people\).](https://datausa.io/profile/soc/speechlanguage-pathologists#:~:text=Employed%20people-.The%20workforce%20of%20Speechlanguage%20pathologists%20in%202021%20was%20169%2C894%20people,39%20years%20(23%2C572%20people).)

Vernon, S., Schumaker, J. B., & Deshler, D. D. (2005). *SCORE Skills Professional Development Workshop (Manual and Digital Program)*. Edge Enterprises Inc. .

<https://edgeenterprisesinc.com/product/score-skills-professional-development-workshop-manual->

[cd/#:~:text=The%20SCORE%20Skills%20are%20five,Nicely%2C%20and%20Exercising%20Self%20Control.](#)

- Weiss, A. L. (2004, January). Why we should consider pragmatics when planning treatment for children who stutter. *Language, Speech, and Hearing Services in Schools*, 35(1), 34-45. ASHA Wire. [https://doi.org/10.1044/0161-1461\(2004/005\)](https://doi.org/10.1044/0161-1461(2004/005))
- Yuan, H., & Dollaghan, C. (2018, May). Measuring the diagnostic features of social (pragmatic) communication disorder: An exploratory study. *American Journal of Speech Language Pathology*, 27(2), 647-656. ASHA Wire. https://doi.org/10.1044/2018_AJSLP-16-0219