

NAVIGATING THE UNKNOWN

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Strategies Used in Unfamiliar Specialized Settings:

A Comparison between Demand Control Schema

Trained and Untrained Interpreters

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ABSTRACT

The profession of interpreting is unique in that interpreters are exposed to a plethora of industries and therefore must be moderately familiar with the various elements of these different professions. While familiarity and knowledge serve to inform effective interpretation, approaches to managing the unfamiliar are required in some instances. Even within specialized settings, unfamiliar references come to bare. That said, for interpreters to be efficacious, they must have enough working knowledge of the environment and the individuals involved to facilitate communication between the parties. Interpreters “bridge the gap” between individuals who use different languages and come from different cultural backgrounds. Yet there are times when an interpreter is engaged in an environment where they are entirely unfamiliar. In these situations, interpreters are faced with the challenge of navigating the demands of an unfamiliar environment. Using Think Aloud Protocols (TAP), this study examined strategies used by interpreters to facilitate effective communication in one of these specialized settings – genetic counseling. Specifically, this research explored how interpreters make ethical decisions and prioritize interpreting values when faced with the demands of an unfamiliar, specialized medical situation and compared the metacognitive strategies of interpreters trained in demand control schema (DCS) with those who have not been exposed to this training. Results indicate that interpreters who are well versed in demand control schema are equipped to analyze the interpreting situation more robustly than the untrained interpreter and thus appear to be more skilled at comprehensively navigating the work setting.

Keywords: signed language, demand control schema, think aloud protocols

RESEARCH QUESTIONS

The main research question is, are there are differences in how interpreters trained in DCS versus those who are untrained engage in discourse about professional practice when discussing unfamiliar medical situations? Additional questions addressed in this research are:

- Are interpreters trained in DCS more aware of the potential implications of their decisions than untrained interpreters?
- Which values are considered most frequently by each group?
- What impact, if any, do the interpreters state the unfamiliar content area has on their decision making?
- Is one group more attuned to perceptions of patient and provider (thought-worlds) than the other?

PROBLEM STATEMENT

The profession of signed language interpreting is quite young, only being formally recognized as a professional occupation since the mid-1960's (Dean, 2018). The Registry of Interpreters for the Deaf (RID) was created in the early-1970's in an effort to uphold standards, ethics, and professionalism for signed language interpreters. From the beginning, role metaphors have been used to describe ethical behaviors of the interpreter on the job and remain a powerful influence in interpreting education and practice to this day. One of the most popular and influential metaphors is that of the *conduit*, which emerged out of our shared history with international conference interpreting (Angelelli, 2004, as cited in Dean & Pollard, 2018). It suggests that the interpreter should have no other impact, purpose, or involvement in the situation, apart from message transfer alone. Although the field has adopted other metaphors over the past fifty years,

it has been argued that this restrictive conduit view is still the default role metaphor influencing community interpreting today (as cited in Hsieh, 2006).

According to Dean & Pollard (2018), “metaphors are a device used properly only in regard to descriptive ethics; they are intended to convey, in a broad sense, the behavior of individuals, without evaluating that behavior as desirable or undesirable. However, when metaphors are perceived as behavioral guidance, they are being regarded as a normative ethics device—directing what people should do. Ethicists would regard this use of metaphor as inappropriate. Furthermore, metaphors, when viewed as behavioral guidance, do not provide sufficient guidance regarding the specific situations that interpreters face on a day-to-day basis. Because they are a tool of descriptive, not normative, ethics, it is a misuse (or misappropriation) of metaphors to serve as tools of guidance or evaluation. In other words, you cannot use a metaphor to measure the effectiveness of a decision.”.

That said, interpreter training programs (ITPs) have adopted the use of metaphors in the education and training of signed language interpreters. Traditionally, these programs focus on the technical aspects of the job; those pertaining to the interpretation, such as cultural knowledge and translation considerations, along with a rule-based, right vs. wrong, or deontological approach to ethical decision making (Fritsch-Rudser, 1986). Through both education and practice, the profession of signed language interpreting has codified the importance of not exercising decisions latitude outside of strict linguistic translation decisions (Dean, 2014). ITPs have been inconsistent in curricula and pedagogical theories, resulting in disparity among interpreters regarding decision latitude outside of linguistic considerations (Marin, 2020).

Ethical decisions require thoughtful consideration and reflection of the setting (Fritsch Rudser, 1986). According to Dean (2018), several interpreting scholars have come to identify

specific aspects of these salient contextual factors. These include the content domain of the setting (e.g. medical, legal) the physical surroundings, institutional expectations, participants' dynamics, participant's fund of information, participants' expectations, participants' mind-sets, etc. (Corsellis 2008; Dean and Pollard 2001; Hale 2007). As a result, a decision cannot be evaluated as ethical unless it is examined within its broader context (Dean and Pollard 2011; Mandelbaum 1955; Rest 1984 as cited in Dean, 2018). More recent scholars in the interpreting field have emphasized the importance of a teleological view of ethics, one that evaluates ethics based on outcomes and results in context (Curtis, 2017). The art of interpreting requires a holistic approach to each situation including:

- technical skills involving language choice
- cognitive strategies including ongoing analysis of the content being discussed
- interaction among discourse participants
- cultural knowledge
- and the flexibility to work in a dynamic environment requiring moment-by-moment decision making.

These salient elements comprise the hallmark of practice professions such as medicine, law, teaching, counseling, and interpreting (Dean & Pollard, 2005).

ITPs have failed to impart the critical reasoning skills needed to manage the unpredictable nature of the encounter and moment-to-moment decision junctures of the job (Dean and Pollard, 2011). New graduates enter the field and begin interpreting in specialized settings such as medical without any additional training. Interpreters learn to make decisions in-vivo, or on the job, which, often leads to the application of an inconsistent combination of rule-based (deontological) ethics modeled on what was taught in their ITP and value-based (teleological) ethics, depending on the

situation. This approach tends to be reactive rather than proactive; interpreters react to ethical dilemmas as they occur. Ethicists caution against using a combination of ethical approaches as it convolutes the reason one is making a decision (Dean, 2018). “When defining the ethics of a practice profession, Dean and Pollard (2011) argued that it is the term *responsibility* and not *role*, that is the necessary ethical construct, one which conveys the obligations of the professional. The term *responsibility* broadens the scope of ethical behavior within professional practices, rather than narrowing or constraining it, as the term *role* implies” (Marin, 2020).

To add more complexity, laws such as the Americans with Disabilities Act (ADA) and the Affordable Care Act (ACA) have created required minimum standards for signed language interpreters working in both general and specialized settings, such as legal, education and healthcare. National certification awarded by the Registry of Interpreters for the Deaf (RID) and state licensure provide a structure for measuring these minimum standards. However, aside from a basic certification to qualify interpreters as minimally 'competent', there are no additional standards required to interpret in specialized healthcare settings. The Certification Commission for Healthcare Interpreters (CCHI) and the National Board of Certification for Medical Interpreters (NBCMI) provides certification for spoken language interpreters in healthcare. Both entities offer a partial medical certification for signed language interpreters, however, this does not include an assessment of interpreting skill. Currently, there is no requirement or recommendation from any entity for additional education in specialized settings. For those interpreters who choose to participate in medical trainings, if and/or how they apply the information learned is arbitrary. This discretionary approach to medical interpreting has a negative impact on Deaf patients, does a disservice to the medical professionals with whom interpreters work, and has a negative impact on the growth and skill development of the healthcare interpreter.

In healthcare environments, interpreters encounter demands such as traumatic life events, an imbalance of power, complex concepts, ethical dilemmas, and convoluted interpersonal dynamics. Healthcare interpreters provide services in and, thus are expected to be familiar with, a variety of specialized settings, such as cardiac, oncology, genetics, nephrology, and palliative care. However, there are times when interpreters are assigned to settings in which they are unfamiliar. When healthcare interpreters employ a deontological approach to decision-making on the job, they are less likely to recognize the goals of the provider, the complexities of the healthcare environment, and the potential outcomes of the situation (Dean, 2018). Thus, healthcare interpreters have the ethical responsibility to make proactive decisions throughout an encounter. In addition, many ethical dilemmas can be avoided by following a consequences-based decision-making process. (Dean and Pollard, 2013). One system of practice to accomplish this is through the incorporation of demand control schema in one's work.

EPISTEMOLOGICAL APPROACH

Theoretical Framework

The theory of demand control schema (DCS) has gained popularity among signed language interpreters over the past few years. DCS is a theoretical framework that allows interpreters to discuss their work, in familiar and unfamiliar settings. It operationalizes teleological ethics and allows for a proactive approach to ethical reasoning through a procedure of dialogic work analysis which reflects on the ongoing, context-based dialogue occurring between interpreter and consumers (Dean and Pollard, 2006). This approach provides interpreters with the flexibility to manage job stressors and consider a broad range of consumer-focused outcomes that could occur as a result of the dynamics and requirements of the job. In other words, DCS is a tool that enables

the interpreter to analyze the demands of a situation, discuss the control options available and understand why certain values were prioritized.

In this research, the following contextual factors are identified and compared among the two groups:

Demands: any factor in the assignment that rises to a level of significance where it impacts interpreting work. These are categorized as:

- *Environmental*: Tend to be observable and concrete - answers where, who & why questions
- *Interpersonal*: Specific to the interaction of the provider, patient, and the interpreter. Thought-worlds of patient and provider are also included in this category.
- *Paralinguistic*: Specific to the quality of the expressive language of the deaf and hearing individuals
- *Intrapersonal*: Thoughts, feelings or physical states of the interpreter

Controls: Responses to job demands, including observable responses, such as behavioral actions and specific translation decisions, or unobservable, such as the interpreter's thought process. Controls encompass any and all resources that the interpreter brings in response to job demands and can occur before, during or after the assignment.

Think-Aloud Protocol (TAP)

The data elicitation method is known as *thinking aloud* or *concurrent verbalization*, meaning that subjects are asked to perform a task and to verbalize whatever crosses their mind during the task performance. The written transcripts of the verbalizations are called think-aloud protocols (TAPs) (Jääskeläinen, 2010). Think-aloud has become a rigorously controlled method

of eliciting data on cognitive processes (Ericsson & Simon, 1984/1993), such as problem-solving and decision-making processes. One advantage of the TAP for task analysis is that it offers insight into the subject's immediate focus throughout the task. Additionally, translation students participating in a TAP have become more aware of their metacognitive processes and develop insight into how they can improve their work (Russell, 2014). Ericsson and Simon (1993) emphasize that the researcher must refrain from telling subjects how to verbalize, and simply allow them to speak freely in order to avoid cueing specific thought processes (Russell, 2014). Thus, there was very little interference from the researcher aside from clarification or logistical questions.

Professional Values

The National Code of Ethics for Health Care Interpreters (NCIHC) is grounded on three core values: beneficence, fidelity, and respect for the importance of culture. These core values form an overarching set of ideals that infuse the work of the health care interpreter (NCIHC, 2004). The Association of Visual Language Interpreters of Canada (AVLIC) also has an extensive list of professional values for interpreters. (Code of Ethics and Guidelines for Professional Conduct, AVLIC). Similarly, the Registry of Interpreters for the Deaf (RID) Standard Practice Paper on Healthcare Interpreting (RID SPP, 2007) outlines the values of linguistic and cultural communication in addition to the tenants outlined in the Code of Professional Conduct (CPC). The introduction of the CPC coincided with a new certification test for American Sign Language-English interpreters, the National Interpreter Certification (NIC), which consisted of performance tests and an ethical interview; candidates must pass all sections of the NIC in order to become a certified member. RID published a grading rubric which in part required the participant to identify the consequences of their chosen solution to the scenario-based ethical dilemma (Dean and Pollard, 2009). This consequentialist theme within the ethical portion of the new certification test is a

departure from the deontological-framed document (Dean, 2015) and further supports the notion of interpreting as a practice profession. As such, professional values vary based on the unique elements and challenges of the setting.

For the purpose of this research, the most common professional values in healthcare settings were identified from the sources noted above. Note that this list is not intended to represent a complete list of all values in this setting:

- *Accuracy/Language Consideration*: The value of accurate word choice in either ASL or English
- *Health Literacy*: The patient's ability to obtain, access and understand healthcare information
- *Confidentiality*: Respect for patient privacy
- *Rapport/Trust*: This applies to provider-to-patient as well as interpreter-to-service-users
- *Fidelity/Truthfulness*: This applies to the content of what is said as well as the intent behind the message, increasing the chances that the parties will truly understand each other (Moody, 2011). In addition, the RID Code of Professional Conduct states that interpreters possess the professional skills and knowledge required for the specific interpreting situation (RID CPC, 2005).
- *Neutrality/Impartiality*: The value of remaining unbiased with regard to participants involved and topics being discussed
- *Autonomy/Non-interference*: Respect for the patient's right to make healthcare decisions for his/herself.

METHODOLOGY

Participants

Following approval from Rochester Institute of Technology's Institutional Review Board to ensure no harm would come to the human subjects in this research, participants were recruited for this study utilizing a non-probalistic, convenience sampling approach (Hale & Napier, 2013). The researcher specified the characteristics required in order to participate and asked for volunteers from convenience groups in her local area as well as from networks associated with her supervising professor (Hale & Napier, 2013). All participants were initially contacted via email and provided with a brief description of the project; research to investigate strategies used by interpreters in an unfamiliar, specialized medical situation. Additionally, it was explained that participants would not be compensated, and that their names would not be included in the final results of the study.

Two groups of participants were required. Three interpreters with no DCS experience were contacted via email from the researcher's personal local network. These participants had heard the term 'demand control schema' but had no experience applying it in their work. The other group was contacted through networks associated with the Interpreting Institute for Reflection-in-Action & Supervision (IIRAS). IIRAS is an international collaborative designed to promote and advance the practice of quality supervision in interpreting. Participants in this group had experience utilizing demand control schema in reflective practice and supervision sessions.

All six participants were active members of the Registry of Interpreters for the Deaf and were located throughout the country. They each received an email describing the study and asking for voluntary participation with a maximum of a two-hour commitment. Each participant was a nationally certified, hearing, American sign language interpreter with 5+ years' experience working in healthcare settings. Participants became certified between the years 1999-2014. Each

participant had over 11 years of interpreting experience and all participants graduated from an interpreter training program (ITP). None of the participants had personal experience nor interpreting experience in genetic counseling sessions. This study excluded Children of Deaf Adults (CODAs), Trilingual and Deaf interpreters.

To ensure anonymity, the trained participants are listed as T1, T2, T3 and the untrained participants are listed as UT1, UT2, UT3. Each participant completed a limited professional demographic questionnaire (*Table 1*).

Table 1
Limited Professional Demographics

| Demographic | T1 | T2 | T3 | UT1 | UT2 | UT3 |
|---------------------------------|-----------|-----------|-----------|---------------------------------|---------------------------------|-----------|
| Year Certified | 2014 | 1998 | 2008 | 2012 | 2007 | 1999 |
| Years Signing | 11+ years | 11+ years | 11+ years | 11+ years | 11+ years | 11+ years |
| Medical Interpreting Experience | A little | Extensive | Extensive | Comfortable w/ basic encounters | Comfortable w/ basic encounters | Extensive |
| ITP Graduate | Yes | Yes | Yes | Yes | Yes | Yes |
| TAP Length | 49:22:00 | 1:38:41 | 53:23:00 | 49:00:00 | 50:38:00 | 41:35:00 |

Design

A qualitative research design was used to collect data in a specialized medical setting. A detailed discourse comparative analysis was used to determine cognitive strategies employed by participants (Hale & Napier, 2013). For the purpose of this study, cognitive strategies are defined

as the conscious problem-solving approaches to managing the content of an unfamiliar medical situation, the interaction among discourse participants, the potential decisions that could be made by the interpreter, and the influence those decisions could have on the interpretation and outcome. Since these strategies are not directly observable, the researcher accessed the participant responses through a Think Aloud Protocol (TAP), described in the epistemological approach and defined as a verbal, introspective data collection process.

Participants in proximity to the researcher were recorded using a smart phone and participants located in other states were recorded via Zoom, a cloud-based software. Participant recordings were uploaded to mp4 files and imported to an online transcription and dictation software, Wreally Transcribe. The transcriptions were exported to Word documents, which were then compared to the audio recordings for accuracy, corrected where necessary and saved as docx files. The corrected transcriptions were imported to a mixed methods analysis tool designed by VERBI, a software company based in Berlin, Germany. MAXQDA, also cloud-based, enabled the researcher to conduct content analysis of the data. Content analysis is a research method that examines patterns of communication, which is coded then analyzed in a systematic manner. One advantage of using content analysis is that it allows qualitative data to be quantified using statistical methods (Creswell, 2018).

Source Material

A 20-minute fictitious healthcare appointment between a deaf patient and genetic counselor was recorded from the perspective of the interpreter. The recorded session was a meeting to discuss results of genetic testing. The patient's mother passed away at age 60 from breast cancer. Based on this incident, the patient's primary care physician recommended that she meet with a

genetics counselor and receive testing to determine if she has an increased genetic risk of developing breast or ovarian cancer. This meeting is to share results of that test.

The interpretation was removed, and silent pauses were left, thus allowing the participants to imagine themselves as the interpreter. Participants did not interpret the genetic counseling session, but instead used a Think Aloud Protocol (TAP) to verbalize their thoughts as they watched the interaction. Participants were asked to pause and make comments throughout the video. All participants were provided with identical instructions, which were read aloud by the researcher and included examples of when a participant might consider pausing the video:

- Something you're thinking about (personally or professionally) during the session
- Something you notice about the patient or provider
- Something noteworthy about the setting
- Points when you notice factors that may affect the interpretation
- Points when you notice factors that may affect the overall effectiveness of the communication event.

Data Collection

Each participant met one-on-one with the researcher. Identical verbal instructions were provided to each participant and each was allowed a brief opportunity to ask questions. Participants were videotaped verbally commenting on the recorded scenario using the TAP method described in the epistemological approach above. Each TAP was then transcribed for researcher review. No additional follow up time with the researcher was required by participants. The total amount of time each participant spent on the TAP ranged from approximately 41 minutes to 1 hour 39 minutes, with no noteworthy differences between DCS trained and untrained interpreters (*Refer to Table 1*). Utilizing a content analysis technique, the researcher tagged and annotated extracts of

data using constructs present in demand control schema and values most commonly identified in healthcare interpretation scenarios. The content analysis approach makes the qualitative data quantifiable and thus provide a more holistic comparison of the two groups (Dean, 2015). This was accomplished by counting the number of utterances in each category.

RESULTS

Findings

In this section, T and UT denotes the trained and untrained groups. Each TAP was analyzed for elements identified in the scenario including recognized demands, control choices, and prioritization of ethical values. The main research question in this study was, *are there differences in how interpreters trained in demand control schema verses those who are untrained engage in discourse about professional practice when discussing unfamiliar medical situations?* The results of this study suggest there are clear distinctions between the two groups, not only in their ability to make decisions but also in how they articulate why those decisions were made. The meta-cognitive skill of explaining the context-based decision-making process came more naturally to those who have formal demand control schema training. A quantitative comparison is shown in *Table 2*. A qualitative comparison is summarized in *Table 3*.

Table 2
Quantitative Summary of the Data

| Categories Measured | DCS Untrained (UT) | DCS Trained (T) |
|---|--------------------|-----------------|
| Controls | | |
| Pre-Assignment Controls | 6 | 6 |
| Interpreter Traits (i.e. education, experience) | 7 | 15 |
| Assignment Controls | | |
| Action Taken | 26 | 40 |
| Action Refused | 6 | 10 |
| Decision Junction/Indecisive | 20 | 12 |
| Post Assignment Controls | 2 | 1 |
| Demands | | |
| Environmental | 14 | 17 |
| Interpersonal | 32 | 67 |
| Thought Worlds - Provider | 2 | 24 |
| Thought Worlds - Patient | 30 | 33 |
| Paralinguistic | 9 | 8 |
| Intrapersonal | 48 | 34 |
| Potential Resulting Demand | 3 | 11 |
| Professional Values | | |
| Confidentiality | 3 | 0 |
| Language Consideration | 25 | 24 |
| Patient Health Literacy | 9 | 15 |
| Neutrality/Impartiality | 0 | 3 |
| Non-interference | 2 | 7 |
| Fidelity/Truthfulness | 10 | 19 |
| Rapport/Trust | 2 | 14 |
| | | |
| SUM – Total count of utterances | 256 | 360 |
| N = Documents | 3 | 3 |

Table 3

Qualitative Summary of the Data

| Demand Control Schema – Untrained (UT) | Demand Control Schema – Trained (T) |
|--|---|
| Were more indecisive at decision junctures than trained interpreters. | Recognized the pre-assignment control of their own experience and education more than untrained interpreters. |
| Were more focused on Intrapersonal demands than any other potential demands in the scenario. | Able to verbalize more than twice as many interpersonal demands between patient and provider as compared to untrained interpreters. |
| Articulated values around language consideration more than twice as many times as any other value. | Values were more evenly distributed between language consideration, fidelity and truthfulness, patient health literacy and rapport and trust. |
| Were less likely to consider potential resulting demands once control decisions were made. | Recognized almost four times as many potential resulting demands after a control decision was made. |
| Verbalized action taken much more than action refused. | Nearly twice as decisive about taking action. This group recognized both actions taken and actions refused as potential control options. |
| Considered the thought worlds of the patient considerably more than that of the provider. | Considered the thought worlds of both provider and patient, including their goals in the moment. |

Both groups were able to verbalize things they would have done in advance to prepare for this assignment, such as doing research, becoming familiar with specialized medical terminology,

and getting background on the patient's circumstances. The major difference was the meta-cognitive recognition of how these pre-assignment controls could impact the unfamiliar setting. The UT group made comments about their prior knowledge of science or education, while the T group verbalized how this prior knowledge could be applied in this unknown situation, "From my personal experience, I think that's pretty common with doctors" (T1), "I've seen a lot with one-on-one appointments" (T1), "If you know there are three results, you can predict where this is going to go" (T3).

Another difference was how the unfamiliar content area impacted decision making. The UT group made almost twice as many indecisive comments as the T group. UT comments included, "I might ask if she could repeat that" (UT1), "Is this something that I need to know specifically, or can I leave it out because I don't want to interrupt?" (UT1), "what do you do as an interpreter, you just keep going?" (UT2), "I'm thinking how I would interpret that and whether or not I would I would expand on that" (UT3). The UT group recognized potential decision junctures; however, they were conflicted about whether it would be appropriate to respond in one way or another. Although the T group was just as unfamiliar with the setting, they verbalized almost double the number of concrete decisions than the UT group and appeared to be better prepared to evaluate options and potential consequences. There appears to be inconsistency between the two groups in how much latitude they believe they had to make decisions. Considering the training most interpreters have received in their ITPs, it is not uncommon for signed language interpreters to take no action or do nothing when faced with a decision (Dean, 2014).

All of the participants were seasoned interpreters with a decade or more experience. Their knowledge of Deaf culture, the importance of patient health literacy and the professional values that impact interpreters was evident in this area. One notable difference was that all three

comments from the UT group about confidentiality were deontological in context; they were all related to potential HIPAA violations. There were no comments made by either group about the confidentiality associated with discussing the session with a mentor or peer-group for feedback and support, which is common in other practice professions.

The most glaring difference in their comments about professional values was the articulation of rapport and trust. Only two comments were made from the UT group about rapport; one was in relation to interpreter-patient and the other was provider-patient, however, neither of these comments extended to the dynamic between interpreter and provider. Comments from the T group demonstrated awareness of the interpreter as an interlocutor, such as, “Sometimes when I’m interpreting, I will gaze at the hearing person as a way of encouraging the deaf person to look at the hearing person.” (T2), “I feel like this is the type of sensitive situation that you’d want to make sure you do whatever you could to have a very trusting relationship and rapport with the client so they feel comfortable with you, especially being a third party in this situation.” (T1), “Maybe she’s trusting me, as the interpreter, to convey affect so that she understands the effect of the doctor without having to look at her.” (T2).

Both groups identified numerous demands in all four of the demand categories; environmental, interpersonal, paralinguistic and intrapersonal. The T group, being more experienced at recognizing demands, identified more salient contextual factors than the UT group in every category except paralinguistic and intrapersonal. The most compelling differences were in intrapersonal demands and thought-worlds of the participants, which are interpersonal demands and will be addressed first. All but two comments from the UT group aligned with possible thoughts, feelings or judgments about the patient. These included the participant’s impression about the patient’s educational level, emotional state throughout the appointment, and goals or

desired outcome. The T group's comments were more comprehensive in that they included both provider and patient. The T group was more attuned to the provider's communication objectives. Comments included - "I think the genetic counselor probably does this all the time and they want to normalize the patient's feelings and reassure them." (T2), "It could be that she feels like she was overwhelming the patient and she needs to take a step back." (T2), "Doctors try to ground this in the patient's experience or make them feel like they're not the only one who've ever gone through this." (T3).

The researcher noticed that each participant in the UT group ended the TAP expressing feelings of frustration, exasperation, commiseration and emotional flooding. Comments included, "That definitely stressed me out" (UT3), "I would be very upset if the provider said that to me." (UT2), "I'm already annoyed and I'm holding it all in right now." (UT3). Although both groups observed the same situation, the T group was able to recognize these emotions as intrapersonal demands and appeared to process them differently than the UT group. The T group seemed less influenced by their intrapersonal demands and thus expressed them in a more neutral and unbiased manner, such as, "I still feel pretty good about my emotions toward this interaction." (T1), "When I see other people feeling emotional, I tend to take it on a bit and sometimes it's hard for me to say that's them not me." (T2), "I think I'd probably feel exhausted and frustrated. I would feel for both the doctor and the patient, which almost makes it worse because I've just got empathy fatigue." (T2).

In general, participants in the T group were able to identify contextual factors in more complex ways than participants in the UT group.

CONCLUSIONS & RECOMMENDATIONS

Based on this study, it appears that interpreters who are well versed in demand control schema are better equipped to analyze the interpreting situation more comprehensively than the untrained interpreter. In this study, the number of years as a professional interpreter and the interpreter's ITP training seemed to have no impact on the results. This study validated prior research demonstrating that DCS instruction leads to more effective critical thinking skills, including ethical reasoning and greater confidence in decision making skills. (Dean and Pollard, 2009b, Dean *et al.* 2004, Johnson *et al.* 2010) The DCS trained interpreters appeared to be able to separate themselves from their work, thus allowing them to focus less on intrapersonal demands and more on the other demands of the setting. This shift means it is less likely to elicit an emotionally influenced control response from the interpreter and to find more fitting ethical and effective responses. In pursuit of the practice professional goal of neutrality, that is, the lack of personal bias in one's work product, the ability to distinguish between interpersonal and intrapersonal demands is crucial (Dean, 2011).

Additionally, DCS trained interpreters appeared to have meta-cognitive recognition of how control choices could impact the setting enabling them to be better prepared to evaluate options and potential consequences (Dean & Pollard, 2013). It is important to note that control decisions result in the continuous assessment of professional values; one value is prioritized while another is delayed or relinquished all together creating resulting demands. Dean and Pollard (2011) assert that professional responsibility is emphasized with the concept of resulting demands that require new controls. In order to advance beyond experience and gain expertise, interpreters must know how they want to respond why their decision is being employed in this specific context as opposed to making snap judgement and inconsistent decisions.

Finding ways to improve the experienced professional's ability to process the work environment and enable them to learn from their experiences, thus improving decision-making strategies is a vital component of all practice professions. One of the most effective ways to accomplish this is through case conferencing and supervision. Supervision helps interpreters appreciate the broader range of controls they and their colleagues bring to assignments (e.g., patience, confidence, or a unique knowledge-base) and the opportunity to learn new control options from one another. (Dean & Pollard, 2011). In Jenna Curtis' research (2017), she delineates that proposed benefits for practitioners who engage in supervision include: increased critical thinking skills, development of professional identity, enhanced ethical decision-making, and a more thorough understanding of confidentiality in a practice profession (Dean & Pollard, 2005, 2011, 2013,; Judd, 2014; Curtis, 2017). Additionally, Curtis (2017), identifies benefits for the field, as a whole, as ensuring quality service for consumers, moving the field toward a practice profession model, reducing interpreter burnout, and supporting autonomy, agency, and self-determination for interpreters (Dean & Pollard, 2011, 2013). According to Curtis (2017), interpreters who participate in supervision have a different perspective on their work, additional control options in response to demands, a better understanding of decision making and continued learning.

This study supports the notion that interpreters who are well versed in demand control schema are better equipped to analyze the interpreting situation more robustly than untrained interpreters, as a whole. Practice professionals who engage in career-long reflective practice have the opportunity to improve confidence in decision-making, learn from others with different perspectives, and learn to think more constructively about their work. This kind of support would have a positive impact on the signed language interpreter's longevity, resiliency and professional

efficacy in the field of healthcare interpreting. Ultimately, this improves service delivery to the Deaf community. The data from this research could be used to improve and enhance curriculum in interpreter training programs, provide insight to more specific professional development needs and create ongoing structured supervision standards similar to those in other practice professions.

LIMITATIONS & SUGGESTIONS FOR FUTURE RESEARCH

This study utilized a recorded simulation rather than an actual interpretation where participants could be recorded in a natural situation. Participants would have benefitted more from reflection of their own work vs. simply considering what they would do in the provided scenario. The Think-Aloud Protocol provides an approximation of the participant's thought process; however, it is impossible to be certain that what is being verbalized is a complete representation of cognitive processes in their entirety (Kusmaul and Tirkkonen-Condit, 1995).

This study was not triangulated as recommended by Li (2004). The limited timeframe for research prevented the researcher from reviewing the data multiple times with other experts in DCS, which would have ensured accurate coding of the demands, controls and value categories.

Although this is a qualitative study, the sample size used in this research was quite small. Future research would benefit from a larger sample size. The researcher was unable to include subgroups, such as CODAs, Deaf interpreters and trilingual interpreters. More in-depth analysis could occur with a mixed-methods approach to include personal interviews following each TAP.

Additional research is needed on the overlap of interpreter and medical values in interpreted settings. The same research structure could be used for other specialized settings such as mental health, pediatrics, oncology and palliative care.

This research did not evaluate the effectiveness of decisions based on the liberal to conservative spectrum included in the DCS framework. Future research could include an analysis

of the positive and negative consequences of interpreting decisions as well as demand constellations to determine if trained interpreters understand the concept of prioritized ethical decision making and the impact their decisions have on the interpreting situation.

Another suggestion for possible future research, as proposed by Ericsson and Simon in their 1981 article on Protocol Analysis, is to incorporate how participants visually track a situation using eye tracking software. It would be interesting to note whether there are unrecognized intrapersonal demands, such as distractions in a situation, that create concurrent demands for the interpreter that otherwise wouldn't be present. Eye tracking software would provide more insight into the participant's reactions and behaviors when interacting with service users.

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