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Measuring Instrument for Ethical Sensitivity in the Therapeutic Sciences

Alida Naudé and Juan Bornman

ABSTRACT

There are currently no instruments available to measure ethical sensitivity in the therapeutic sciences. This study therefore aimed to develop and implement a measure of ethical sensitivity that would be applicable to four therapeutic professions, namely audiology, occupational therapy, physiotherapy, and speech-language pathology. The study followed a two-phase, sequential exploratory mixed-methods design. Phase One, the qualitative development phase, employed six stages and focused on developing an instrument based on a systematic review: an analysis of professional ethical codes, focus group discussions, in-depth interviews, a review of public complaints websites, and an expert panel review. The development phase culminated in the Measuring Instrument for Ethical Sensitivity in the Therapeutic Sciences (MIEST), a pen-and-paper measure for studying ethical sensitivity in the therapeutic sciences.

Phase Two, the quantitative stage, focused on implementing the MIEST in two different stages. A total of 100 participants completed the instrument. MIEST scores were found to be comparable for all four professions, which confirmed the multidisciplinary usability of the instrument. Participants tended to base decisions

on the ethical principle of beneficence. The MIEST is effective to assess and describe the ethical sensitivity of professionals in the four specified therapeutic sciences. The constructed vignettes also make the MIEST appropriate for use in problem-based learning programs.

INTRODUCTION

Ethical decision making has been one of the main foci in the field of healthcare ethics in the past decade. Concomitantly, there has been a growing call for future ethics studies to be directed at designing methods to measure ethical decision making that include the components of ethical sensitivity, ethical judgement, ethical motivation, and ethical action.¹ Healthcare professionals, including those in the therapeutic sciences, need to know whether they can reliably interpret ethical issues; articulate the norms, values, laws, and codes that govern professional practice; and be able to implement defensible action plans effectively and efficiently.

Ethical sensitivity is an independent component within the ethical decision-making process. Most frameworks and models of ethical decision making explicitly include ethical sensitivity as the critical first step in the process of ethical decision making.² Unless the ethical aspects of a situation are recognized, it is nearly impossible to address any ethical dilemma, for without initial recognition that something is amiss, no ethical problem can be identified.

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Despite a general consensus in the literature that ethical sensitivity is a critical factor in ethical decision making, and that it can be operationalized because of an established and agreed-upon ethical code of a profession, research studies focused on ethical sensitivity in the therapeutic sciences are glaringly absent. An extensive, systematic literature search of five databases—Cambridge, EbscoHost, JSTOR, Sage, and SpringerLink—found a paucity of research that examines the level of ethical sensitivity in the therapeutic sciences including audiology, occupational therapy, physiotherapy and speech-language pathology.³ The 14 empirical studies on measuring ethical sensitivity encountered in the search included the fields of dentistry, business management, nursing, and science. The first ethical sensitivity measurement appeared in 1984.⁴ The measuring instruments used in these studies ranged from interviews with judging panels to various types of surveys. One of the most likely contributing factors for the lack of research in this field relates to the complexity of measuring ethical sensitivity. Bebeau relates the lack of progress in measuring ethical sensitivity to the fact that the process is relatively expensive—as it requires not only the transcription of semistructured interviews, but also the scoring of these transcriptions by trained raters—due to the lack of easy-to-administer and objective measuring instruments.⁵

In view of the above, objective measuring instruments that can be used in the clinical context are needed in healthcare practice.⁶ There are several advantages to using standardized measures of ethical sensitivity. First, they make it easy for individuals who are not specifically trained in ethics to evaluate the ethical sensitivity of a particular group of professionals; for example, an administrator in the healthcare context could measure the ethical sensitivity of therapists as part of their continuing professional development. Second, the work of several individuals can be compared using the same set of standards; for example, the ethical sensitivity of a group of final-year students in the therapeutic sciences can be measured before graduation to determine whether they meet the required minimum exit criteria that would allow adequate service delivery when they start practicing. Without a formalized measure, the evaluator may grade each individual differently, which could lead to biased results. Third, standardized objective measures also maximize efficiency in grading and thereby help to ensure professional accountability.⁷

Measuring ethical sensitivity may (as part of professional reality) reveal some vulnerability that

should be addressed rather than denied. Healthcare professionals would benefit from the information that can be provided by a standardized measuring instrument to promote competence in the ethical decision-making process, since it allows professionals the opportunity to identify their strengths and shortcomings and to compare themselves to their peers as well as to seasoned and exemplary colleagues.⁸ Researchers recognize that vulnerability is necessary for professional growth and for a more holistic consideration of the complexities of professional life and work. Ethical sensitivity relates to being interested in the transformation of “the ways things are” into more just and healthy relations, structures, and ways of thinking, which can lead to increased levels of professionalism and responsible conduct.

Although the available literature provides valuable input regarding ethical sensitivity, it highlights a number of important issues that justify the development of a measuring instrument for ethical sensitivity specifically for the therapeutic sciences.

First, the available studies conclude that ethical sensitivity is case dependent, which implies that the measuring instrument should consider ethical dilemmas relevant and current to the specific discipline.⁹ Second, research indicates a need for multidisciplinary perspectives on ethical sensitivity because multidisciplinary perspectives would make the instrument useful to a wider population and allow for comparison between different professional disciplines. This could lead to insights into ethical behavior and how they are applied within a group.¹⁰ The development of a measure for ethical sensitivity based on a consolidated definition that incorporates agreement from the different therapeutic science professions (regarding the characteristics, boundaries, and consequences of ethical sensitivity) will facilitate optimal knowledge development related to the care and services provided to clients.¹¹

The purpose of this study is twofold: first, it aims to develop a new instrument to measure ethical sensitivity in the therapeutic sciences; second, it aims to pilot the use of this instrument to measure the ethical sensitivity of final-year students in four different therapeutic disciplines: audiology, occupational therapy, physiotherapy, and speech-language pathology.

METHOD

Study Design

A two-phase, sequential, mixed-methods research design was used. This framework is usually

applied in new areas of inquiry¹² and was therefore considered relevant for the current study. It is also effective when developing components of a pluralistic concept such as ethical sensitivity. Hence it was used to explore participants' views with the intent to use the information to develop an instrument and then implement it with a sample from a representative population. The methodology used for the project is summarized in figure 1. The design for this study was reviewed and approved by the University of Pretoria research ethics committee.

Phase 1: Development

The development of a new Measuring Instrument for Ethical Sensitivity in the Therapeutic Sciences (MIEST) was conducted in five stages. The authors first conducted a systematic review to analyze the published literature (Stage 1a). One specific therapeutic science was selected, namely audiology, as audiologists are particularly vulnerable to the changing requirements of the profession that compel them to balance professional obligations and business principles.¹³ The systematic review allowed for a comparison between research-related ethics in audiology and ethics in physiotherapy, as a systematic review on ethics knowledge in physiotherapy had been done with literature published between 1970 and 2000.¹⁴ The systematic review confirmed the need for research in the area of ethical sensitivity, as well as for knowledge on the specific ethical issues that each profession in the therapeutic sciences routinely encounters.

Stage 1b followed, which aimed to develop a summary of ethical codes from all four therapeutic sciences. Ethical codes reflect the ideals that various professional boards hold as necessary for ethical professional practice. The researchers developed a grid of the ethical principles articulated by the professions of audiology, occupational therapy, physiotherapy, and speech-language pathology. They

attempted to build a measure that would embed ethical principles in depictions of acts of unprofessional behavior. This resulted in the identification of four principles common to all professional codes of conduct, namely autonomy, beneficence, justice, and nonmaleficence.

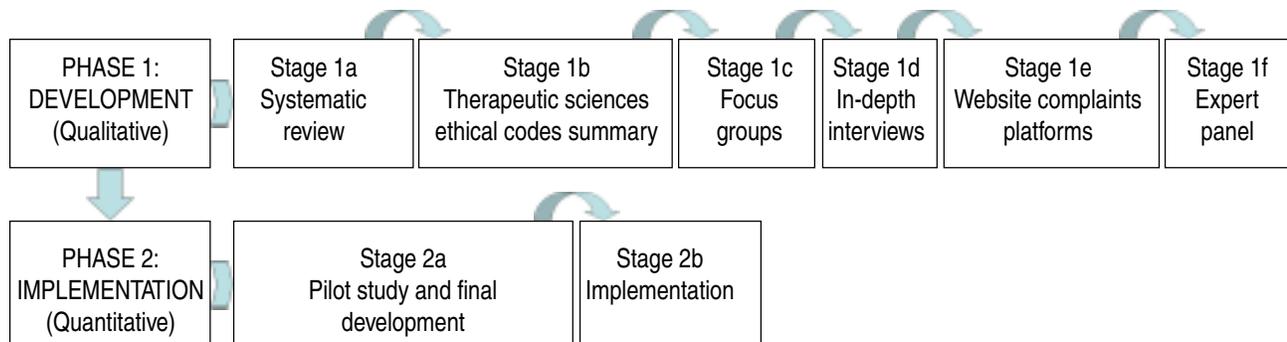
In Stage 1c, five focus group discussions were conducted to determine which ethical dilemmas were viewed as most relevant and likely to result in ethically insensitive behavior in practice. These five separate focus groups consisted of five to eight professionals, with at least one professional from each of the therapeutic sciences. Ethics approval was obtained from the relevant institutions. After being provided with a definition of ethical sensitivity, each focus group discussed the following five aspects:

1. Specific situations in which ethical sensitivity is needed.
2. The ethical challenges currently experienced in their respective professions.
3. Areas or issues that might lead to future ethical problems.
4. The skills that professionals need to deal with these ethical challenges.
5. The kind of vignettes that should be included in a measure for ethical sensitivity.

Each of the five focus group discussions lasted for approximately one hour and all were audio-recorded and transcribed verbatim. The results indicated the importance and relevance of specific ethical principles and skills from the perspective of professionals in the therapeutic sciences.

In addition to the focus group discussions, eight individual in-depth interviews were conducted with two ethics experts in each of the four different therapeutic sciences (Stage 1d). These therapists were not part of any of the five focus groups. However, the same five questions were used as during the focus group sessions. The data added to constructing the

FIGURE 1. Two-phase sequential mixed-method design.



final vignettes by confirming the importance and relevance of specific ethical principles and skills in the therapeutic sciences.

To align the measuring instrument with both the professional and the client dimensions of ethics, Stage 1e aimed to gain insight into the public's perspective of ethical issues in the delivery of therapeutic services. Two online platforms that offer members of the public anonymity were used to identify themes related to clients' complaints. The data obtained represent 165 members of the public.

The collected data (Stage 1a through Stage 1e) were used to construct the first 25 vignettes by following the process of content analysis.¹⁵ A total of 20 vignettes with five ethically neutral ones that served as control vignettes—each vignette targeted one of four ethical principles (autonomy, beneficence, justice, and nonmaleficence) and one of seven ethical skills (controlling social bias, relating to others, taking the perspective of others, effective verbal communication, interpreting ethics in a situation, perceiving and responding to diversity, and understanding emotional expression)—were presented to therapists with expert knowledge of and special interest in the realm of ethics (Stage 1f). The expert panel of eight professionals consisted of two professionals per profession (that is, audiology, speech-language pathology, occupational therapy, and physiotherapy).

During the expert panel review, it became evident that 20 vignettes with five controls were too extensive for a 60-minute measuring instrument. After discussion with the experts, it was estimated that 12 vignettes with three controls would be more reasonable for a 60-minute measuring instrument. To eliminate eight vignettes and two controls, the vignettes in which agreement between the target principle/skill and the experts was less than 75 percent (6 of 8) were excluded from the measuring instrument. An example of two vignettes are shown in table 1: Vignette 5, which was excluded due to

low expert agreement scores (3/8 and 4/8), and Vignette 14, which was included due to high agreement scores (7/8).

In addition to clarity (which was determined by using the expert panel as discussed above), distribution was also considered. All of the vignettes that passed the 75 percent agreement mark were then scrutinized for distribution in terms of ethical principles and ethical sensitivity skills. The four target ethical principles were each presented three times in the 12 vignettes (4 x 3), while each of the seven ethical sensitivity skills were represented twice (7 x 2). Thus, two of the vignettes contained two skills each. Phase 1 resulted in the construction of the MIEST,¹⁶ which consists of 12 vignettes, each stated in a single paragraph. The vignettes are intended to reflect a situation that a therapist might reasonably expect to confront in professional practice, and include at least one ethical principle and one ethical sensitivity skill. The target principles and skills for all vignettes are provided in table 2.

Figure 2 contains an example of a complete vignette, namely Vignette 4.

Development of the Scoring Rules

The final step in constructing the MIEST involved the development of scoring rules. A score sheet was prepared for each of the 12 vignettes. A seven-point Likert scale score sheet (1 = Strongly disagree and 7 = Strongly agree) was used for each of the 11 statements (four related to an ethical principle, and seven related to an ethical sensitivity skill). If the participants correctly identified the target ethical principle, a score of +2 was awarded. If they failed to identify the target principle, they were awarded a score of -2. Negative marking was needed, as identifying an alternative incorrect ethical principle could result in unethical action and would imply the lower ethical sensitivity of the participant. However, the score sheet also included "alternative options," in other words, a nontarget principle that

TABLE 1. Comparison of expert panel opinion regarding principles and skill represented in the vignettes

Vignette	Target principle/skill	AUD1	AUD2	OT1	OT2	PT1	PT2	SLT1	SLT2	Total score
5	Target principle: Justice	x					x		x	3/8
5	Target skill: Controlling social bias			x			x	x	x	4/8
14	Target principle: Autonomy	x	x	x	x		x	x	x	7/8
14	Target skill: Effective communication	x	x	x	x	x	x		x	7/8

Key: AUD = audiologist; OT = occupational therapist; PT = physiotherapist, SLT = speech-language pathologist

could be debated in terms of its relevance, in which case a score of 0 was awarded.

Since the identification of nontarget ethical sensitivity skills in the vignette would not result in an

unethical course of action, negative marking was not implemented as was done with the identification of ethical principles. If the participants correctly identified the target ethical sensitivity skill, they were

TABLE 2. The final 12 vignettes with target ethical principles and skills that make up the MIEST

Vig.	Principles and skills	Reasoning
1	Principle: Justice	The therapist responded in line with society's expectations of what was fair and right in the eye of the law.
	Skills: Perspective taking	The therapist considered possible challenges related to this scenario, as well as implications for the future.
	Interpreting ethics in a situation	The therapist chose an appropriate way of dealing with clients' concerns.
2	Principle: Autonomy	The therapist showed that she respected clients' rights to make their own decisions, as well as the principles of privacy and confidentiality where applicable.
	Skills: Relating to others	The therapist indicated that she was able to competently and skillfully support her clients and show concern, while also understanding what was important to them.
	Emotional expression	The therapist identified and responded appropriately to emotional cues from the client.
3	Principle: Beneficence	The therapist actively brought about positive change, while keeping clients' best interests in mind.
	Skills: Effective communication	The therapist communicated effectively with clients.
	Emotional expression	The therapist identified and responded appropriately to emotional cues from clients.
4	Principle: Nonmaleficence	The therapist acted in a way that actively protected clients from harm.
	Skill: Perspective taking	The therapist indicated that she was able to take the perspective of clients.
5	Principle: Justice	The therapist responded in line with society's expectations of what was fair and right in the eye of the law.
	Skill: Relating to others	The therapist indicated that she was able to competently and skillfully support clients and show concern, while also understanding what was important to them.
6	Principle: Autonomy	The therapist showed that she respected clients' rights to make their own decisions, as well as the principles of privacy and confidentiality where applicable.
	Skill: Effective communication	The therapist communicated effectively with the client.
7	Principle: Beneficence	The therapist actively brought about positive change, while keeping clients' best interests in mind.
	Skill: Emotional expression	The therapist identified and responded appropriately to the emotional cues from clients.
8	Principle: Nonmaleficence	The therapist acted in a way that actively protected clients from harm.
	Skill: Controlling social bias	The therapist recognized her own preconceived judgements and adjusted her actions to be neutral.
9	Principle: Justice	The therapist responded in line with society's expectations of what was fair and right in the eye of the law.
	Skill: Responding to diversity	The therapist took into account the possible cultural differences and perceptions of interpreting a situation when making decisions regarding client assessment and/or management.
10	Principle: Autonomy	The therapist showed that she respected the clients' rights to make their own decisions, as well as the principles of privacy and confidentiality where applicable.
	Skill: Responding to diversity	The therapist took into account the possible cultural differences and perceptions of interpreting a situation when making decisions regarding client assessment and/or management.
11	Principle: Beneficence	The therapist actively brought about positive change while keeping clients' best interests in mind.
	Skill: Controlling social bias	The therapist recognized her own preconceived judgements and adjusted her actions to be neutral.
12	Principle: Nonmaleficence	The therapist acted in a way that actively protected clients from harm.
	Skill: Interpreting ethics in a situation	After considering possible challenges related to this scenario, as well as possible future implications, the therapist chose an appropriate way of dealing with her concerns.

awarded a score of +2. If they identified an alternative possible skill, they were awarded a score of +1. If the skill was not relevant to the vignette, a score of 0 was allocated. The scores were used to determine the participants' level of ethical sensitivity. A

value of 22 reflected the highest possible score (maximum) on the Miest, while a value of -8 reflected the lowest possible score (minimum) on the Miest.

The scoring criteria were developed by determining an acceptable level of performance in con-

FIGURE 2: Vignette 4 of Miest.

Mr. H is a 34-year-old client who makes an appointment for an assessment at a therapy practice. During the case history, he tells the therapist that he has been diagnosed with tuberculosis (TB) but did not go to the hospital for admission. He says that his wife will leave him if she finds out and that he will also lose his job. They recently had a baby and his family is relying on him for financial support. The therapist explains the impact of his diagnosis on others, and that he will have to be admitted to the hospital and this family will have to be notified so that they can also be tested. During the assessment, the therapist ensures adequate ventilation in the room, and both the therapist and Mr. H wear face masks. The therapist uses disinfectant sprays in the consultation rooms as standard practice. The therapist examines the client and refers him to the hospital where he should be admitted. Mr. H tells the therapist that he is going home and that nobody can force him to go to the hospital. The therapist feels sorry for him, but also realizes that it is his decision to make. The therapist ends the session by asking him to contact the practice should his symptoms get worse.

Below you will find 11 statements related to the scenario. Indicate your level of agreement with each sentence on the right by choosing a number ranging from 1-7.

	1	2	3	4	5	6	7
	Strongly disagree	Disagree	Disagree some-what	Neither agree nor disagree	Agree some-what	Agree	Strongly agree
Mr. H							
The therapist recognized her own preconceived judgments and adjusted her actions in a way to be neutral.							
The therapist communicated effectively with the client.							
The therapist acted in a way that actively protected the client from harm.							
The therapist indicated that she is able to take the perspective of her client.							
The therapist indicated that she can competently and skillfully support the client by showing concern while understanding what is important to him.							
The therapist responded in a way that is in line with societal expectation of what is fair and right in the eye of the law.							
The therapist took the possible cultural differences and perceptions of interpreting a situation into account while making decisions regarding client assessment and/or management.							
After considering possible challenges related to this scenario, as well as the implications in terms of the future, the therapist chose an appropriate way of dealing with her concerns.							
The therapist actively brought about positive change with the client's best interest in mind.							
The therapist identified and responded appropriately to the emotional cues from the client.							
The therapist showed that she respected the rights of the client to make his own decisions, respecting the principles of privacy and confidentiality where applicable.							

junction with input from our expert panel. In accordance with the guidelines of the Health Professions Council of South Africa regarding ethics performance, the researcher selected a score of >70 percent as an indicator of established ethical sensitivity skill. Higher education requires a score of >50 percent to pass any assessment, and therefore <50 percent was labelled as unacceptable performance. Since it is recommended in the literature that the distance between points should be equal, performance in the 61 percent to 70 percent range was described as emerging. This level would be acceptable for undergraduate students with limited clinical experience, but with presumably adequate theoretical knowledge. The performance level just below the acceptable performance range was consequently labelled as inadequate. These five performance levels can be used to measure ethical sensitivity, to describe strengths and weaknesses in the professions, and to monitor professional growth.

The five performance levels based on the scoring results of the Miest, as well as the acceptable level of performance, can be grouped as follows:

- Unacceptable (a score of between -8 and 2): This level is unfavorable and, without intervention, serving the community could lead to detrimental outcomes.
- Inadequate (a score of between 3 and 5): Does not yet meet the acceptable standard for insight into the ethical components represented in the 12 vignettes.
- Emerging (a score of between 6 and 11): Meets the acceptable standards for final-year students in the therapeutic sciences. Understanding of the ethical components represented in the 12 vignettes is still developing. Although on the right track, mastery is not thorough.
- Established (a score of between 12 and 17): Demonstrates a sound understanding of many of the ethical components represented in the 12 vignettes and approaches the excellence level.
- Excellent (a score of between 18 and the maximum total of 22): Exceptional insight into the four principles and seven skills represented in the 12 vignettes.

Reliability of Scoring

An independent observer—a dually qualified speech-language pathologist and an audiologist enrolled in postgraduate studies, with 14 years of experience—scored 20 percent of the randomly selected responses obtained from participants who had completed the Miest. These scores from the determined Miest responses were compared with those

scored by the researcher, and agreement was 100 percent.

Phase 2: Implementation

The pilot study was the final step in preparing the Miest for implementation and was used as a small-scale feasibility trial to pretest the measuring instrument in practice. It also served to improve the methodological quality of the procedures and material related to the implementation of the Miest. Eighteen final-year students in the therapeutic sciences were included in the pilot study, after which small changes were made to the Miest, specifically related to the layout and the length.

Once the measuring instrument was refined, the final Miest was administered to 100 final-year audiology, occupational therapy, physiotherapy, and speech-language pathology students at one South African university that offers all four of these professional degree programs. Participants were not limited with regard to the time allowed to complete the Miest, but, as was expected, all of them completed the Miest within the allocated 60 minutes.

Participants

The 100 participants who participated in the main study included 20 audiologists, 30 occupational therapists, 27 physiotherapists, and 23 speech-language pathologists. In terms of gender of representation, 90 percent of the participants were female—there were only one male in the audiology group and nine males in the physiotherapy group. The average age of the participants across the four groups was 22 years (range: 21 to 27 years); 70 percent of the participants reflected that, in their opinion, their ethics training was adequate to equip them for the delivery of professional services. Only 4 percent of the participants stated that they had received additional training over and above the standard graduate training program.

Reliability of Participants' Responses

The likelihood that participants had randomly selected responses was determined with the use of the Excel NORMSDIST function. This standard normal cumulative distribution function was used to test the following hypotheses:

- π_0 Population proportion appropriate of ethical principle from the vignettes = 0.5
- π_0 Population proportion appropriate of ethical principle from the vignettes = >0.5.

The results (0.98 > 0.5) indicated that the likelihood of participant's guessing the correct answers

was low, which increased the reliability of the responses.

RESULTS

The key results of this study are presented in terms of the total scores obtained by participants of the four different therapeutic disciplines. Results are shown for the group as a whole, as well as per therapeutic discipline. The scores were also categorized according to performance levels and ranged from unacceptable to excellent. Specific attention was awarded to results that yielded statistical differences between these four therapeutic disciplines.

PERFORMANCE: OVERALL SCORES AND SCORES PER THERAPEUTIC DISCIPLINE

The total scores obtained by participants in the four different therapeutic disciplines were calculated for each vignette by awarding a value to each answer provided on the measuring instrument. The overall performance of the participants is summarized in table 3. Each vignette was numbered and the target ethical principle and ethical sensitivity skill(s) were specified. The total score was also categorized according to the five performance levels, ranging from unacceptable to excellent. In the case of a significant difference between total scores of the four therapeutic disciplines, the analysis of variance (ANOVA) was used to test H_0 at a 5 percent level of significance (H is the hypothesis; H_0 is the null hypothesis; H_1 is the alternative hypothesis):

H_0 The population mean score is the same across the four therapeutic disciplines.

H_1 The population mean score differs across the four therapeutic disciplines.

Overall, the four therapeutic disciplines performed similarly in relation to the Miest with statistically significant differences in only five of the vignettes (1, 4, 6, 9, and 11) on the 5 percent level of confidence ($p < 0.05$). Total scores on the Miest were lowest on Vignette 4 and highest on Vignette 2 for all four professions. The overall scores on the Miest in relation to all 12 vignettes showed comparable total average scores for audiology participants (7.8), occupational therapy participants (8.9), physiotherapy participants (7.1), and speech-language therapy participants (8.5), which indicated emerging levels of ethical sensitivity for all four therapeutic disciplines.

In the five vignettes for which the H_0 was rejected, multiple pairwise comparisons were con-

ducted to determine which therapeutic disciplines' mean scores were statistically significant. *Post hoc* analyses using the Scheffé *post hoc* criterion for significance ($\alpha = 0.05$) were used for this purpose. The results are presented in the form of a box plot in table 4.

Occupational therapy participants performed significantly better than physiotherapy participants in two of the vignettes (1 and 4). Both of these vignettes incorporate the target ethical skill of perspective taking. Speech-language pathology participants also performed significantly better than physiotherapy participants in three vignettes (6, 9, and 11). Vignette 6 targets the ethical skill of effective communication, while Vignettes 9 and 11 target diversity and social bias. Each of the four ethical principles appeared at least once in terms of the five vignettes, which revealed statistically significant data.

DISCUSSION

The primary objective of this study was to develop the Measuring Instrument for Ethical Sensitivity in the Therapeutic Sciences (MIEST), and then administer this instrument to four different therapeutic disciplines to assess its utility and validity as a multidisciplinary measure of ethical sensitivity. The discussion section focuses on the results that emerged from Phase 2—the implementation phase. Participants' overall scores on the Miest were comparable for audiologists, occupational therapists, physiotherapists, and speech-language pathologists, which confirmed the multidisciplinary usability of this instrument.

On average, participants showed the lowest ethical sensitivity in relation to the principle of nonmaleficence, which held both ethical and legal implications. In two of the three vignettes dealing with the target ethical principle of nonmaleficence, namely Vignettes 4 and 12, the therapist was depicted as someone trying to do good and assuming the perspective of the client. This is essential information for developing ethical sensitivity in the therapeutic sciences, as it emphasizes the importance of realizing that even though beneficence is a central principle in the therapeutic sciences (and often the principle overemphasized in ethics training), it must always be balanced by considering the principle of nonmaleficence. Blindly following the principle of beneficence could result in unethical (or unlawful) practice, even if unintentional.¹⁷

In contrast, participants showed, on average, the highest ethical sensitivity for the target principle

autonomy. Autonomy is a Western presupposition based on the idea that individuality and free will are to be encouraged. Given the dominance of West-

ern thought in philosophy and ethical inquiry, it makes sense that discussions of ethics in the therapeutic sciences would also consider autonomy as a

TABLE 3. Summary of 12 vignettes with target principles and skills with final scores

Vig.	Principle	Skill	Total score N = 100	AUD n = 20	OT n = 30	PT n = 27	SLT n = 23	ANOVA p-value	Ho
1	Justice	Perspective taking Interpreting ethics in a situation	8/22 Emerging Range: -3 - 22	8/22 Emerging	10/22 Emerging	5/22 Inadequate	8/22 Emerging	0.01	Reject
2	Autonomy	Relating to others Emotional expression	11/22 Emerging Range: 1 - 20	11/22 Emerging	11/22 Emerging	10/22 Emerging	10/22 Emerging	0.90	Accept
3	Beneficence	Effective communication Emotional expression	10/22 Emerging Range: -6 - 22	8/22 Emerging	11/22 Emerging	9/22 Emerging	10/22 Emerging	0.15	Accept
4	Nonmaleficence	Perspective taking	3/22 Inadequate Range: -5 - 22	11/22 Emerging	5/22 Inadequate	2/22 Unacceptable	2/22 Unacceptable	0.02	Reject
5	Justice	Relating to others	8/22 Emerging Range: -1 - 22	7/22 Emerging	9/22 Emerging	7/22 Emerging	9/22 Emerging	0.17	Accept
6	Autonomy	Effective communication	7/22 Emerging Range: 14 - 22	7/22 Emerging	7/22 Emerging	5/22 Emerging	9/22 Emerging	0.03	Reject
7	Beneficence	Emotional expression	10/22 Emerging Range: -6 - 19	11/22 Emerging	9/22 Emerging	10/22 Emerging	11/22 Emerging	0.15	Accept
8	Nonmaleficence	Controlling social bias	9/22 Emerging Range: -8 - 22	8/22 Emerging	11/22 Emerging	9/22 Emerging	10/22 Emerging	0.30	Accept
9	Justice	Responding to diversity	9/22 Emerging Range: -8 - 15	9/22 Emerging	10/22 Emerging	8/22 Emerging	11/22 Emerging	0.02	Reject
10	Autonomy	Responding to diversity	11/22 Emerging Range: -8 - 18	11/22 Emerging	11/22 Emerging	11/22 Emerging	10/22 Emerging	0.28	Accept
11	Beneficence	Controlling social bias	5/22 Emerging Range: -6 - 18	6/22 Emerging	6/22 Emerging	3/22 Inadequate	7/22 Emerging	0.01	Reject
12	Nonmaleficence	Interpreting ethics in a situation	6/22 Emerging Range: -4 - 18	7/22 Emerging	7/22 Emerging	7/22 Emerging	5/22 Inadequate	0.47	Reject

Key: AUD = audiologist; OT = occupational therapist; PT = physiotherapist, SLT = speech-language pathologist

fundamental principle of ethics.¹⁸ This focus in the therapeutic science professions on autonomy would also make participants more sensitive to violations of autonomy.

With respect to their performance on the MIEST, speech-language pathology participants displayed exceptional insight into the ethical sensitivity skill known as controlling social bias. Due to extensive

and increasing global linguistic and cultural diversity, there is a specific need for culturally valid and reliable developmental assessment instruments that can accommodate the diversity of the population. Speech-language pathologists are specifically trained to view clients holistically and consider the impact of their cultural (a way of life of a specific group of people) and linguistic background. Devel-

TABLE 4. Statistically significant differences between the four groups of participants

Vignette number with target principle and skill(s)	Participants' performance related to the identification of the target ethical principle and skills
<p>Vignette: 1 Principle: Justice Skills: Perspective taking Interpreting ethics in a situation The multiple pairwise comparisons indicated that there was a statistically significant difference between the total population mean score for occupational therapists and physiotherapists ($F = 5.3, p < 0.05$).</p>	<p>Audiologists Occupational therapists Physiotherapists Speech-language pathologists</p>
<p>Vignette: 4 Principle: Nonmaleficence Skill: Perspective taking Similar to Vignette 1, the multiple pairwise comparisons indicated that there was a statistically significant difference between the total population mean score for occupational therapists and physiotherapists ($F = 3.44, p < 0.05$).</p>	<p>Audiologists Occupational therapists Physiotherapists Speech-language pathologists</p>
<p>Vignette: 6 Principle: Autonomy Skill: Effective communication The results revealed a statistically significant difference between the total population mean score for speech-language pathologists and physiotherapists ($F = 4.2, p < 0.05$). (Table 4 is continued on the next page.)</p>	<p>Audiologists Occupational therapists Physiotherapists Speech-language pathologists</p>

opmental assessments should never be tests of cultural knowledge.¹⁹

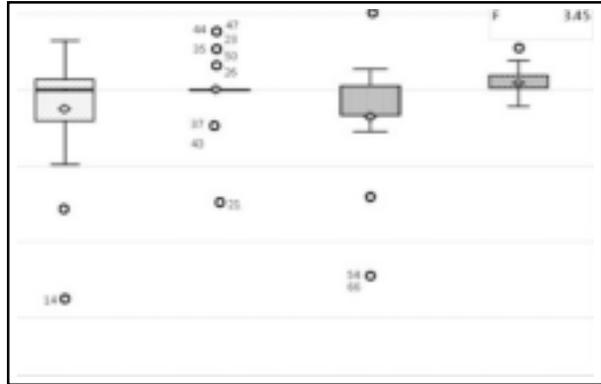
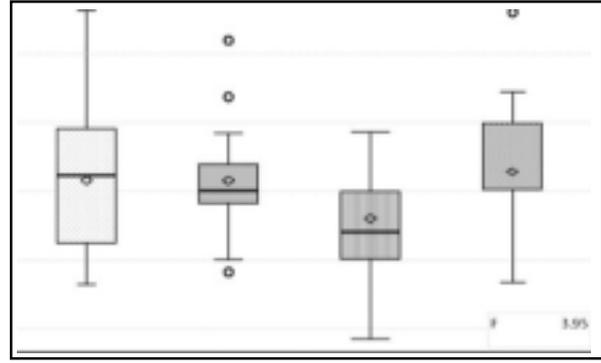
Cultural awareness will influence a therapist's ability to control social bias and respect diversity, and it explains the difference between speech-language pathology and physiotherapy participants with regard to these two ethical skills. The level of awareness is considered a developmental process that evolves over time through the process of attaining cultural knowledge. Cultural awareness involves internal changes associated with the qualities of openness and flexibility in relation to others. All individuals are at various levels of awareness, knowledge, and skills along the cultural competence continuum. Bennett constructed a developmental model of intercultural sensitivity in which he examined attitudes towards intercultural sensitivity and how these related to intercultural competence.²⁰ Intercultural sensitivity is viewed as occurring along

a continuum consisting of six different levels: Level 1: denial/cultural destructiveness; Level 2: defense/cultural incapacity; Level 3 : minimization/cultural blindness; Level 4: acceptance/cultural precompetence; Level 5: adaptation/cultural competence; and Level 6: integration/cultural proficiency. Speech-language pathologists, as a group, are considered to function in the adaptation stage of this model. Ethical sensitivity towards factors related to cultural competence will greatly benefit this therapeutic discipline in the diverse cultural setting where most therapists find themselves.

CONCLUSION

The MIEST presents an original approach to examining ethical sensitivity in therapists across four different disciplines. Theoretically grounded in the first step of Rest's four-component model (ethi-

TABLE 4, Continued

Vignette number with target principle and skill(s)	Participants' performance related to the identification of the target ethical principle and skills
<p>Vignette: 9 Principle: Justice Skill: Responding to diversity Similar to Vignette 6, the ANOVA test showed a statistically significant difference between the total population mean score for speech-language pathologists and physiotherapists ($F = 3.45, p = <0.05$), hence rejecting H_0.</p>	 <p>Audiologists Occupational therapists Physiotherapists Speech-language pathologists</p>
<p>Vignette: 11 Principle: Beneficence Skill: Controlling social bias In line with Vignettes 6 and 9, the ANOVA showed a statistically significant difference between the total population mean score for speech-language pathologists and physiotherapists ($F = 3.95, p = <0.05$), hence rejecting H_0.</p>	 <p>Audiologists Occupational therapists Physiotherapists Speech-language pathologists</p>

cal sensitivity) and based on principles identified in codes of professional ethics, the Miest can be used to investigate the relative impact of training courses in ethics on the development of ethical sensitivity.²¹ The custom-developed vignettes provide a stable platform for training workshops based on the principles of problem-based learning, which are considered effective for the development of deeper competency in adult learners.²²

This study demonstrates that a measuring instrument that asks therapists to identify ethical issues by using vignettes has the potential to discriminate between participants within each therapy group, as well as between therapy groups. The authors sought to describe the extent to which young therapists (final-year students in the therapeutic sciences) are aware of the ethical dimensions of dilemmas and the principle(s) on which they mostly base their decisions. The research study demonstrated that participants in the therapeutic sciences reflect a range of sensitivity to ethical issues embedded in the vignettes that were developed for the Miest. This suggests that although they are not sensitive to all ethical concerns, they have a solid foundation to build on as they gain experience in their profession.

LIMITATIONS

Sequential exploratory research designs emphasize internal validity and not external validity, which implies that the results have to be interpreted with care in terms of their universal application. Not all of the ethical principle/sensitivity skill combinations were included in the Miest. The use of a paper-based measuring instrument implied that therapists' sensitivity in terms of effective communication could only be assessed in terms of verbal communication. The assessment of measurement validity in the Miest focused on content and construct validity. Criterion-related validity was not part of the aim of this study, but is considered as a next step in validating the Miest. Although objectivity is central to ethical decision making, there is a psychological side to decision making as well.²³ These factors were not measured.

FUTURE RESEARCH

The ultimate goal of research on ethical sensitivity would be to relate it to ethical/unethical decision making. It would therefore be valuable to administer the Miest in conjunction with a decision-making assessment instrument to investigate the relationship between the findings. The Miest re-

quires further work in testing and refining both the vignettes and items to meet higher standards of reliability and validity. Ethical sensitivity can be investigated in relation to a cognitive empathy scale and/or levels of emotional intelligence. By piloting the Miest with other professions registered in the healthcare sciences (for example optometry, dietetics, and nutrition), the methodology that was applied in the current research may be used to construct new and relevant vignettes.

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