Audiologists' perceptions of Ethical Climate and level of Moral Distress in the provision of amplification services in South Africa.

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Abstract

Moral Distress (MD) has attracted significant attention among researchers, with most research focused on nurses. South Africa has an unequal distribution of resources between the public and private healthcare sectors. Private practices depend on hearing aid sales to generate income, making the profession vulnerable to ethical concerns, which may affect the ethical climate and lead to MD. In public services provided by the state, audiologists have inadequate resources and funding; therefore, only some patients who warrant a hearing aid receive one, likely causing ethical and moral tensions. MD has negative consequences for professionals such as compassion fatigue, poor physical and psychological well-being, work dissatisfaction, turnover of staff, early retirement, and absenteeism. For patients, the consequences of MD can negatively influence service delivery, patient care, and satisfaction.

Ethical climate or environment refers to shared perceptions of what is considered the right behaviour in an organisation when ethical standards need to be upheld and ethical reasoning is required. There is limited research on the level of MD among Hearing Healthcare Professionals (HHPs) and their perceptions of the ethical climate in their workplace, especially in developing countries, as most studies focusing on HHPs were conducted in well-resourced healthcare settings. This study aimed to close the gap in the literature and contribute to the existing global body of MD and ethical climate research among HHPs.

An exploratory sequential, mixed-method approach was used to conduct a rigorous and methodologically sound study and reduced potential biases which arise from single data collection methods. Phase one included an online questionnaire consisting of a demographic questionnaire, the Moral Distress Appraisal Scale (MD-APPS), which measured the level of MD among HHPs, and the Ethics Environment Questionnaire (EEQ), which measured HHPs'

perceptions of ethics within their workplace. Phase two comprised of online semi-structured interviews to obtain descriptive data about HHPs' perceptions and past experiences of MD and the ethical climate in their workplace. Quantitative data were analysed using one-way ANOVAS, linear regression tests, and Pearson correlation. Qualitative data were analysed via thematic analysis. Triangulation enabled the research question to be explored from different angles and strengthened the validity and reliability of the findings. Eighty-four HHPs completed the questionnaires, most of whom (59) worked in the private sector, and the remaining 25 worked in the public sector. The majority of respondents (44%) were relatively new to clinical practice with less than five years' experience. Seventeen participants participated in phase two. Again, most (14) worked in the private sector, of whom, five were private practice owners.

Outcomes of the study indicate that most n=80 (80%) HHPs experienced no to mild levels of MD, and all HHPs perceived their ethical work environment as either neutral or positive. Interestingly, whether they worked in the public or private sector did not influence the ratings of ethical climates with a p-value of 0.1. Workload impacted perceptions of MD and ethics in the workplace, with participants experiencing high caseloads of ($\geq$ 9 patients/ day) reporting higher levels of MD and perceived their work environment as poorer compared to those who saw between 0-5 and 6-8 patients per day. Most HHPs felt comfortable discussing their concerns with management and sought advice from colleagues rather than professional bodies. As expected, a negative linear relationship (r=-0.34) was found between MD and EEQ scores, therefore, participants who experienced higher levels of MD perceived their ethical work environments more poorly than those with lower MD scores. Age and gender did not impact levels of MD or the way in which HHPs perceived their ethical work environments; however, with more years of experience, participants reported lower levels of MD, which may

suggest that work experience enables the development of moral resilience. HHPs with more work experience may also have a larger network of supportive colleagues. Work experience enabled HHPs to navigate ethical issues, while university ethics training was reported insufficient for the workplace. The interviews with respondents suggested that obstacles and external constraints which HHPs had to navigate included lack of support from professional bodies, disagreements clinical practice guidelines, expectations to achieve financial targets, and pressure to buy bulk and fit hearing instruments from certain hearing aid manufacturers. Issues related to patients concerned high caseloads, patient finances, and dealing with medical insurance companies.

This study explored MD levels among HHPs and the perceptions of their ethical work environment. Quantitative data showed HHPs experienced no to mild levels of MD and perceived their ethical work environment as neutral to positive; however, qualitative data raised additional concerns. For example, and of relevance for both training curricula and continuing professional education purposes, personal semi-structured interviews raised the need for more advanced ethics training to address dilemmas that are unique to the public and private healthcare sectors. This study hoped to start conversations with HHPs concerning MD and the ethical climate in their workplaces. Future research about MD interventions and ways to improve ethical climates could prevent adverse consequences as well as benefit HHPs and the population seeking hearing healthcare.

Keywords: Hearing Healthcare Professionals (HHPs), Audiologists, adapted Ethics Environment Questionnaire (EEQ), ethical climate, Moral Distress-Appraisal Scale (MD-APPS), moral distress.

Table of Contents

List of Tables

List of Figures

List of Abbreviations

APPF	Audiology Private Practice Forum
EEQ	Ethics Environment Questionnaire
HECS-S	Hospital Ethical Climate Scale
HHP	Hearing Healthcare Professionals
MD	Moral Distress
MD-APPS	Moral Distress Appraisal Scale
MDS	Moral Distress Scale
MDS-R	Moral Distress Scale-Revised
MDT	Moral Distress Thermometer
MMD-HP	Measure of Moral Distress for Healthcare Practitioners
RAN	Reconnect Audiology Network
SAAA	South African Association of Audiologists
SA	South Africa
SASLHA	South African Speech-Language-Hearing Association
SHAA	Society of Hearing Aid Acousticians
WHO	World Health Organization

Glossary

Audiology Private Practice Forum (APPF): A non-profit organization representing private audiologists in South Africa.

Bilateral: Having/relating or affecting two sides (both sides).

Binaural: Used or using both ears, E.g., binaural hearing aid fitting means fitting hearing aids on both ears.

Compassion fatigue: Emotional and physical exhaustion resulting in the inability to empathize with others (Epstein, Ruhee, & Marshall, 2021).

Developing regions: Areas with poor infrastructure, healthcare, and service delivery (Day et al., 2021).

Ethics: Ethics can be defined as the study of whether human acts are considered moral through reasoning (McDaniel, 1997).

Ethical climate/ Ethical environment: Refers to what is considered morally appropriate behaviour and how ethical issues should be dealt with in an organisation (McDaniel, 1997).

Ethics Environment Questionnaire (EEQ): (see appendix A) It consists of 20 items which are not context-specific that measure participants' perceptions and opinions of moral climate and conduct in the workplace (McDaniel, 1997)..

Health Professions Council of South Africa (HPCSA): It is a compulsory regulatory body established in line with the Health Professions Act and is committed to protecting the public and helping guide healthcare professions. All healthcare professionals in South Africa need to be registered with the HPCSA.

Hearing Healthcare Professionals (HHPs): For the purpose of this study, HHPs include private and public audiologists, community service audiologists, Speech Language Therapist

Audiologists (SLT-A), B Audiologists and hearing aid acousticians who are registered with the HPCSA. To obtain a degree in Audiology in South Africa, one must complete a four-year BA or BSc degree in Audiology and a year of community service.

Homogenous population: A population group that shares characteristics. In this case, their type of work (dispensing hearing aids) and location (South Africa).

Mixed methods: A research process where both quantitative and qualitative data is collected to better understand and thoroughly investigate a phenomenon or research problem, therefore helps to increase the dependability and trustworthiness of the results (Zohrabi, 2013).

Moral constraint: When someone is faced with a demand or instructions which go against personal belief or reasoning (Baele & Fontaine, 2021).

Moral Distress Appraisal Scale (MD-APPS): (Appendix B) An 8-item scale that is positively correlated with the well-known Moral Distress Scale-revised (MDS-R), job demands, burnout, depressive symptoms, and turnover. MD-APPS measures participants' perceived level of moral distress (Baele & Fontaine, 2021).

Moral distress (MD) was first defined by Jameton (1984) and referred to psychological distress occurring from acknowledging moral responsibilities which are unable to be carried out as a result of perceived or actual constraints; thus, individuals may be forced to act in a way which contradicts personal values and ethical principles (Badolamenti et al., 2017). In recent years, MD has been given a broader definition: a psychological response to challenging ethical events (Epstein et al., 2021).

Moral resilience: The capacity or ability to cope with morally distressing events by sustaining or staying true to one's values, and beliefs, thus upholding and restoring one's integrity (Kolbe & de Melo-Martin, 2022).

Narrative approach: Participants' stories and past experiences become the raw data. (Fetters, Curry, & Creswell, 2013).

National Speech Therapy and Audiology Forum: An association representing speech therapists and audiologists in the public sector (i.e., those professionals employed by the state health care system).

Patient-centered care: To empower patients to be active participants in their care. It involves healthcare providers advocating for their patient's unique individual needs. Good communication and mutual understanding are established (Epstein & Street, 2011).

Physical therapists/ physiotherapists: Health professionals who help people restore movement and function after illness, injury, or disability. The term *physical therapist* is used in the United States of America. The term *physiotherapist* is the most common in South Africa, Canada, the United Kingdom, Australia, and Europe.

Physician: In the United States, it is a person qualified to practice medicine, rather than a specialisation. Equivalent to a General Practitioner (GP) in South Africa.

Reconnect Audiology Network (RAN): A network of independent (private practice) audiologists in South Africa.

Society of Hearing Aid Acousticians (SHAA): A society of acousticians and was established to develop the interests of the hearing aid profession in SA.

Thematic analysis: A method for analysing qualitative data. The analysis takes place across data to identify, and report repeated patterns or findings from different participants. This is done by extracting codes and constructing themes (Creswell, 2018). Specialist software can be used, such as Nvivo.

Triangulation: Is when multiple sources of data, investigators, or theories are used to address a research question. It helps enhance the validity and credibility of the findings (Zohrabi, 2013).

Unilateral: Having/relating or affecting one side.

Chapter 1: Introduction

In recent years, Moral Distress (MD)[1] has attracted significant attention among researchers (Goddard, 2021; Tian, Jin, Chen, & Jiménez-Herrera, 2021; Whitehead, Herbertson, Hamric, Epstein, & Fisher, 2015); however, research in this field is limited within South Africa (SA) therefore the study aimed to explore HHPs' perceptions of ethical climate and level of moral distress who provide amplification services in SA. Globally, most studies have investigated critical care nurses (Baele & Fontaine, 2021; Emmamally & Chiyangwa, 2020; Morley, Bradbury-Jones, & Ives, 2022; Tian et al., 2021). South Africa has a significant divide between the public and private healthcare sectors. The public sector is underfunded and serves most of the population, while the private sector is well-resourced (Day et al., 2021). Regarding hearing aid dispensing in SA, private practices depend on hearing aid sales to generate income, possibly exposing Hearing Healthcare Professionals (HHPs) to ethical and moral dilemmas. Balancing patient care with profitability can contribute to MD (Simpson, Phillips, Wong, Clarke, & Thornton, 2018); while the underfunded and heavily burdened public sector may result in HHPs being unable to provide necessary care, another possible source of MD (Day et al., 2021). Many contributing factors cause MD and affect the ethical climate in workplaces, which will be explored in this study among HHPs working in both the public and private sectors within SA.

This mixed method, sequential, exploratory study aimed to measure the level of MD among HHPs who dispense hearing aids within SA and to explore their perceptions of the ethical environment in their workplaces. Phase one included an online survey, while phase two entailed semi-structured interviews. This literature review discusses the following: moral

[1] MD refers to psychological distress that occurs from acknowledging moral responsibilities which are unable to be carried out as a result of perceived or actual constraints; thus individuals may be forced to act in a way which contradicts personal values and ethical principles (Badolamenti et al., 2017).

distress and its consequences, what previous studies have found about ethical climate[2] and MD among healthcare professionals, how this topic relates to the South African context, measurement scales, and the rationale for this study.

Introduction

Moral Distress was first defined by Jameton (1984) as a phenomenon that "arises when one knows the right thing to do, but institutional constraints make it nearly impossible to pursue the right course of action" (Kolbe & de Melo-Martin, 2022) (p.2). MD refers to psychological distress from acknowledging moral responsibilities that cannot be carried out due to perceived or actual constraints; thus, individuals may be forced to act in a way that contradicts personal values and ethical principles (Badolamenti et al., 2017). In recent years, MD has been given a broader definition and is considered "a psychological response to challenging ethical events" (Morley et al., 2022) (p.2), which can be viewed as a more holistic definition as it applies to a variety of experiences in ever-changing environments. Due to technological advances and increasing life expectancy, healthcare professionals are increasingly exposed to complex patient care issues and conflicting societal and cultural values, while having to control healthcare costs (Allen et al., 2013; Morley et al., 2022). The nature of audiology in the private sector requires HHPs to balance patient care with profits whilst meeting targets (Sarkic, Simpson, & Heine, 2022), while in the public sector, healthcare practitioners need to manage high patient loads with limited resources (Pillay, Tiwari, Kathard, & Chikte, 2020). These complex factors may contribute to MD. Other factors to consider when measuring MD include practitioners' age, work setting, and the number of years of experience (Allen et al., 2013), and are included in this report.

[2] This refers to what is considered morally appropriate behaviour and how ethical issues should be dealt with in an organisation (McDaniel, 1997).

Consequences of moral distress

Numerous studies have shown that MD has negative consequences such as compassion fatigue, anxiety, burnout, poor physical and psychological well-being, work dissatisfaction, absenteeism, increased staff turnover, early retirement, and withdrawal from morally distressing events (Allen et al., 2013; Simpson et al., 2018; Tian et al., 2021). A study of 592 clinicians from 15 disciplines, including nurses, social workers, respiratory, physical, occupational and speech therapists, working in a medical centre in rural Southwest Virginia, USA, found that 16.7% had left previous positions due to MD and 39.6% had considered leaving (Whitehead et al., 2015). South Africa's healthcare system cannot afford HHPs to leave their positions as a consequence of MD, as there is an existing shortage of HHPs (Bhamjee et al., 2022). Staff turnover is arguably a preventable consequence of MD.

Over time ethical tensions can develop into emotional and physiological stress, compassion fatigue, and burnout (Hamric, 2012). A study by Zimmer, Emanuel, and Reed (2022) investigated the leading causes of burnout contributing to ethical dilemmas among audiologists in the United States. Leading causes of burnout included making sales, high caseloads, and short appointment times which inhibited the optimum provision of care (Zimmer et al., 2022). It is evident that prominent causes of burnout have also been found to contribute to MD and poor ethical climates. In line with previous studies about MD in a private healthcare setting (Sarkic et al., 2022; Simpson et al., 2018), pressure to sell hearing aids affected audiologists' perceptions of the ethical climate as some audiologists became uncomfortable, while others became desensitised as a coping mechanism (Ng et al., 2019).

Potential factors in existing research that correlate with moral distress

MD researchers have expanded their research to different healthcare professions. Allen et al. (2013) assessed MD in 323 professionals, none of whom were rehabilitation

professionals, as the sample comprised of nurses and doctors from various specialisations at seven hospitals in the United States using the Moral Distress Scale-Revised (MDS-R). Workplaces included six acute care hospitals and a children's hospital; four were community hospitals, and two were rural hospitals. The overall results indicated that all healthcare professionals experienced moderate to high levels of MD, and MD was also higher for those who considered leaving or had left their position. In addition, the findings revealed that nurses and physicians with more experience did not demonstrate higher MD than those with less experience; therefore, experience was not a determining factor for MD. In some cases, participants reported that repeated exposure to morally distressing events and gaining more experience enhanced their moral resilience (Kolbe & de Melo-Martin, 2022). Unlike the study by Allen et al. (2013) and Badolamenti et al. (2017), Goddard (2021), who studied rehabilitation professionals, including occupational therapists and physiotherapists, found that with more years of experience, professionals developed higher levels of MD. Higher levels of MD were found among healthcare professionals working in adult hospitals compared to paediatric hospitals (Goddard, 2021), which indicates work setting may influence levels of MD. It is evident that researchers have presented contradicting conclusions about the correlations between workplace settings, the number of years of experience and MD, which gives reason for the current study to explore possible correlations for HHPs.

The limitations of the studies conducted by Allen et al. (2013), Badolamenti et al. (2017), and Goddard (2021) included that they did not obtain descriptive qualitative data; therefore, quantitative data was not substantiated with personal experiences. In contrast, this report provides qualitative data obtained via semi-structured interviews to ensure more likelihood of capturing the nuances of participants' experiences. Second, the study by Allen et al. (2013) involved specific hospital organisations; thus, results cannot be generalised to other healthcare settings. Third, although there was a large sample size of 323 professionals, a low

response rate of 12% may indicate that professionals were too busy treating patients to complete the survey or felt uncomfortable answering questions about MD, resulting in volunteer bias, which may be a limitation in the current study. The current study attempted to address these limitations with online surveys and interviews, allowing participants to complete the study in their own time in a private setting.

Prevalence of hearing loss and barriers preventing the uptake of hearing aids

Turning to the prevalence of hearing loss, globally almost 50% of those 75 years and older are hearing impaired (National Institute on Deafness and other Communication Disorders, 2021), and with life expectancy increasing, there is a looming shortage of HHPs worldwide (Ng et al., 2019). Furthermore, the prevalence of hearing loss is increasing in younger populations due to noise exposure (Parsons, Reed, & Torre, 2019). Globally, it is estimated that by 2050, one in ten people will experience disabling hearing loss, and currently, more than 80% of people with hearing impairments live in developing regions (World Health Organization, 2021). Historically, rehabilitation services were viewed as a luxury in low-income countries, and in higher income countries, it is perceived as a backup strategy when preventive or curative interventions fail. Rehabilitation has not been prioritised despite positive outcomes, including supporting individuals' involvement in education and employment and remaining independent (Cieza et al., 2021).

Hearing loss is considered an invisible disability with significant third-party disabilities such as stigmatisation, social exclusion, mental health, and occupational and education disadvantages (Bhamjee et al., 2022). Although amplification devices may assist with hearing loss, there are barriers to their uptake as people may struggle with acceptance and stigmatisation (Bhamjee et al., 2022). In the private sector, finances may determine whether a person seeks intervention, despite the HHP’s recommendations. Often medical insurance

companies only cover a portion of the hearing aids, burdening the patient with large out-of-pocket payments (Knudsen, Oberg, Nielsen, Naylor, & Kramer, 2010; Peterson, Jiramongkolchai, & Piccirillo, 2021). In the public sector, poor access to healthcare services contributes to the poor uptake of hearing aids as hearing aid services are only provided at secondary and tertiary hospitals in SA (Bisgaard, Zimmer, Laureyns, & Groth, 2022). In addition, patients may not be able to afford to service their hearing aids and purchase batteries (Sooful, Dijk, & Avenant, 2009).

Patients' poor uptake, use, and maintenance of hearing aids may cause MD among HHPs. Literature shows counselling helps patients accept their hearing loss which positively influences the uptake and use of hearing aids; therefore, it is less likely that patients will make a grudge purchase, preventing time and money from being wasted (Knudsen et al., 2010). Barriers to seeking intervention such as acceptance, stigmatisation, poor access, finances, and poor hearing aid use may cause MD among HHPs. HHPs know the actions required to improve a patient's hearing, but the above barriers are in place. Some of these barriers may feel as though they are too large to overcome for HHPs, causing further MD.

Of course, for individuals to access hearing services including hearing aids, appropriately qualified professionals are required to meet the demand. Adequate human resources are critical in emerging countries such as SA and are persistent. For example, focusing on the profession of audiology, there is an unmet need for hearing aids and barriers in the uptake of hearing aids. Globally, less than 11% of people with disabling hearing loss use hearing aids (Bisgaard et al., 2022). A study by Pillay et al. (2020) estimated a ratio of 0.57 audiologists, speech therapists and audiology-speech therapists per 10 000 people and 22% of audiologists and speech therapists work in SA's public sector. In low-income countries only 12% of people with hearing impairment use hearing aids, while in high income countries, 57% use hearing aids (Bisgaard et al., 2022), reflecting a lack of equitable distribution of resources.

In contrast to SA, in 2021, the ratio in the United States was 4.1 registered audiologists for every 100 000 residents and has remained the same for the past ten years (American Speech Language Hearing Association, 2022). It is evident that in low-income countries, healthcare professionals are unable to meet the needs of the population, thus, it is reasonable to expect that MD is caused by inequity in SA's health systems and may contribute to MD and its negative consequences, especially for the vulnerable public sector if HHPs leave their positions.

Moral and ethical concerns in audiology

Turning to hearing aid sales, researchers have highlighted that depending on sales to generate income in private practice makes the profession vulnerable to ethical and moral concerns that can affect the ethical climate (Sarkic et al., 2022; Simpson et al., 2018; Zimmer et al., 2022). Conflict of interest is an explicit ethical issue in the private sector because dispensing hearing aids is both a tool to assist hearing and a source of income, which may cause HHPs to act against their values. Appointments become shorter to generate more income, and short appointment times and high caseloads can lead to poor patient care and are detrimental to ethical and moral climates (Callahan et al., 2011). Moreover, the consequences of MD have impacted the ability of healthcare practitioners to provide patient-centered care leading to patient dissatisfaction (Marques, Silvestre, Rosa, & Miguéis, 2022; Tian et al., 2021). Literature shows that some HHPs work in practices with incentive schemes (Ng et al., 2019). Incentive schemes and commissions can motivate HHPs to fit hearing aids when they are not warranted, which is unethical. A more likely scenario is convincing patients to purchase expensive high-level technology, sometimes of a particular brand, due to discounts offered by hearing aid companies if a certain amount of hearing aids are fitted (Callahan et al., 2011). Witnessing co-workers partake in unethical behaviours has contributed to MD (Callahan et al.,

2011). HHPs encounter ethical dilemmas and conflicts of interest when interacting with hearing aid companies as they invite HHPs to product launches at luxury venues and provide gourmet food and gifts, possibly influencing HHPs' hearing aid recommendations (Coolen, 2012). Gifts can create a sense of obligation toward the hearing aid company, and if gifts did not influence behaviour, the hearing aid companies would not adopt this marketing strategy. Furthermore, HHPs are incentivised by hearing aid companies funding equipment and offering discounts that some HHPs may or may not pass on to the patient, resulting in ethical concerns (Callahan et al., 2011). A study by Jones (2012) found that even something as small as branded pens were seen to influence prescriptions given by doctors and are often given to audiologists by hearing aid companies. Enticements are not unique to the profession of audiology and have been a global concern for many years in medicine and pharmaceutical companies (Diekema & Committee On, 2022; Khazzaka, 2019). What differentiates audiologists is that they sell expensive hearing devices for which they determine the markup and directly benefit, as opposed to a doctor who prescribes a drug and is unlikely to directly benefit from the sale of the drug (Katz, Caplan, & Merz, 2010). According to the Health Professions Council of South Africa (2016), practitioners should not accept commissions, payment, or material rewards which could induce them to act in a certain way in return for a hearing aid sale. Although professional regulatory bodies address ethical misconduct, ethical challenges continue to arise in audiology (Marques et al., 2022), which underscores the need for MD and ethical climates to be researched within the field of hearing aid dispensing.

Due to unethical behaviours, patients have become wary of audiologists who are more concerned with selling a hearing aid than providing diagnostic services (Grenness, Hickson, Laplante-Lévesque, & Davidson, 2014), resulting in researchers reporting that trust is becoming a recurring issue between patients and HHPs (Simpson et al., 2018; Zimmer et al., 2022). For example, in 2017, the Australian Competition and Consumer Commission

published a report to raise awareness about misleading, commission-driven behaviours of audiologists who set sale targets and made special arrangements with hearing aid manufacturers (Australian Competition and Consumer Commission, 2017). Subsequently, a study in Australia conducted by Sarkic et al. (2022) explored how audiology was represented in the media and how privatisation has caused a lack of trust from the public. The study involved a systemic search of media records from 1 January 2000 to 17 July 2020 across media platforms who published in Australia. Results showed that audiology had attracted negative media attention due to poor transparency and overpriced hearing aids. Patients were concerned that audiologists were driven to fit premium hearing aids to obtain higher remunerations (Sarkic et al., 2022). Due to the media discussing unethical behaviours of audiologists, building trust to establish healthy patient-centred relationships has become challenging, thus causing possible MD (Simpson et al., 2018). In the current study, semi-structured interviews briefly explored whether there were situations experienced by HHPs that inhibited the establishment of trust between the HHPs and the patient and whether lack of trust affects HHPs.

Ethical Climate in HHPs' workplaces

Ethical climate refers to what is considered morally appropriate behaviour and how ethical issues should be addressed in an organisation (McDaniel, 1997). Few studies have examined whether poor ethical climates contribute to MD among HHPs. Simpson et al. (2018) assessed the ethical and moral climate in audiologists' workplaces in Australia. Australian state and federal governments provide a base level of funding for entry-level hearing aids, unlike in SA. In SA's public sector, hearing aids are funded by taxpayers' money and procured by the Government State Tender Board. Individuals without medical insurance pay up to a maximum of 25% of the hearing aid price, while the respective hospitals contribute the rest of the cost from their annual budget (Sooful et al., 2009). In Australia, hearing aids are bought from

manufacturers and a markup is added, similar to SA's private healthcare sector. There, audiologists need to ensure profit is made while providing best practices and respecting patient autonomy (Simpson et al., 2018). The Ethics Environment Questionnaire (EEQ)[3] was emailed to 2530 audiologists registered with Audiology Australia. Three hundred and one questionnaires were completed, which indicated a low response rate of only 12%, similar to the study by Allen et al. (2013). This may be due to the topic's sensitive nature, which was accounted for in the current study. Most participants were female and saw six to eight patients per day. The mean score on the EEQ was significantly poorer for those working with adults, indicating a negative ethical climate. Seventeen audiologists participated in open-ended interviews that provided valuable and descriptive insight into the opinions and experiences of their workplace's ethical and moral climate. Prominent causes of MD were pressure to boost sales of more expensive hearing aids and conflict between the audiologists' and practices' goals. Participants reported that managers set sales targets, offered commissions, and instructed audiologists to up-sell hearing aids. Audiologists felt the need to justify their actions, some left their positions, and 75% of participants expressed feeling like a salesperson (Simpson et al., 2018). Participants admitted they were not immune to incentives and would fit hearing aids which gave them bigger bonuses (Simpson et al., 2018).

Similar to Australia, in South Africa, private practices depend on hearing aid sales to generate income, possibly making the profession vulnerable to ethical and moral concerns, which can affect the ethical climate and cause MD. Although the study by Simpson et al. (2018) adds value to the existing research, results are not generalisable due to a small non-diverse sample size. It is evident that studies investigating MD and ethical climates have low response

[3] The Ethics Environment Questionnaire measures participants' opinions of moral climate/conduct in the workplace (McDaniel, 1997).

rates and are subject to volunteer bias. Some limitations that may yield skewed results are that participants may have personal interests in the topic or are familiar with MD.

Ng et al. (2019) conducted a constructivist, grounded theory study including a purposive sample of 19 Canadian and American audiologists working in academic and private clinical settings. Semi-structured interviews explored audiologists' reactions to ethical tensions and how social and systematic structures influenced their opinions and actions. Audiologists' perspectives ranged from the minority of participants being in denial or oblivious about ethical issues to some being hypervigilant, while the majority were in the middle of the continuum. Audiologists who were hypervigilant left their positions, and those aware of ethical tensions changed jobs and sought ethical practices, while those in denial or oblivious saw no need for change (Ng et al., 2019). Ethical codes and principles assist in making ethical decisions; however, situations can be complex, causing decision-making to be challenging (Ng et al., 2019). During semi-structured interviews in the current study, these varying levels of awareness were explored.

Turning to a public setting, Whitehead et al. (2015) conducted a study in a rural tertiary medical centre in Virginia where 592 healthcare practitioners, including nurses, physicians, social workers, therapists, pharmaceutics, and dieticians, completed a shortened version of the Olson's Hospital Ethical Climate Scale (HECS-S). Findings revealed that the mean score for HEC-S was negatively correlated with MDS-R, indicating that poor perceptions of ethical climate were associated with higher levels of MD (Whitehead et al., 2015). Twenty percent of the almost 600 professionals had considered leaving their positions due to poor ethical climates, which is a significant number considering staff well-being and retention are major issues in healthcare organisations (Whitehead et al., 2015).

Moral Distress and Ethical climate measurement tools and scales

Several tools measure MD, including the Moral Distress Scale (MDS), the Moral Distress Scale-Revised (MDS-R) and the Measure of Moral Distress for Healthcare Professionals (MMD-HP).

The MDS was created for nurses and only describes situations in hospital settings (Baele & Fontaine, 2021). The MDS was revised to form the MDS-R, which is a shortened version applicable to other healthcare settings and professionals (Penny, Bires, Bonn, Dockery, & Pettit, 2016). Similar to the MDS-R, the MMD-HP was also constructed to measure MD in healthcare professions beyond nursing; however, the limitations of the MDS, MDS-R, and MMD-HP are that they include questions about death, suffering, palliative care, and life-threatening situations, making them irrelevant to the nature of work and environments to which HHPs are exposed (Dias, Teixeira, & Antunes, 2022; Whitehead et al., 2015). The MD-APPS (Appendix B) was identified as the best scale for this study, as it considers MD as the presence of moral constraint or hindrance to do the correct thing and coercion or persuasion to do the wrong thing (Baele & Fontaine, 2021). The benefit of the MD-APPS is that it is not context-specific, making it relevant to different settings (Baele & Fontaine, 2021), which benefits this study as SA has a diverse healthcare system. The MD-APPS is a reliable scale that positively correlates with the thoroughly researched and tested MDS-R ($r=0.43$; 95% CI= [0.34,0.50]) (Baele & Fontaine, 2021).

Concerning ethical climates, well-known tools include the Hospital Ethical Climate Scale (HECS-S), which focuses on nurses and physicians in a hospital setting (Whitehead et al., 2015); making it inappropriate regarding HHPs' daily tasks and settings. Unlike the HECS-S, the adapted EEQ (Appendix A) applies to various healthcare settings and disciplines, making it the most appropriate tool to measure opinions of ethical climates in HHPs' workplaces (McDaniel, 1997). The EEQ is cost-effective, easy to administer, and addresses

scenarios, goals, opinions, actions, and rules (McDaniel, 1997). Indeed, Simpson et al. (2018), used the EEQ to examine the perceptions of audiologists regarding the ethical climates in their work environments.

In the design for this research, participants who completed phase one of the current study, that is, a demographic questionnaire, MD-APPS, and adapted EEQ were requested to partake in personal semi-structured interviews (Appendix C). A narrative approach allows participants to freely express their perspectives and experiences about MD and the ethical climate in their workplace (Creswell, 2018). Questions used to obtain qualitative data were developed with reference to questions asked in the MD-APPS and adapted EEQ, and findings are reported on a theme-by-theme basis and synthesised using weaving (Fetters et al., 2013). As previously discussed, SA has a diverse healthcare system that needed to be understood and considered when this research topic was investigated.

South Africa's healthcare system

South Africa has an unequal distribution of resources between the public and private healthcare sectors (Day et al., 2021), as 84% of the population is served by the public sector while 16% is served by the private sector (Pillay et al., 2020). It is estimated that of the adult population in SA, only 17% have access to medical insurance (Sooful et al., 2009). Efforts to improve this disparity have been implemented, such as The National Health Insurance Bill of 2018, which aims to provide universal, quality healthcare coverage and services to all and aims to increase health financing, recruitment, and retention of healthcare professionals with a focus on communication disabilities (Pillay et al., 2020). In the public sector, poor access, lack of resources, and high caseloads result in patients' needs not being met (Day et al., 2021), which may cause MD and was explored in the current study. A study conducted by Bhamjee, Le Roux, Schlemmer, Graham, and Mahomed-Asmail (2021) explored the opinions of 100

audiologists regarding hearing healthcare resources in SA's public healthcare system. Most audiologists reported that their hospitals did not have adequate resources to render audiological services. South Africa has a shortfall of audiologists who report a lack of resources in the public sector; therefore, MD needs to be addressed to ensure its consequences do not contribute to the shortfall, as the ramifications will be severe for the underserved public sector. The current study considers whether barriers to hearing aid uptake are a possible cause of MD in different settings and aims to investigate whether HHPs in SA experience MD, and the possible consequences. Results may be used to mitigate potential consequences to limit further shortages of HHPs in SA and to protect the vulnerable public sector.

Conclusion

To conclude, existing research regarding HHPs levels of MD and opinions of the ethical environments in their workplaces with regard to hearing aid dispensing is insufficient, and most studies were conducted in well-resourced healthcare settings (Callahan et al., 2011; Simpson et al., 2018). Literature indicates MD is not profession- or setting-specific and there is no published research on this topic in SA, which is of particular interest due to its diverse healthcare system. To assist in closing the gap in existing literature, this study aims to investigate whether HHPs in SA experience MD and explore their perceptions of the ethical climate in their workplace. This study hopes to draw focus on this topic in SA and contribute to the existing global body of literature.

Chapter 2: Methodology

Aim

The study aimed to explore hearing aid dispensing Hearing Healthcare Professionals' (HHPs) level of moral distress (MD) and perceptions of the ethical climate in their workplace.

Phase one objectives

Results yielded by MD-APPS and EEQ.

- To measure levels of MD using the MD-APPS and ethical work climate using the adapted EEQ.
- To seek correlations between the results of the MD-APPS and EEQ exploring the impact of workplace setting, workload, participants' level of experience, age and gender.
- To evaluate whether there is a correlation between recommending a hearing aid within a certain price range and level of MD for participants working in the private healthcare sector.

Phase two objective

Results yielded by semi-structured interviews.

- To explore HHPs' perceptions and experiences of MD and the ethical climate in their workplace by conducting personal semi-structured interviews.

Research Design

An exploratory, sequential, mixed-method approach was used to conduct a rigorous and methodologically sound study. Quantitative and qualitative data were collected and triangulated to increase the dependability and trustworthiness of the research results (Zohrabi, 2013). The rationale for a mixed-method approach is that they complement one another, and neither a quantitative nor qualitative method alone is sufficient to explore trends (Ivankova, Creswell, & Stick, 2016). Qualitative and quantitative data ensured a thorough analysis of the research question (Creswell, 2018). A limitation of mixed methods is that proper integration of qualitative and quantitative findings is challenging and often presented independently (Onwuegbuzie & Collins, 2017). This was minimised via a thorough thematic analysis and triangulation by reporting findings on a theme-by-theme basis whilst weaving and connecting quantitative and qualitative data (Fetters et al., 2013).

During phase one, quantitative data was obtained via Google Forms, which included a demographic questionnaire (Appendix D), the MD-APPS (Appendix B), and an adapted EEQ (Appendix A). Internet surveys are cost-effective, time-efficient, anonymous, and permit large-scale data collection to increase the generalisability (Zohrabi, 2013). Possible limitations when using online surveys were that participants may not have had access to the internet, ignored online advertisements on social media platforms, and forgot to complete surveys, contributing to a poor response rate (Zohrabi, 2013). Surveys allowed participants to voluntarily and anonymously comment and recount experiences; however, in phase two interviews were used to obtain greater insight into HHPs' perspectives and experiences. The strength of using a sequential mixed method research design is that if unexpected results occurred during phase one, phase two could have been adjusted (Ivankova et al., 2016); however, this was not needed.

During phase two, personal semi-structured interviews (Appendix C) were conducted to collect qualitative data. Due to the sensitive topic of the study, personal interviews provided

confidentiality and encouraged frank sharing of information which may have been restricted if focus groups had been used (Kruger, Rodgers, Long, & Lowy, 2018). Open-ended questions allowed participants to freely express their feelings, perspectives, and experiences of MD and their workplaces' ethical climate (Creswell, 2018).

A narrative approach enabled personal stories to be shared and allowed in-depth, raw descriptive data collection (Onwuegbuzie & Collins, 2017). The researcher had to ensure consistency throughout the interviews for data to be compared while still allowing a natural flow of storytelling during interviews. However, the interview method of data collection compromised anonymity, which may have caused HHPs to withhold sensitive information (Zohrabi, 2013). Figure 1 depicts the research procedure.

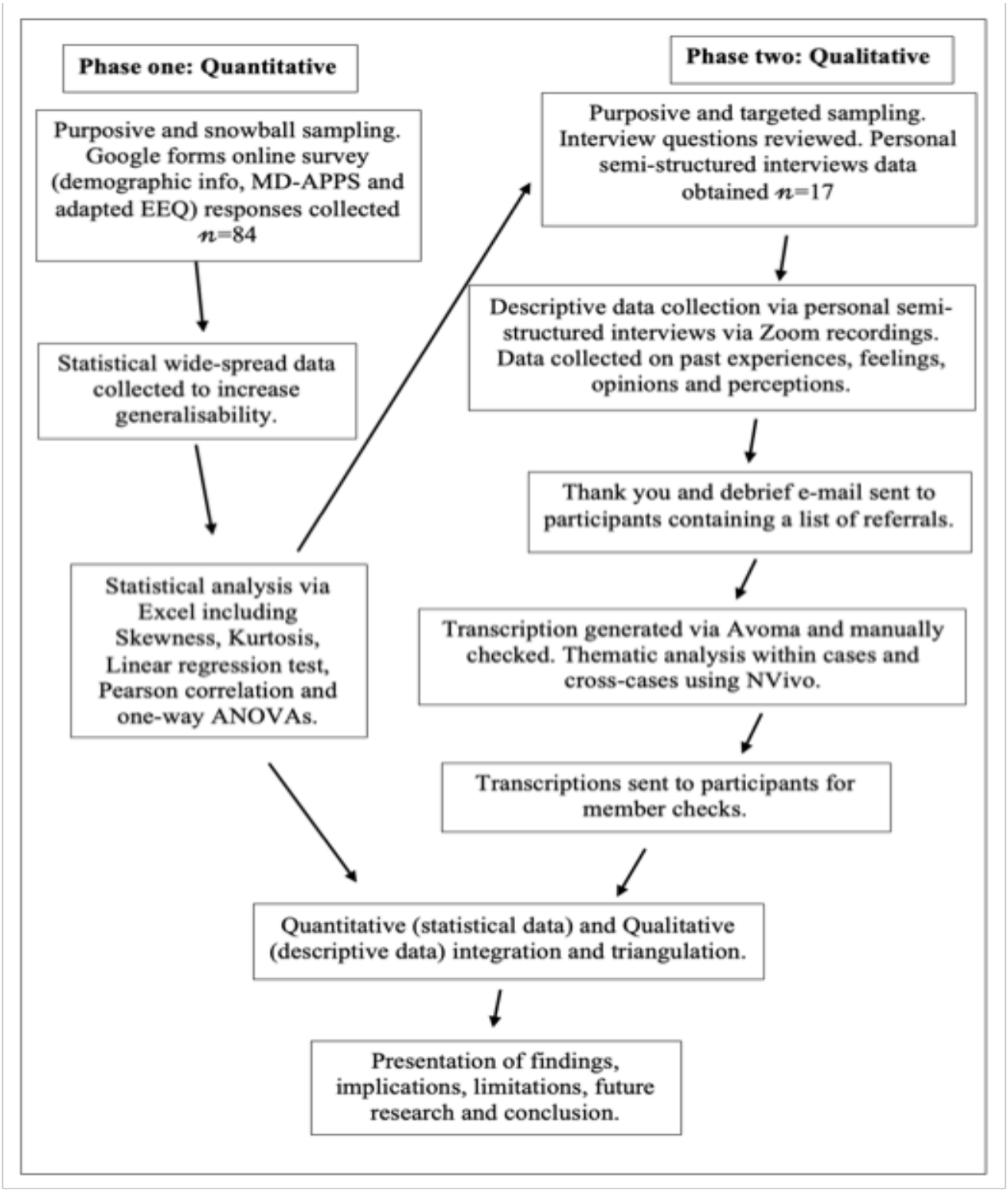

Figure 1 *Explanatory sequential mixed-method research design*

Participants

Inclusion Criteria

Participants were required to meet a certain criterion to ensure the objectives of the study could be accurately investigated. Table 1 demonstrates the inclusion criteria for phase one with rationales.

Table 1 *Inclusion criteria for phase one with rationales*

Inclusion Criteria	Rationale
Registered with the Health Professions Council of South Africa (HPCSA) as either an Audiologist, Community Service Audiologist or Speech Language Therapist-Audiologist (SLT-A) or Hearing Aid Acoustician.	This ensures they are accredited HHPs.
Currently fitting an average of ≥2 hearing aids per week.	It is important that participants were actively fitting hearing aids to assist in the accurate recall of past events as well as to address the aim of the study, thus investigating MD and ethical climate in the provision of amplification services.
On average, sees ≥4 patients per day	This ensured HHPs had sufficient clinical experience, knowledge, and number of personal experiences upon which they could formulate their opinions.
≥6 months experience fitting hearing aids.	This ensured HHPs had experience fitting hearing aids and spent enough time engaging in clinical practice to have personal experiences, opinions and recall past events.

In addition to the eligibility criteria listed for phase one, for phase two, participants needed to meet the following criteria:

- Have a device (cell phone, laptop, tablet etc) on which they could access Zoom or other video call platforms and be familiar with these platforms.
- Have a stable internet connection.
- Be fluent in English.

If a participant worked in both the public and private sectors, they were required to answer in view of the sector they spend more time in. The environment in which a participant spends most of their time subconsciously shapes their experiences and perspectives (Allen et al., 2013).

Exclusion criteria

Participants were excluded from phases one and/ or two based on the following:

- Not currently practicing within South Africa
- Participants were excluded from the study if they did not answer all demographic questions, as it is essential to know the demographic characteristics of the sample to ensure objectives are met.
- All the items on the MD-APPS and EEQ had to be answered in order to submit the Google form online, which allowed accurate scoring and interpretation of the scales.

Sample Size

A sample size was calculated based on statistics indicating there were 1548, 47.4% dually qualified audiologists and speech therapists, and 19.1% registered as audiologists with the HPCSA in 2020. However, not all professionals are currently practicing, and dually qualified professionals may be solely practicing as speech therapists (Pillay et al., 2020). In phase one, a sample size of 238 was targeted with a confidence level of 95% with a 5% margin of error (Creswell, 2018). This was calculated using a finite population equation (Calculator.net, 2022).

$$n' = \frac{n}{1 + \frac{z^2 \times \rho(1-\rho)}{\varepsilon^2 N}}$$

Justification for this sample size was due to feasibility, timeframe, and for data to yield results with statistical weighting. The targeted sample size was not reached, with a response rate of 35% in the current study, which is in line with internet surveys (Fincham, 2008). The sensitive nature of the topic, poor e-mail response rates, survey length, HHPs emigrating, and not meeting the eligibility criteria reduced response rates and potential candidates. In addition, e-mail recipients may not be interested in this area of research, therefore, did not complete the survey. Follow-up e-mails, social media advertisements, and LinkedIn messages were used to increase response rates. A minimum of 30 participants in each subgroup increases confidence intervals and contributes towards statistical weighting that is enough to warrant overall inferences about the sample (Creswell, 2018). In phase one, the sub-group sample size was not reached as there were 25, 29% HHPs working in the public sector; however, 59, 70% private HHPs participated. The coverage error in phase one was compensated for in phase two, where 6-8 participants were targeted due to a homogeneous population (Creswell, 2018), and 19 participants were recruited. The final sample size could only be partially predetermined as recruitment continued until redundancy and data saturation were reached (Creswell, 2018). A total of 17 interviews were conducted until no new information was generated, indicating data saturation was reached (LaDonna, Artino, & Balmer, 2021).

Recruitment

Phase one

Post University of Cape Town Faculty of Health Sciences Human Research Ethics Committee approval (reference number 745/2022 see Appendix E), participants were recruited during phase one via snowball and targeted recruitment strategies. An e-mail request

(Appendix F) was sent to chairpersons and presidents of professional associations to distribute an invitation to participate email, consisting of an information sheet and consent form (Appendix G), to their database. Associations included the Audiology Private Practice Forum (APPF), South African Association of Audiologists (SAAA), South African Speech-Language Association (SASLHA), and Reconnect Audiology Network (RAN). In addition, the information sheet and consent form (Appendix G) were emailed to colleagues, and an advertisement (Appendix H) was posted on social media platforms, including Facebook, WhatsApp, Instagram and LinkedIn, with a request to share. Questionnaires were sent to the targeted population in the hope to increase response rates (Wu, Zhao, & Fils-Aime, 2022).

Phase two

Upon completing phase one, participants were directed to a separate Google form via a new online link. The link directed participants to the information sheet and consent form for phase two (Appendix J), where they were able to make an informed decision about whether they wanted to continue participating.

Sampling Method

During phase one, non-probability, thus purposeful, voluntary and snowball sampling were used. Participants were recruited through known networks and word of mouth (Onwuegbuzie & Collins, 2017), which allowed the population of interest to be targeted. Snowball sampling enabled participants to share online advertisements and forward invitation e-mails to their network of HHPs to increase the sample size; however, this may have limited the diversity of the sample, thus reducing the transferability of the findings (Onwuegbuzie & Collins, 2017). Table 5 presents the participants' demographic information and information about hearing aid recommendations.

Table 2 *Demographics of the study sample and information about hearing aid recommendations and fittings.*

Characteristics	Number of Participants
Age (years)	
Under 25	7
25-34	49
35-44	15
45-54	9
55+	4
Gender	
Female	77
Male	7
Prefer not to say	
Sector of work	
Public	25
Private	59
Area of professional practice spent in majority of the time.	
Adult Rehabilitation	16
Diagnostics	57
Implantable and bone conduction devices	1
Paediatrics	10
Vestibular	0
No. years fitting hearing aids	
6 months -5 yrs	37
6-10yrs	20
11-20yrs	16
≥20yrs	11
No. patients seen per day.	
0-5	32
6-8	45
≥9	7

No. hearing aids fitted per week.	
0-5	64
6-10	20
≥10	0
No. of private patients recommend a hearing aid costing ≥ R 23 000.00 per aid, per week?	
Hardly ever	4
≤ 25% of patients	22
Up to 50% of patients	22
Up to 75% of patients	5
> 75% of patients	6
NA, I work in the public sector	25
No. of private patients recommend a hearing aid costing ≤ R 23 000.00 per aid, per week?	
Hardly ever	4
≤ 25% of patients	19
Up to 50% of patients	20
Up to 75% of patients	12
> 75% of patients	4
NA, I work in the public sector	25

Materials

Phase one consisted of an online Google form survey including a demographic questionnaire (Appendix D), MD-APPS (Appendix B), and adapted EEQ (Appendix A).

Demographic Questionnaire

The demographic questionnaire collected data about sample characteristics which were used to draw correlations between levels of MD and perceptions of ethical climate in the workplace with demographic information.

Moral Distress-Appraisal Scale

This appraisal scale detects and assesses the impact an environment has on one's well-being, goals, and psychological strain (Moors, Ellsworth, Scherer, & Frijda, 2013). The scale consisted of questions directed from two angles: absence (freedom and support) and presence (hindrance and coercion) of MD (Baele & Fontaine, 2021). There were eight items that are rated on a six-point Likert scale, 1-totally disagree, 2-disagree, 3-rather disagree, 4- rather agree, 5-agree, 6-totally agree. The total score was obtained as a mean score of the hindrance and coercion and reverse coded with freedom and support items. A higher score indicates higher levels of MD (Baele & Fontaine, 2021). Table 3 shows which items on the MD-APPS scale are classified as freedom, support, hindrance, or coercion and whether the score for each item had to be added or subtracted to obtain a total MD score.

Table 3 *Freedom and support items and hindrance and coercion items on the MD-APPS*

Item	**Facet**
I am kept from working ethically.	Hinderance (+)
I am prevented from carrying out my work in a way that I believe is morally right.	Hinderance (+)
I am compelled to do things that I believe are morally wrong.	Coercion (+)
I am required to do things that are contrary to my own norms and values.	Coercion (+)
I can work in accordance with my norms and values.	Freedom (-)
I can work in a way that I believe is morally right.	Freedom (-)
I am supported to act ethically.	Support (-)
I am helped to work in a way that I believe is morally right.	Support (-)

Note. When scoring the MD-APPS, the freedom and support item scores need to be reversed coded. Eg. (6 becomes 1). Table adapted from (Baele & Fontaine, 2021).

Ethics Environment Questionnaire (adapted)

The EEQ measures individuals' opinions of moral climate/conduct in the workplace. It consists of 20 items and a 5-point Likert scale. Responses range from 5-Strongly Agree, 4-Agree, 3-Undecided, 2- Disagree, to 1- Strongly Disagree. To ensure accurate responses, several items were negatively worded, which required scoring adjustments (McDaniel, 1997). EEQ is a unique scale that can be used in multiple, diverse healthcare settings. It is not context-specific, thus avoiding conceptual confusion and underrepresenting perceptions of ethical climates. For this study, several alternative words (see highlighted words in Appendix A) were used to make the EEQ more suitable for HHPs. The alternative words were minor lexicographic changes unlikely to impact the reliability and validity of the instrument.

Interview guide for Semi-Structured Interviews

Personal semi-structured interviews were used to obtain information about participants' thoughts and feelings about MD and the ethical environment in their workplace. Interviews allowed participants to share their personal experiences (see Appendix C for the interview guide). The interview guide ensured consistency throughout the interviews to ensure data could be compared between HHPs during data analysis. The interview guide also assisted the researcher to remain objective.

Validity and Reliability/ trustworthiness and rigour

The MD-APPS consisted of positively and negatively framed questions, which helps to reduce response bias. It is context-independent, thus reduced the risk of underrepresenting levels of MD in different settings and ensured good content validity; however, central tendency bias could have occurred (Kreitchmann, Abad, Ponsoda, Nieto, & Morillo, 2019). The MD-APPS has a high convergent validity with the MDS-R, with a Cronbach's alpha coefficient of 0.89 (Baele & Fontaine, 2021). The MD-APPS positively correlates with the well-known MDS-R, burnout, depressive symptoms, and turnover (Allen et al., 2013; Baele & Fontaine, 2021).

The EEQ was easy to administer, cost-effective, required approximately 10 minutes to complete, and revealed valid and reliable results (McDaniel, 1997). It has a reading level of ninth grade, suitable for healthcare practitioners (McDaniel, 1997). The EEQ has an internal consistency using Cronbach's alpha coefficient of 0.93, and the test-retest reliability is 0.88 (McDaniel, 1997). The EEQ is out of 5.0, with a mean score of 3.1. A score of >3.5 indicates a positive ethical environment, 2.1-3.4. indicates a neutral ethical environment and 1.0-2.0 indicates a negative ethical environment. The EEQ was chosen as it has reasonable reliability, content, and criterion validity (McDaniel, 1997). The EEQ is also a Likert-type scale which is

subject to central tendency bias, causing HHPs to avoid answering strongly agree or disagree (Kreitchmann et al., 2019), which was addressed as participants were reassured that their answers would remain anonymous. HHPs were also able to complete the survey in privacy and in their own time. Response scales are also susceptible to method artefacts or systematic measurement errors where HHPs respond acquiescently, therefore, agree or disagree to statements regardless of content (Baele & Fontaine, 2021).

Due to the sensitive nature of the topic, personal semi-structured interviews enabled frank sharing of information which may have been hindered if focus groups were used. It was not mandatory to have the camera on to respect the HHPs' privacy. To ensure trustworthiness of the data collected during the interviews and confirmability[4] was ensured through member checks (Elo et al., 2014). Transcripts were made available to participants along with key information for approval to ensure the data accurately captured the essence of their interview to increase credibility[5] (Elo et al., 2014). Interviews were transcribed using Avoma then checked by the researcher to ensure accuracy. Participants expressed themselves in different ways, which may have caused themes to be missed (Nowell, Norris, White, & Moules, 2017); however, Nvivo was used to organise data which reduced the risk of omitting potential themes. To ensure authenticity[6] a range of 17 HHPs, including public and private practitioners and practice owners, participated and all perspectives were obtained and reported on, even if they differed, to avoid bias (Elo et al., 2014). The researcher increased credibility by accurately describing participants (Appendix J), maintaining a high standard of self-awareness and was careful not to manipulate or lead participants to elicit desired answers (Elo et al., 2014). An interview guideline helped ensure standardisation, consistency, and objectivity. Reflexivity

[4] Confirmability ensures data accurately represents the information that the participants provided and interpretations are not constructed by the researcher (Elo et al., 2014).
[5] Credibility is ensuring that participants are identified and described accurately (Elo et al., 2014).
[6] Authenticity refers to the extent to which the researcher has been true to the data and shown a range of realities (Elo et al., 2014).

journaling ensured the researcher's thoughts, opinions and relationships with participants were noted and that the researcher's bias did not contaminate the research process (Dodgson, 2019).

A mixed-method approach increases the rigour, trustworthiness, and dependability of the data through data triangulation (Creswell, 2018). A detailed description of how the study was conducted enables the study to be replicated in other settings, thus increasing generalisability and transferability[7]. Methodological choices were disclosed to increase the confirmability and credibility of findings (Elo et al., 2014). The study used nonprobability, volunteer, convenience, and snowball sampling, which introduces potential bias as participants may share multiple similar characteristics (Onwuegbuzie & Collins, 2017); therefore, generalising results to other HHPs in different countries or settings should be done cautiously. This study was susceptible to different sources of bias. Table 4 describes sources of bias and how they were managed.

[7] Transferability refers to what extent the research findings can be relatable or applicable in other settings or groups (LaDonna et al., 2021).

Table 4 Sources of bias and how to manage them

Type of bias	Description of bias in relation to the study	Management
Social Desirability Bias	Due to the sensitive nature of the topic and the possible stigma attached to MD, participants may have provided answers they perceived to be socially acceptable rather than a true reflection of their reality (Bergen & Labonté, 2020).	Questionnaires were administered via Google forms without the researcher present thus removing the pressure to answer in a particular manner. In phase two participants were reassured that responses were confidential and thus encouraged to answer truthfully.
Recall Bias	Participants may have impaired recall of past events. Participants may have chosen to forget situations that caused MD due to their potentially traumatic nature (Althubaiti, 2016).	There were no time limits during this study to allow participants to be reflective and assist them to accurately recall past events. During semi-structured interviews, if participants were not able to recall events, this was noted.
Reporting bias	Participants could have provided answers they thought were of interest or tried to predict the desired outcome of the study (Althubaiti, 2016).	It was reiterated throughout the study to provide frank answers based on personal experiences. Confidentiality was reiterated.
Non-responses	Due to the sensitive topic of the study and the length of the questionnaire, HHPs may have decided not to participate. This may have limited the amount of data obtained thus reducing the representativeness, reliability, and validity of the findings (Fincham, 2008).	Questionnaires could be completed in the HHPs' own choice of location and time to encourage truthful answering and uptake. No time limit was used to ensure a non-pressured environment and time for participants to answer all the questions. All questions had to be answered in order to submit the online form, therefore there were no incomplete questionnaires.

Researcher bias	Researcher's personal beliefs influenced the way in which data were collected and interpreted (Tufford & Newman, 2010).	Researcher's bias was reduced by ensuring data were collected, analysed and interpreted impartially. Bracketing was used to manage the researcher's preconceptions (conscious and subconscious) about the research topic (Tufford & Newman, 2010). Reflexivity and self-reflective journaling (Dodgson, 2019) was practiced. Transcribed interviews underwent member checks. This ensured results were valid and truly represented participants' opinions and experiences (Zohrabi, 2013).
Volunteer Bias	Due to the sensitive nature of the topic or lack of knowledge about MD, clinicians may have been reluctant to partake. Those who volunteered may have shared similar characteristics or had special interest in the study thus were not representative of all HHPs in SA.	Demographic data was collected to identify sample characteristics. This was accounted for when analysing results and thus the transferability and generalisation of results should be done with caution.
Interviewer Bias	The researcher may direct questions to obtain desired answers which coincide with their personal experiences.	The researcher's interactions were standardised and remained as objective as possible throughout interviews.

Research Procedures

Ethical clearance was granted by the University of Cape Town Faculty of Health Sciences Human Research Ethics Committee (Human Research Ethics Committee Reference no.745/2022).

Phase one

Participants were recruited by e-mailing a request (Appendix F) to the chairpersons and presidents of HHPs associations to distribute an invitation to participate email on their mailing list. Invitations included an information sheet, consent form and link to the questionnaire (Appendix G) (https://forms.gle/bT5CjLcARf9RKsXN7). A social media invitation (Appendix H) was posted on Facebook, Instagram, and LinkedIn with a request to share.

The consent form, demographic questionnaire, MD-APPS and adapted EEQ were completed and submitted via Google forms. There was no time limit and on completion, they were kindly requested to sign up via a separate link for phase two to ensure answers in phase one remained anonymous.

Phase two

For phase two, purposeful and convenience sampling (Onwuegbuzie & Collins, 2017) were used. Participants signed up via a Google form consisting of an information sheet and consent form (Appendix I). Once consent was submitted via the Google form along with the participants' contact details were received from the participant via the form, a time, date, and platform for the interview to be conducted were arranged. At the start of the interview, participants' confidentially and anonymity were reassured. An interview guide (Appendix C) was used to conduct the interviews which were completed, on average, within 35-45 minutes or until the participant did not have any other experiences or opinions to share. Open-ended questions were asked, and participants were encouraged to share freely to obtain in-depth answers. Phrases such as "tell me more" and "how did that make you feel" were used to

encourage sharing of information. Questions were asked impartially, and the researcher remained as objective as possible without sharing personal experiences, perspectives, or reactions. In closing the interview, participants were asked if they had anything else they would like to share, which gave the HHPs the opportunity to voice and elaborate on remaining thoughts, experiences, and opinions. A reflective journal (Appendix K) ensured unconscious bias was recognised and field notes (Appendix L) documented observations (Dodgson, 2019). Interviews were recorded then transcribed using Avoma. Nvivo helped organise data for thematic analysis. Participants received a copy of the themes from their interview and were allowed to make necessary changes to ensure the information was accurate. On completion of the interview, participants were debriefed, and an appreciation email was sent with a list of contacts should they have felt the study had negatively impacted them (Appendix L).

Data Management

For phase one, participants were given study numbers, and results were downloaded onto Excel spreadsheets. Phase two interviews were recorded on Zoom and transcribed using transcription software, Avoma, then manually checked. Transcriptions were stored on Nvivo and Microsoft Word. Data were kept on a password-protected MacBook Pro with up-to-date antiviruses (Norton 360), a password-protected external hard drive, and a password-protected Google Drive. In addition, data was stored on UCT's data storage platform with password protection and managed access controls in accordance with the Protection of Personal Information Act. According to the University of Cape Town (2018), data will be kept for a maximum of three years from the publication date as per the research data management policy.

Field notes (Appendix K) were kept during interviews to document observations, body-language and subliminal messages, and a reflective journal (Appendix J) was kept during data collection and analysis to limit unconscious errors of seeing and valuing what the researcher

expected to find or what fitted into the researchers pre-existing knowledge or personal experiences (Dodgson, 2019).

Data Analysis

Quantitative and qualitative data were analysed separately, thereafter, results were triangulated via a mixed methods analysis and arranged by topic to draw conclusions (Bazeley, 2011). Triangulation enables the researcher to evaluate whether the data collected from semi-structured interviews converge, were complementary or contradictory to information obtained from the online survey, which aided in determining the completeness of the data analysis (Creswell, 2018).

Phase one: Quantitative

Quantitative data were analysed using Excel. All the items on the demographic questionnaire, MD-APPS and EEQ were required to submit the survey; therefore, no responses were excluded from the study, and no adjustments were needed when calculating MD-APPS and EEQ scores.

The EEQ was scored by calculating a mean score, with a higher mean score indicating the perception of a positive ethical work environment. The MD-APPS score is computed as a mean score of the hindrance, coercion, and reverse coded with the freedom and support items. Higher scores indicate higher levels of MD (Baele & Fontaine, 2021) (see Table 3).

Tests of skewness and kurtosis were used to determine whether MD-APPS scores and EEQ sores were normally distributed. Skewness assesses the extent to which the distribution of data is symmetrical. A skewness score between -1 and 1 is considered excellent (Hair, Hult, Ringle, & Sarstedt, 2022). Kurtosis is a measure of whether the distribution is too peaked, indicating most of the responses are in the centre of the distribution of data. A kurtosis greater than 2 indicates the distribution of data is too peaked, and a kurtosis of less than -2 indicates a

flat distribution. When both skewness and kurtosis are close to zero, then the data are normally distributed (Hair et al., 2022). The skewness of MD-APPS scores was 0.96, indicating a normal distribution of data. The skewness of EEQ scores was -0.21, which shows there were many larger scores in the data set, which indicates more HHPs reported a more positive than negative ethical work environment. A kurtosis of 0.46 for MD-APPS scores and 0.30 for EEQ scores suggests data were slightly peaked; however, data analysis could continue.

Descriptive analyses were conducted to explore all HHPs' levels of MD (MD-APPS scores) and perceptions of their ethical work environment (EEQ scores).

One-way ANOVAs were used to analyse the relationship between two variables and scores on the EEQ and MD-APPS (Kim, 2017). To determine whether there was a correlation between the public or private sector and scores on the EEQ, a one-way ANOVA was used. The null hypothesis was that there is no difference between the adapted EEQ scores of HHPs working in the public sector compared to those working in the private sector. The alternate hypothesis states there was a difference between the EEQ scores of HHPs in the public sector compared to those in the private sector.

A p-value of less than 0.05 causes the null hypothesis to be rejected, whilst a p-value of more than 0.05 indicates the null hypothesis cannot be rejected (Kim, 2017). The Bonferroni correction was then applied, with a significance level of 0.008, to reduce the risk of a Type 1 error as repeated tests were conducted on the same data set and due to the sample size (Armstrong, 2014). One-way ANOVAs were also used to determine potential correlations between participants (public and private) and years of experience, age, and gender with levels of MD (MD-APPS scores) and with participants' perceptions of the ethical work environment (EEQ scores). Last, one-way ANOVAs were used to evaluate whether there was a correlation between recommending a hearing aid within a certain price range and level of MD among HHPs within the private healthcare system and to explore correlations between the number of

patients seen per day and levels of MD and perceptions of the ethical work environment in all HHPs.

A Pearson correlation coefficient was used to measure the strength of the linear association between MD-APPS scores and EEQ scores. A Pearson correlation coefficient (r) can take on values between -1 and 1. The further (r) is from zero, the stronger the linear relationship between the two variables (Sedgwick, 2012). If (r) is positive, then as one variable increases, the other increases, indicating a positive correlation. If (r) is negative, then as one variable increases, the other decreases, indicating a negative correlation. A perfect linear relationship (r -1 or r +1) means that one variable can be perfectly explained by a linear function of the other variable (Sedgwick, 2012).

Phase two: Qualitative

Rigorous thematic analysis was conducted to ensure trustworthiness (Nowell et al., 2017). All raw data were stored to ensure a clear audit trail. Table 5 details the process of how data obtained via interviews underwent thematic analysis.

Table 5 *The process of thematic analysis*

Phases of Thematic Analysis	**Detailed steps which were followed**
Phase 1: Check data and familiarise	The researcher read the transcripts three times. During the second and third reading recurring and important words, phrases and characteristics were labelled (Creswell, 2018). Reflexivity was conducted to ensure the researcher's bias was not introduced (Dodgson, 2019).
Phase 2: Generating initial codes	Initial thoughts, memos and key phrases helped to create codes (Creswell, 2018). Coded extracts were reviewed to see whether there were patterns. The co-occurrence and frequency of codes was evaluated and demographic attributes associated with these codes was noted (Bazeley, 2009).
Phase 3: Generating categories	Patterns were identified and codes sharing similar characteristics were grouped into categories (Creswell, 2018).
Phase 4: Searching for themes	Relations between categories were found, and upon which different themes were built across participants. Themes were generated inductively by the researcher (O'Brien, Harris, Beckman, Reed, & Cook, 2014).
Phase 5: Review themes	The validity of themes was evaluated to ensure they accurately reflected the data. Themes were checked by ensuring they captured codes and categories and were supported with substantial data. Themes were checked at two different sittings, one week apart, to see whether the same themes emerged.
Phase 6: Finalise data	Themes were reviewed, edited, and named. Raw data were checked a final time to ensure no important information was missed. Quotations helped support themes, the frequency of each theme was tracked, and counterfactual themes were recognised (Bazeley, 2009).

The researcher ensured no themes were missed due to being presented differently, and the absence of themes was noted or if they were expressed differently. Data collection and analysis continued until saturation occurred (O'Brien et al., 2014). Member checks were conducted to ensure participants were satisfied with the data and key themes from their interviews and were able to raise concern if the information was inaccurate (Nowell et al., 2017).

Throughout thematic analysis, reflective journaling assisted the researcher to remain impartial by recording personal reflections, thoughts and interests as well as provide rationale for methodological decisions. Self-checks enabled the researcher to bring awareness to thoughts brought about by analysing the data not to influence analysis (Dodgson, 2019).

Once the data from phase one and two were analysed independently, the data were then compared and triangulation took place (Zohrabi, 2013). Responses from the online survey were compared to the answers obtained during the interviews. If the responses from phase one and two correlated, then results indicated a higher level of trustworthiness (Zohrabi, 2013).

Ethical Considerations

The proposal was approved by the Faculty of Health Sciences Human Research Ethics Committee, University of Cape Town (Reference: HREC REF 745/2022). The study adhered to the main principles of ethical considerations according to the Declaration Helsinki, thus ensuring autonomy, beneficence, non-maleficence, and justice (World Medical Association, 2013). In addition, this study endorsed the Singapore Statement of Research Integrity (Appendix M).

This study respected participants' right to self-determination. During recruitment, no biases were shown toward participants based on their place of work, age, gender or socio-economic status. It was ensured that participants made informed decisions to participate by reading comprehensive information sheets and signing consent forms. Participants were able

to contact the researcher and supervisor if they had any questions and/or concerns. As stated in the information sheets, participation was entirely voluntary, and participants could withdraw at any time without penalties. The study ensured participants' well-being overrode the benefits of the study (World Medical Association, 2013). No rewards or incentives were given.

Confidentiality

Autonomy was ensured by assigning participant numbers to HHPs. E-mail addresses and information obtained from participants were accessed by the researcher and kept on a password-protected laptop with updated antiviruses. No information was shared with outside institutions. In phase two, video recordings of interviews were deleted once transcribed. Throughout the study, the confidentiality of personal information remained a priority. Nothing was written in the final report that disclosed a participant's identity or place of work.

Risk to participants

Due to the sensitive nature of the topic, participants may have felt resistant to disclose their perspectives. It is possible they could have experienced trauma when recounting personal experiences. Participants were encouraged to inform the researcher if they were negatively affected. An appreciation email (Appendix L) was sent to participants upon completion of the study which included a list of referrals as a precautionary measure. Throughout the study participants were reassured their identity remained anonymous and information that could be used to identify them was omitted.

Benefits to participants

No incentives were rewarded for participating or recruiting participants. This study created a safe place for HHPs to speak freely and to be heard about situations that cause MD and affect the ethical climate in their workplace. This study created awareness amongst HHPs and hopefully brought attention to areas of possible ethical concern that need to be addressed

within the profession. Participants were able to request research outcomes and educational resources. The benefits outweighed the potential risks.

Conflicts of interest

There are no known conflicts of interest. The researcher and supervisor did not receive any incentives or rewards for conducting this study. There were no royalties or trademarks for the questionnaires used in the study. At the time of the study, the researcher was not practicing as a clinical audiologist and no longer works in South Africa, which reduced potential biases. There were no motives for personal gain.

Chapter 3: Results

This study sought to measure the level of moral distress (MD) experienced by Hearing Healthcare Practitioners (HHPs) and explore their opinions about their work environment in terms of ethics. All HHPs included in the study dispense hearing aids within South Africa (SA). Quantitative then qualitative results are reported before triangulating the data and presenting a summary of the findings by using a positivist approach.

Phase one: Demographic questionnaire, Moral Distress-Appraisal Scale and the Ethics Environment Questionnaire

A total of 84 online questionnaires were completed. Fifty-nine (70%) participants worked in the private sector, and 25 (29%) worked in the public sector. Of the 84 participants, seven (8%) were male. The majority of HHPs (n=37 or 44%) had 6 months to 5 years of experience fitting hearing aids and worked in diagnostics (n=57, 68%), while fewer (n=16, 19%) spent most of their time in adult rehabilitation. Most participants (n=45, 53%) saw 6-8 patients a day, while (n=32, 38%) saw 0-5 patients a day. A total of (n=64, 76%) HHPs fitted 0-5 hearing aids per week, and (n=20, 23%) participants fitted 6-10 hearing aids per week. In the private sector, (n=22, 37%) participants reported that they would recommend a hearing aid costing ≥ R23 000.00 per aid to up to 25% of their patients per week, while another (n=22, 37%) participants reported they would recommend a hearing aid within this price range to up to 50% of their patients, per week. The results were similar for recommending a hearing aid costing ≤ R23 000.00 as (n=19, 32%) participants recommended a hearing aid within this price range up to 25% of patients per week, and another (n=20, 33%) participants recommended a hearing aid within this price range up to 50% of their patients, per week. See Table 1 shows HHPs' demographic information and hearing aid recommendations.

Levels of moral distress experienced by all HHPs.

MD-APPS scores raged from 1 to 4.8 with a standard deviation (SD) of 0.88. For all HHPs, a mode and a mean ($\overline{X}$) of 2 were recorded, indicating that the majority of HHPs did not report high levels of MD. Only 17% of all HHPs obtained a score ≥ 3, and only 5% obtained a score ≥4. A higher MD-APPS score indicates a higher level of MD. Figure 2 is a scatter plot showing the comparison between MD-APPS of public versus private HHPs around their mean scores. The public mean MD-APPS score is 2.1, and the private mean score is 2.

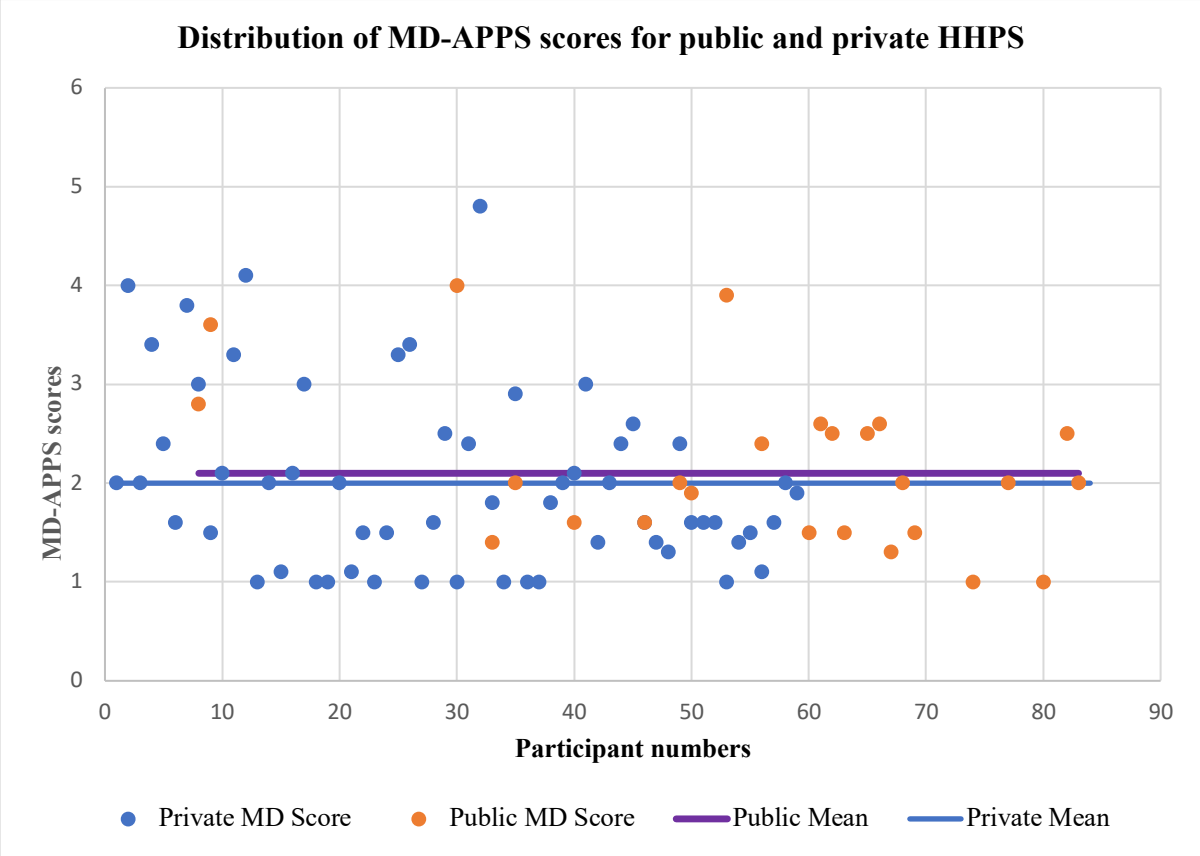

Figure 2 *Scatter plot showing the distribution of public versus private HHPs' Moral Distress Appraisal Scale (MD-APPS) scores around their individual mean scores.*

Workplace setting (public vs private healthcare sector) and HHPs' level of moral distress.

A p-value of 0.50 indicated there was no significant difference between the level of MD experienced by participants who worked in the private sector compared to those who worked in the public sector. Figure 3 shows a scatter plot of the distribution of Moral Distress Appraisal Scale (MD-APPS) scores for private participants in relation to the mean score of 2. An SD of 0.91 was evident, indicating more variance around the mean compared to public participant scores. MD scores ranged from 1 to 4.8.

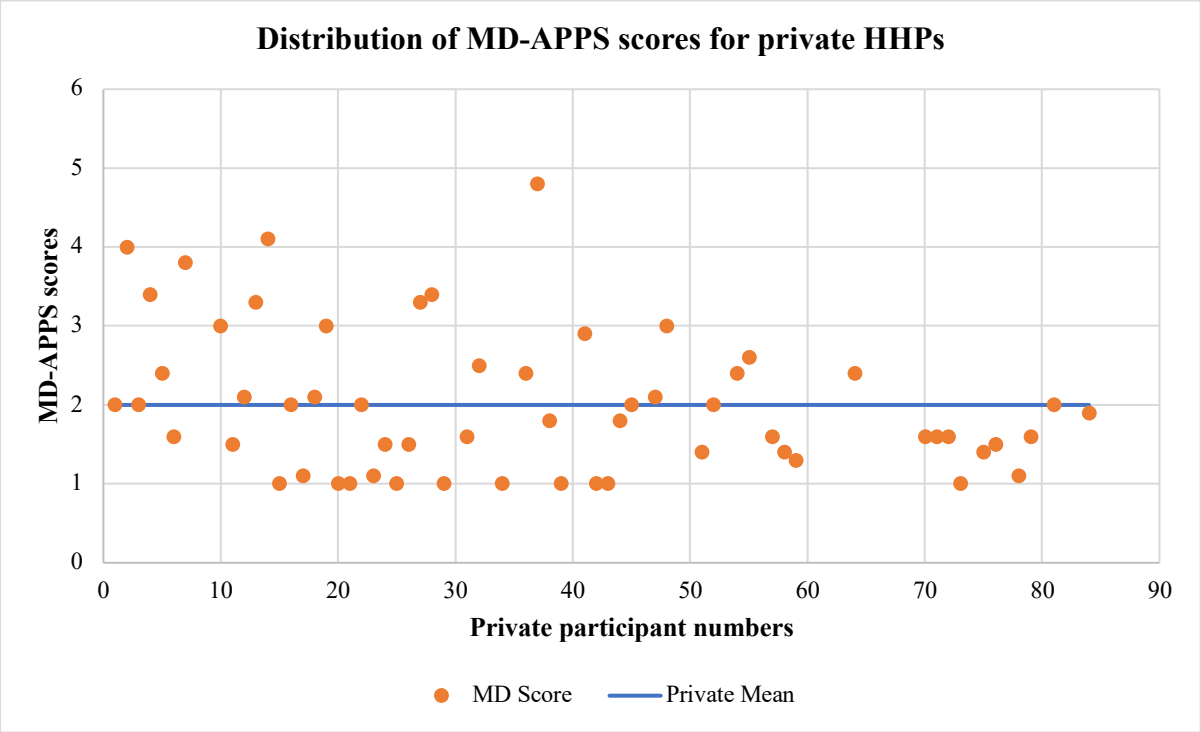

Figure 3 *Scatter plot showing the distribution of Moral Distress Appraisal Scale (MD-APPS) scores for private participants in relation to the mean score.*

Figure 4 shows the distribution of Moral Distress Appraisal Scale (MD-APPS) scores for public participants in relation to the mean score of 2.1, similar to that of public HHPs. The standard deviation around the mean was 0.81 therefore, MD scores for public participants were closer to the mean score compared to private participant MD scores. Levels of MD ranged from

1 to 4; therefore, it is evident that the maximum MD score was lower for public HHPs compared to private HHPs.

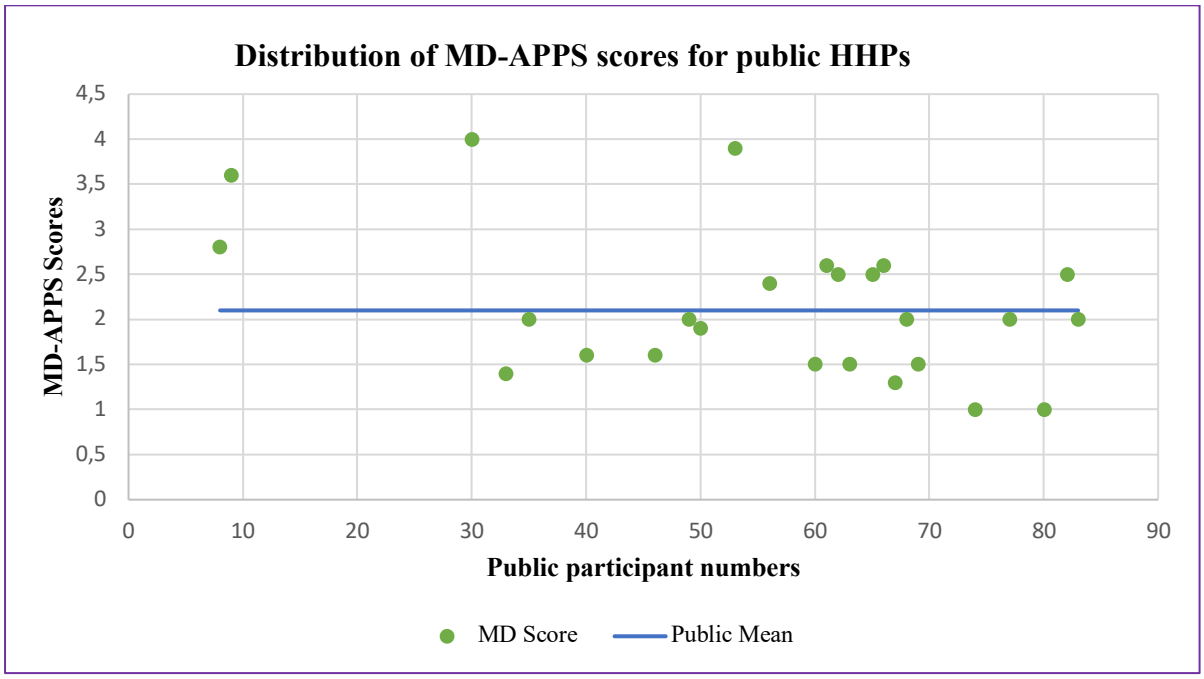

Figure 4 *Scatter plot showing the distribution of Moral Distress Appraisal Scale (MD-APPS) scores for public participants in relation to the mean score.*

HHPs' perceptions of their ethical work environment.

EEQ scores for all HHPs, irrespective of their sector of work, ranged from 2.7 to 4 with a SD of 0.25. A mode and $\overline{X}$ of 3.5 was recorded indicating that most HHPs and on average perceived their ethical work environment as positive. Of all the HHPs, 96% had a score ≥ 3, therefore, viewed their ethical work environment as neutral to positive. Figure 5 depicts a scatter plot showing the distribution of EEQ scores for all HHPs (public and private) with no scores between 1.0-2.0, showing no participants perceived their ethical work environment as negative.

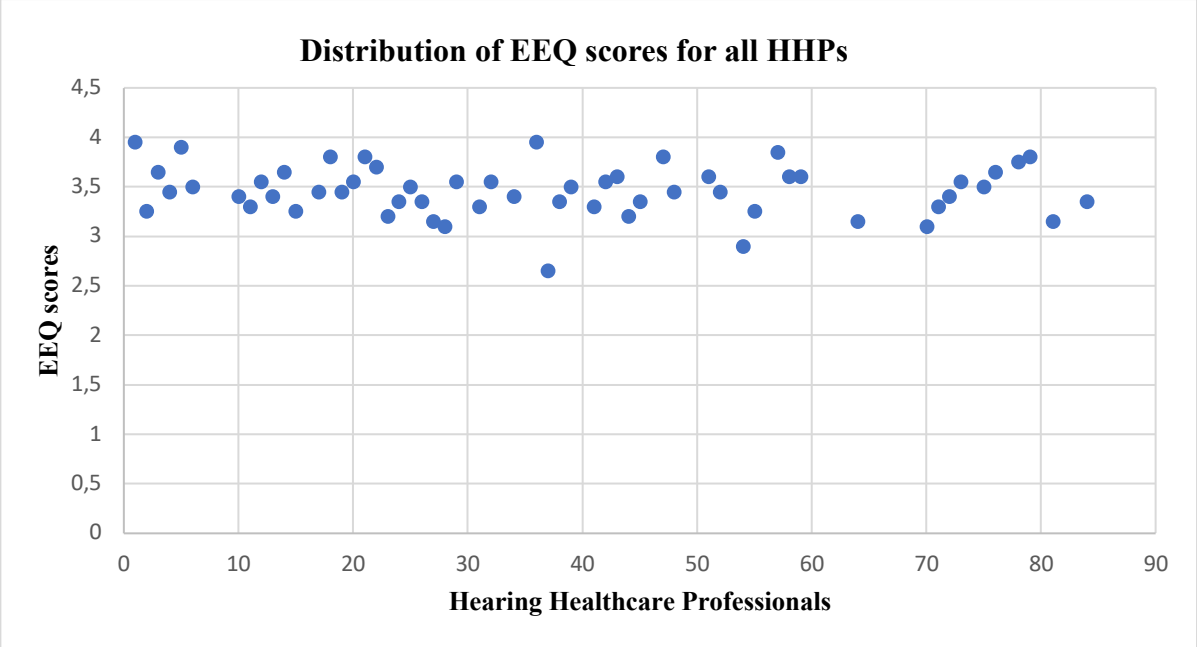

Figure 5 *Scatter plot showing the distribution of Ethics Environment Questionnaire (EEQ) scores for all HHPs.*

Workplace setting (public vs private healthcare sector) and HHPs' perceptions of their ethical work environment.

A p-value of 0.102 was generated from a one-way ANOVA, concluding there is no statistical difference between the EEQ scores of HHPs working in the private sector compared to those who work in the public sector. The analysis confirms there is no significant difference between public and private HHPs and how they perceive their ethical work environment.

Correlation between MD-APPS scores and EEQ scores.

A Pearson correlation coefficient of -0.34 was obtained, indicating that there is a weak negative relationship between the level of MD among participants and EEQ scores, the perception of their ethical work environment. A Pearson correlation coefficient of -0.34 indicates that the lower the MD score was, the higher the EEQ score; however, due to the coefficient being close to 0, one cannot conclude that there is a statistically significant correlation. A negative coefficient was expected because the higher the MD score is, meaning

the participant demonstrates a higher level of MD; they are more likely to perceive their ethical work environment as negative, thus obtaining a low EEQ score. A linear regression test confirmed only 12% of scores fitted the linear model, therefore one cannot assume with confidence that as MD scores increase, EEQ scores decrease.

Correlations between all HHPs' years of experience, age, gender, and moral distress.

The Bonferroni correction of 0.008 was applied when determining whether there was a correlation between years of experience and level of MD as six individual t-tests were performed to include all the categories of work experience. A significant p-value of 0.042 was found when MD levels were compared between participants with 6 months-5 years of work experience to those with 11-20 years of work experience and when MD levels were compared between participants with 6 months -5 years of work experience to those with 20+ years of work experience. These results indicated that participants who had 6 months to 5 years of work experience had significantly higher levels of MD compared to participants who had 11-20 years and 20+ years of experience. Figure 6 is a line graph demonstrating how levels of MD (MD-APPS scores) decline with more years of experience.

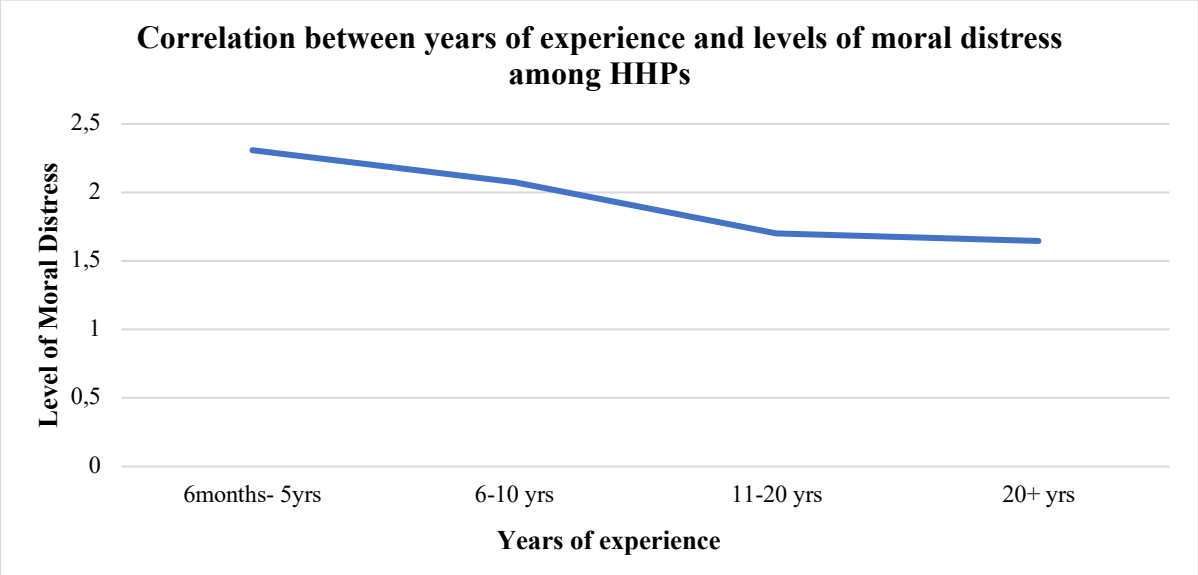

Figure 6 *Line graph showing the relationship between years of experience and level of moral distress.*

A p-value of 0.12 was obtained when investigating whether there was a correlation between age and MD and a p-value of 0.77 was obtained when calculating whether there was a correlation between gender and MD, indicating no significant correlations between age and levels of MD and gender and levels of MD.

Correlation between all HHPs' years of experience, age and gender, and EEQ.

A p-value of 0.77 for experience, 0.73 for age and 0.88 for gender was calculated, indicating that no correlation was found between years of experience, age and gender and scores on the EEQ.

Potential of 'upselling' on moral distress experienced by HHPs in the private healthcare sector.

When determining whether there was a difference in the level of MD experienced by HHPs practicing in the private sector who recommended a hearing aid costing ≥R23 0000.00 per aid compared to HHPs who recommended a hearing aid costing ≤R23 000.00 per aid, a P-value of 0.81 indicated that no correlation was found. This result suggests that recommending a more expensive or less expensive hearing aid does not affect levels of MD experienced by HHPs working in the private sector.

Correlation between caseload, measured by the number of patients seen per day, for all HHPs and level of moral distress.

The Bonferroni correction was applied, and a p-value of 0.0057 was obtained when calculating the correlation between the number of patients seen per day and MD scores, which

indicates that HHPs who saw 9 or more patients per day reported significantly higher levels of MD compared to those who saw 0-5 and 6-8 patients per day.

Correlation between caseload, measured by the number of patients seen per day, for all HHPs and their perception of their ethical work environment.

The Bonferroni correction was applied, and a p-value of 0.0009 was obtained when calculating the correlation between the number of patients seen per day and EEQ scores, indicating that participants who saw more patients per day had lower EEQ scores. Participants with higher caseloads viewed their ethical work environment more negatively compared to those who saw fewer patients per day.

Participants who saw nine or more patients per day reported significantly higher levels of MD and viewed their ethical work environment as significantly poorer than those who saw 6-8 patients a day. Figure 7 is a line graph showing the relationship between the caseload (number of patients seen per day) and level of MD (MD-APPS scores), and the participant's perceptions of their ethical work environment (EEQ scores).

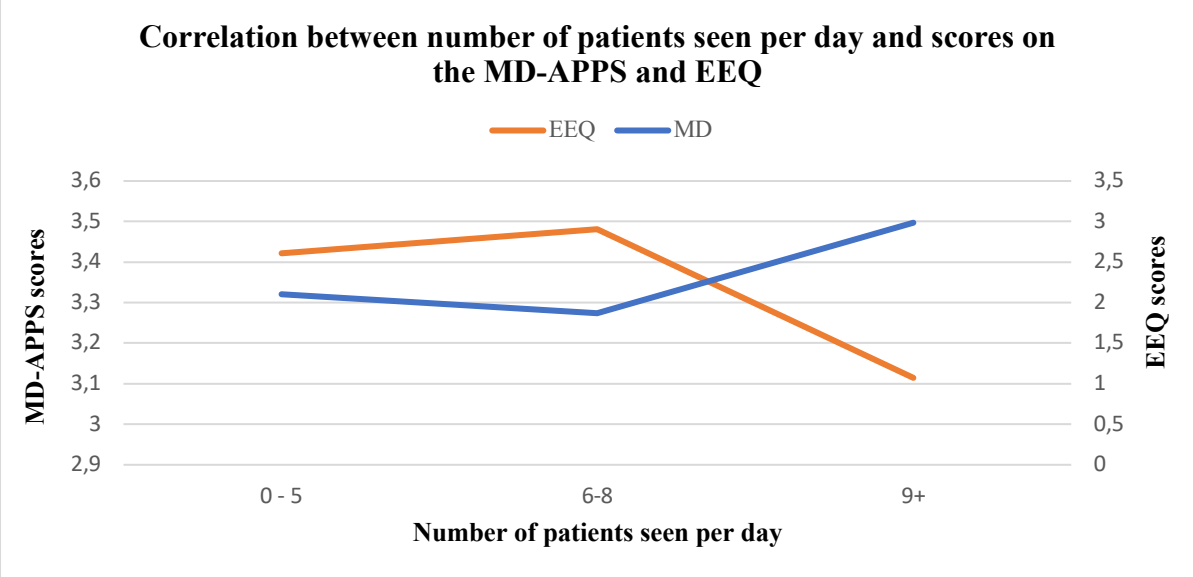

Figure 7 *Line graph showing the correlations between the number of patients seen per day and MD-APPS and EEQ scores.*

The line graph demonstrates that the correlation between caseload and the level of MD and perceptions of the ethical work environment is non-linear as HHPs (n=45) who saw 6-8 patients per day reported lower levels of MD compared to HHPs (n=32) who saw 0-5 patients per day which were similar for EEQ scores as HHPs who saw 6-8 patients per day perceived their ethical work environment as positive, whereas HHPs who saw 0-5 patients a day perceived their ethical work environment as neutral.

Phase two: Semi-structured personal interviews

During phase two, 17 interviews were conducted until data saturation occurred. Inductive thematic analysis was used to analyse qualitative data using the process described in the methodology. Qualitative data were obtained from two dually registered speech-language therapists/audiologists and 14 audiologists. Three participants worked in the public sector, and 14 participants worked in the private sector. Of the 14 private sector participants, five were private practice owners. A word cloud and the frequency of adjectives the participants used to describe moral distress and their work environment were used to develop emerging themes. The following themes emerged from the data.

Theme 1: It's about the money, but not always.

The general trend was that HHPs' and practices strive to be ethical; however, a high standard of ethics is not always upheld. In some instances, rules were bent for financial gain or to assist patients, which caused HHPs to justify their actions. The three main factors raised when discussing ethical work environments included financial targets, affordability of hearing instruments, and insurance claims. Requests from patients and their financial limitations also created ethical challenges which HHPs had to manage. Supportive work environments were seen to have positive effects on how HHPs felt about and navigated these situations. Financial

targets were mentioned 12 times, scenarios about insurance claims were mentioned by 5 HHPs, and the affordability of hearing aids was mentioned by the majority of HHPs.

The majority of private HHPs stated that they were fortunate not to have targets and were grateful they do not face the guilt of persuading patients to spend large amounts of money on hearing aids; however, they were conscious of the need to make money for the business to be viable. Only one HHP, who was a private practice employee, stated they do not think about the business aspect of working in private practice and mentioned the practice was doing well financially, which may be the rationale for their experience. When entering to work in the private sector, the participant was concerned they would have to push people to spend large amounts of money on hearing aids. The participant stated: P17 “There's no pressure to fit hearing aids to make money for the month.”

Two HHPs working in private practice stated they have financial targets, whilst other HHPs stated many of their colleagues have targets. An HHP working in a public paediatric hospital reported that although the hospital does not have targets linked to personal gain, they are required to fit a certain number of hearing aids per year to motivate for more audiology posts and equipment.

P6, who works in a public hospital, stated, “To get another audiologist to work with me will actually be based off how many hearing aids I give. So, there's almost like this agenda to like, sort of push assistive devices.”

HHPs who work in private practices made the following statements about financial targets and the business aspect of working in private practice:

P15, “…everyone kind of feels like the expectations are just too high for how many patients we need to see in a day in order to meet financial targets and that sort of thing…. the

lines are definitely blurred when it comes to trying to (yeah) make a financial profit versus what is actually ethically sound."

P16, "…especially when there's a target," and proceeded to say that if targets were not met, "…then they'll take away some of your salary."

P13, who works in a private practice without targets stated, "I know a lot of audiologists, unfortunately do, (do) have to work towards monthly targets and goals financially. So, (and, and) I think that can very often lead to ethical dilemmas of overprescribing hearing aids." She proceeded to say, "I do feel anxious about what I bring into the practice and whether, you know, I am making enough income for us and to pay our suppliers."

Although patient finances and profitability are unavoidable factors to consider when providing care, they can add a different dynamic to patient relationships; most HHPs expressed that they strive to put patient care above profits; however, it is not always straightforward due to external factors imposed by managers and bosses such as financial targets, clinical practice guidelines and bias towards certain hearing aid brands. Practice owners had the following to say about profitability.

P11, who is a private practice owner, stated, "I think that we are very conscious of delivering a very high value of patient care, and so I think I always feel justified in the fees that we charge to achieve that…remaining open as a practice is actually part of my ethical commitment because then it means that I have got a place for people to come for their services …part of patient care is the balance between non-maleficence and beneficence, and you know, cost to a patient (is) is a sacrifice. So in a sense, (that's) that's gotta be balanced against their benefits all the time. So, you gotta make sure that you deliver those values."

P17 stated, "…the practice profitability has no impact on my ethical decision-making, and I've been quite strict with my staff historically that the decision making, (that) so they don't get paid any commission or anything like that at all, so that the decisions they make are based on the patient's best interest."

P4 stated, "Profits are important if you want to be able to support your patients in the long term, your business has to be sustainable… I don't let the profits, or the financial side really influence the decision-making process. But I definitely feel like I have to be aware in the back of my mind about the bigger picture of what the practice is going through but do my best not to let that influence the decisions I'm making. (And) rather think about marketing and bigger strategies of how we can bring more people in. What can we put into place to try and grow the practice in a way that we can do it without having to sell higher or (you know) bill more."

It can be deduced from the statements above that in many cases, targets and ensuring the practice is financially viable can create a high-pressured work environment, and HHPs may develop ulterior motives to fit more devices, which could lead to overprescribing hearing aids. Practice owners who participated in the interviews had not implemented incentives or targets, which could be a result of self-selection bias, or they may have refrained from exposing themselves. Practice owners who implement financial targets may have avoided participating in the study. Profits were mentioned by 11 HHPs, and it was evident that hearing aid sales, even in private practices without targets, triggered several HHPs to question their career choice and professional identity. Two private practice HHPs stated they felt like a salesperson.

Five HHPs felt that hearing aids were expensive due to large markups added by practice owners, causing them to be unattainable for many people, resulting in employees feeling despondent and questioning whether the affordability of hearing aids is an ethical issue within

their profession. HHPs could justify the price of delivering services but struggled to justify the price of hearing aids, creating internal conflict.

Ethically-concerning situations occurred when HHPs engaged with medical insurance companies. Stress was experienced when medical insurance claims were processed slowly, suppliers needed to be paid, and patients waited to be fitted, which resulted in a deviation from the 'correct' hearing aid fitting process. The consensus among private HHPs was that medical insurance companies make insufficient contributions towards hearing aids and hearing services. For some HHPs, insufficient contributions limited the number of tests they performed and prevented them from fitting their recommended hearing aid to meet the patient's needs and expectations. Private and public HHPs reported that they strive to provide the best possible care within their patients' financial limitations. In instances where patients could not afford hearing aids, alternative routes were explored, including donated hearing aids, loaning hearing aids, approaching hearing aid companies, and referring to government hospitals. Some government hospitals charge for hearing aids based on the patient's household income; therefore, financial limitations are not unique to the private sector. Financial limitations, insufficient contributions from medical insurance companies, and the high prices of hearing aids have made several HHPs feel hopeless and discouraged as they navigate these obstacles.

P17, who is a private practice owner, stated, "…where you have a medical aid that says, this patient has funds, but needs to be fitted on the 20th of the 2nd (month), and you get this on the 19th of the 2nd (month), and if you don't fit them or don't bill as of that date, they won't pay. But you don't even have time to order the devices or get the patient in, so you push to then be unethical in terms of your billing."

She continued, "... if I billed what the medical aids recommend, I would be paying the patient the privilege of coming to visit me… I'm doing the best that I possibly can within the

confines of their financial system. If I had free reign, I would do a whole lot more than I currently am able to do with my patients."

Participants expanded on cost-awareness and its impact on practice and dispensing. P12 "…the cost of everything is just really high, and so that does limit me sometimes, because sometimes I would like to be able to trial a patient on multiple things; or you know, run certain tests and things with different hearing aids so that I can give them more conclusive information, but then I can't because then I have to charge them more and I don't feel comfortable with that."

Five HHPs reported that patients present ethically challenging situations by requesting insurance letters that state they have lost their hearing aids when wanting to upgrade their devices. All the HHPs claimed to decline the patients' requests to ensure they upheld ethical conduct.

Private practitioner P5, stated, "…patients would request strange ways of doing things. So let's say they want to get a new hearing aid, but now the hearing aids are insured, and they want you to write that the hearing aids are broken for some reason… I've just decided to actually tell patients that I'm not putting myself in a difficult position or possibly ethically questionable position, and more often than not, they actually respect that decision."

Theme 2: Ethical support in the workplace

Thematic analysis indicated the majority of HHPs felt comfortable discussing ethical issues and challenging situations, which may infer that most work environments are supportive. Almost all HHPs reported they would approach colleagues or their bosses before seeking advice from professional bodies or reading ethical guidelines. Once receiving support, HHPs felt relieved, content, confident, and affirmed.

P5 stated, “I definitely feel that everyone, colleagues and my boss are quite approachable, and in majority of the cases, I do trust their ethical decisions.”

P8 stated, “we often call a friend and I think that's because there's not specifically a list of clinical practice guidelines in terms of ethical things, because (the it's) it's individualised.”

Three HHPs, who disagreed with how ethics was maintained in the practice, reported that their work environments were unsupportive. These HHPs avoided ethical discussions as they felt their bosses were unapproachable and feared it would negatively impact their relationship, causing an unpleasant work environment. Two HHPs stated they did not want to risk questioning the rules of the practice.

P15 stated, “I think people are too afraid to speak openly about it because of how unapproachable our boss is.”

P6 stated, “I don't know if they're discussed openly because I think with everybody that I've communicated with about ethical issues, it tends to be a matter of rather do what the institution wants you to do so that you don't get into trouble with them.” Then proceeded to say, “Sometimes it feels like I'm being unreasonable for wanting to do the right thing.”

P16 opined, “… just a, a tense or strange relationship with the manager. And yeh, and it's like time to weigh up pros and cons, because management is very corporate, and sales driven. And then, to what extent they would take that seriously is questionable. And then at the end of the day, one is to think that it just sours the relationship with the manager, who I have to work with every day, well, most days. So, it's a little bit conflicting.”

When HHPs felt unsupported when navigating ethical dilemmas and when their personal values did not align with the practice values, participants felt it was more challenging to establish trust and provide a high standard of care. The mental impact of feeling that backup

was lacking and viewing the work environment as unfavourable resulted in HHPs adopting a coping mechanism of being more emotionally closed off and showing less empathy and patience toward patients.

During the interviews, HHPs reported multiple ethically challenging experiences and 14 out of 17 participants believed their university training was inadequate to prepare them for such difficulties. One HHP even stated they would be unable to identify an ethical issue if they encountered one. Most HHPs believed that because each ethical encounter is unique, it is challenging for ethics training to provide adequate preparation. Participants also expressed a certain level of subjectivity when discussing and addressing ethical scenarios, as some HHPs believe certain behaviours are ethical, while others would disagree.

Theme 3: Lacking support from the Health Professions Council of South Africa

Most HHPs felt that the HPCSA's ethical guidelines were not readily available, non-specific, and inadequate in providing the knowledge needed to manage ethical issues, especially in private practice. Ethical guidance was sought from colleagues and professional societies or groupings (e.g., South African Association of Audiologists, Reconnect Audiology Network and the Audiology Private Practice Forum). Only one HHP reported a positive experience with the HPCSA. P9, a practice owner stated, "I reached out to the HPCSA for advice and guidance, and they were really fantastic."

However, this encouraging encounter seems to be the experience of a minority of participants. For example,

P9, who works in a government hospital, stated, "…so I was involved, I think it was in 2017 with a complaint against a practitioner that previously worked at X. And to this day, the HPCSA has never provided feedback on that."

Several participants continued to decry the lack of support from the regulatory body (HPCSA), whose mission statement is to support the professions and guide the public.

P12 stated, “I don’t think there is much support. I don’t think anyone has ever really got major support from them,” while P16 reported.

“From the previous experience I’ve had with them, it wasn’t really positive, so I don’t hold much faith in them. When I’ve tried to communicate with someone from the HPCSA, it was like impossible and I kind of went through circles trying to get help. So, it never really inspired me to try ask them for help for something again.”

P10 mentioned being unable to obtain guidance, “I don't have easy access to all of the ethical guidelines… I don’t feel supported by them (HPCSA) at all.” Whether or not participants received support from the HPCSA did not have a large effect on levels of MD and perceptions of their ethical work environment.

Theme 4: Constraints and ethical dilemmas cause internal conflict.

By interviewing HHPs, it was evident that facing ethical dilemmas and constraints can cause internal conflict, and repeated exposure can influence the levels of MD. Several HHPs reported that some of the constraints they encountered were dealing with hearing aid companies, high caseloads, short appointment times, broken and/or insufficient equipment, and practice policies.

Four private practice HHPs expressed personal conflict when dealing with hearing aid companies, two of whom reported that a hearing aid company launched a new hearing aid with limited new features compared to the previous model but at a much higher price. Participants felt conflicted as to whether they should relay this information to the patient, and whether they should recommend the hearing aid. Rather, HHPs contemplated avoiding the situation by not recommending the hearing instrument and were cautious of imposing personal bias.

P12, who works in the private sector, stated, "...some hearing aid companies have been launching new products which are more expensive, but they are essentially the same product as the old one, just with like one or two minor differences, but then you pay thousands of rands more for that, and (it just seems yeah, for me) that seems a bit unethical."

P13 had a similar view, "Why are we charging for the same device, which looks exactly the same, but the chip is slightly different? Why, why, are we charging people triple the amount for different ranges in technology? (So, yeah, absolutely). And it's, it's a huge moral dilemma that I sit with."

Other constraints mentioned by participants working in both healthcare sectors were concerning lack of time and equipment.

Participants, especially those working in the private healthcare sector, reported having short appointment times, which restricted them from providing the level of care they felt the patients deserve. Due to time pressures, participants felt it was impossible to conduct all the necessary tests and provide thorough feedback. Participants had the following to say about equipment and practice policies:

P6 "when something (equipment) gets damaged, it takes a long time to actually begin the process of repairing and paying for them. So right now, my OAE machine has been gone for over a year, and there have been a lot of babies that I need to see."

Another participant's experience was slightly different, first with equipment lacking, and then with worries regarding important maintenance and calibration (P15) "My boss told me about the testing that they do and the fitting procedures that they do, and then I arrived at the practice, and there's no verification system! So that bothers me a lot…I queried the calibration of our automated ABR, because the calibration date on the actual system versus the sticker on the actual machine didn't correlate, and I was having a lot of fail rates. I was told

that the calibrations were up to date, and so long as I've done a subjective calibration on myself, then I must trust the results."

This participant proceeded to say, "…we don't verify hearing aids at all, which is something that's quite risky, as you never really know what the output of the hearing aid is. So, that bothers me a lot..."

P4 stated, "…in terms of the equipment, I feel guilty because I feel like the patients made the appointment, they've come for the assessment. I can see what I've done is fine, but I can see that they could do with having more, and I don't have the equipment to do it. So, I feel bad that they've paid for the consultation, and maybe if they'd paid for the consultation at a practice that had that equipment, then they could've had, (they could've had) it done and had better care all in one place."

Theme 5: The roller-coaster journey of being a HHP

HHPs would second-guess their clinical decisions when faced with ethically challenging events, internal and external constraints. Feelings of helplessness, anxiety, frustration, stress, and guilt were reported, especially when HHPs felt unsupported. It is evident from the statements below that HHPs' mental and emotional well-being was impacted. Two HHPs reported that they saw a psychologist due to work-related stress, while several other HHPs debriefed with their spouses, parents, or colleagues.

P13, who has a high caseload, works independently in private practice, and despite having a supportive boss stated, "I am now on prescription anxiety medication because otherwise, I end up not sleeping." This participant continued to say, "I feel like I have become a more anxious person because of work... I literally dream of my patients at night."

In contrast, P15, who feels their work environment is unsupportive and their boss is unapproachable, stated, “So (I) I've recently started therapy with a psychologist, um, largely because of work-related stress. I have been diagnosed with depression and anxiety (um and yeah) I definitely think a large portion of that is just work-related.” She continued, “…it's been a tough road being an audiologist, and there have been many times that I kind of just want to give up on audiology completely.”

P16 also used professional mental health services to cope and stated, “I also just see a therapist, and I didn't need to see her at the time I was off work. So for me, that was kind of just like a stark realisation of how much work can actually affect so many areas of life.”

Finances have also caused HHPs to experience turmoil. P10 states how the rigid government practice policies make her feel helpless as hearing aid prices are determined by household income stated, “It makes you feel helpless. I know the government has to make an income to provide a service, but I sometimes think that the sliding scale isn’t always an accurate depiction of family finances.” P5 who is the sole audiologist in a government hospital stated, “There are a lot of work stressors that come up that I feel like I can’t manage right now, so the only thing I’ve been doing lately to sort of up myself is to take leave.” While in the private sector, P15 stated, “Every day is (is) challenging in the sense that you constantly second- guess yourself as a clinician, um, because you're trying to yeah do what's kind of expected of you for the business side of things, versus what you know innately should be done as a practitioner and is ethically correct. So, yeah, it's very difficult to try and balance both sides.”

External constraints such as short appointment times and lack of equipment had a large mental impact and affected P15’s patient relationships as she proceeded to say, “…very frustrated and guilty as I’m the one carrying out the services and not my boss. So, I’m the one having to face the patient and give them the service that is substandard.”

How participants perceived their ethical work environments and whether they experienced moral distress affected their patient relationships. Participants working in private practices reported that patients present obstacles that they had to navigate, including financial limitations and decision-making. How these obstacles were navigated could affect patient relationships. Participants used two different approaches when helping patients decide on a hearing instrument while considering finances. Some participants recommend hearing aids once they knew the patient's budget and refrained from discussing devices out of their financial reach to minimise overwhelm. Other participants took a different approach and based their recommendations solely on the assessment results, then discussed affordability.

One participant (P12) stated, “I don't like to get involved with what people can and can't afford.” This could be interpreted as a coping mechanism to avoid the sensitive topic of money in fear it could jeopardise the therapeutic relationship.

Another prominent factor, which could be considered a constraint that participants had to navigate, was respecting patient autonomy. They reported that some patients went against their recommendations and decided to be fitted with one hearing aid when prescribed two. Other obstacles were patients denied they had a hearing loss or refused hearing aids and declined referrals. Participants managed these obstacles by ensuring their patients were well-informed and that their decisions were respected, despite not following the audiologist’s recommendations. However, while honouring the patient’s autonomy, perceived failure to follow recommendations affected the rehabilitation process and therapeutic alliance. Frustration was expressed by several HHPs when patients did not take their advice, especially when they encountered preventable problems along their rehabilitation journey, had they taken the HHPs’ advice.

P4 stated, “I always really do try to get the patient on the right hearing aid for them, rather than buying a less expensive hearing aid that doesn't have the features…ultimately, it's the patient's decision, but I try to guide them and explain all the options and all the shortcomings and positives.”

During an interview, a participant reported that their boss dislikes fitting certain hearing aid brands. A more considerable markup was added to prevent the patient from choosing the device from the less favoured manufacturer. The participant felt that their patient relationship was negatively affected and experienced guilt due to lack of transparency.

Furthermore, three participants reported that practice policies and responsibilities created obstacles when fostering therapeutic relationships with patients.

P 15, who works in the private sector, stated, “I definitely think that (I) from my side I try to build trust. But it is often broken when practice policies come into place.”

P16 reported an experience when the HHP and their manager had conflicting views about a treatment plan for her patient, which negatively affected the patient relationship. “I'm saying something to her, and then my colleague is saying something completely different. So somewhere along the line, I mean, I'm sure that it has, you know, shaken the patient’s trust in us as a practice.”

Positive emotions were experienced by HHPs when strong therapeutic relationships were established.

P13 “I sort of, have prided myself on the relationships I have built with my patients, and I feel like they do trust me, and they do trust my recommendations because they can tell, you know, the, the recommendations I’m making are purely based on what I think they need, but not necessarily make a buck out of them.”

Establishing good rapport and building trust were two prominent factors that were mentioned regarding patient relationships, and when achieved, brought feelings of fulfilment

and purpose. HHPs reported that therapeutic relationships were established when transparency was present, ethical care was provided, and time was spent to explain test results and answer questions.

P1, who works in a government hospital, stated: “A lot of patients appreciate the time because we don't rush patients, because a lot of government systems tend to rush patients through.” She proceeded to say, “a lot of people have fought to get our service, and they’ve been trying to get here for a long time. So, it’s my responsibility to do everything in my power to give them an answer.”

P14 “I like establishing that rapport early so that we have a good branch of communication, and I think that is one of my favourite things in audiology, of building that rapport early on.”

Triangulation of quantitative and qualitative data

It is evident from quantitative data that participants perceived their ethical work environment as neutral to positive and did not experience high levels of MD; however, qualitative data indicated that many participants grapple with ethical dilemmas and encounter situations that cause different levels of MD. Most interviewees reported several ethically challenging scenarios and concerns. Some scenarios were viewed as out of their control, causing distress and hopelessness, while other participants felt comfortable discussing ethical concerns with colleagues and management enabling them to feel in control and empowered. See Table 6 for a joint display table of data triangulation.

Table 6 Joint display table of data triangulation

Theme	Participant	Quantitative data		Qualitative data
		MD score	EEQ score	
Theme 1: It's about the money, but not always.	P15	4.7 (high)	2.5 (neutral)	"I definitely think financial gain is put first above ethics," "Price-fixing tends to pull through."
	P10	1 (low)	3.9 (positive)	"There's no pressure to fit hearing aids to make money for the month."
	P5	3.4 (moderate)	3 (neutral)	"Being an audiologist in private practice for me is being less of a clinician and more of a salesperson."
	P16	3 (moderate)	3 (neutral)	"The manager is very sales-driven…where they use different tactics like lying and not disclosing all information to the patient."
	P13	1 (low)	3.6 (positive)	"I don't have a target to meet, which I feel very lucky."
Theme 2: Ethical support in the workplace	P13	1 (low)	3.6 (positive)	"I can easily approach my boss… I've never had to feel nervous about approaching her."
	P14	2 (low)	3.7 (positive)	"I think the place where I work has a lot of protocols which are signed once a year by the hospital and CEO and everything that make sure there are no grey areas…if there are any ethical questions, it's most certainly in the protocol, and so you don't have to worry too much."
	P15	4.7 (high)	2.5 (neutral)	"My boss is not very approachable at all. There's been cases we have asked just for her advice and that sort of thing, and her responses have been, I can't decide everything for you."
	P1	2 (low)	3.7 (positive)	"We are quite close-knit, the audiology team specifically; we all discuss complex patients for a second opinion. So from that perspective, we're well supported by each other."
Theme 3: Lacking support from the Health Professions	P1	2 (low)	3.7 (positive)	"…so I was involved, I think it was in 2017 with a complaint against a practitioner that previously worked at X. And to this day, the HPCSA has never provided feedback on that."

Council of South Africa				
	P10	1 (low)	3.9 (positive)	“I don't have easy access to all of the ethical guidelines… I don’t feel supported by them at all.”
	P12	2.3 (low)	2.9 (neutral)	“I don’t think there is much support. I don’t think anyone has ever really got major support from them.”
Theme 4: Constraints and ethical dilemmas cause internal conflict.	P13	1 (low)	3.6 (positive)	“Why are we charging for the same device, which looks exactly the same, but the chip is slightly different? Why, why are we charging people triple the amount for different ranges in technology? (So, yeah, absolutely). And it's, it's a huge moral dilemma that I sit with.”
	P3	3.6 (high)	3 (neutral)	“It’s quite frustrating, like having to explain that to someone’s mother that ok I’ll have to call you in maybe 3 months for you to fetch your hearing aids. It makes you feel almost like you’re failing the patient.”
	P6	4.1 (high)	3.4 (neutral)	“When something gets damaged it takes a long time to actually begin the process of repairing and paying for them. So right now my OAE machine has been gone for over a year, and there have been a lot of babies that I need to see.”
Theme 5: The roller-coaster journey of being a HHP	P13	1 (low)	3.6 (positive)	“I am now on prescription anxiety medication because otherwise, I end up not sleeping.”
	P16	3 (moderate)	3.4 (neutral)	“I also just see a therapist and I didn't need to see her at the time I was off work. So for me, that was kind of just like a stark realisation of how much work can actually affect so many areas of life.”
	P6	4.1 (high)	3.4 (neutral)	“Honestly, right now I am struggling to manage it, to be honest. There are many work stressors that come up that I feel like I can’t manage right now.”
	P15	4.7 (high)	2.5 (neutral)	“Every day is challenging in the sense that you constantly second guess yourself as a clinician because you are trying to (yeah) do what is expected of you for the business side of things versus what you know innately should be done as a practitioner.”

	P13	1(low)	3.6 (positive)	"I sort of, have prided myself on the relationships I have built with my patients, and I feel like they do trust me, and they do trust my recommendations because they can tell, you know, the, the recommendations I'm making are purely based on what I think they need, but not necessarily make a buck out of them."
	P1	2 (low)	3.7 (positive)	"A lot of patients appreciate the time because we don't rush patients, because a lot of government systems tend to rush patients through."
	P16	3 (moderate)	3.4 (neutral)	"I'm saying something to her and then my colleague is saying something completely different. So somewhere along the line, I mean, I'm sure that it has, you know, shaken her trust in us as a practice."
	P15	4.7 (high)	2.5 (neutral)	"…very frustrated and guilty as I'm the one carrying out the services and not my boss. So I'm the one having to face the patient and give them the service that is substandard."

Note: Table showing themes and supporting quotations from qualitative results and how they correlate with quantitative results (MD-APPS scores and EEQ scores.

Work experience influences levels of MD

Quantitative results indicated that participants reported less MD with more years of experience compared to those with less work experience. Findings were in line with what participants said during interviews, that by gaining more work experience, participants could confidently navigate ethical issues and morally distressing events. Most participants reported that their ethics training was insufficient. Instead, they learned how to navigate ethical dilemmas by gaining work experience and seeking advice from colleagues and professional forums. See Table 6 for P1's quotation about ethical support in the workplace.

Patient care and profits

Qualitative results showed that participants without targets and incentives felt more optimistic about their work environment and less morally distressed, an example is P10, who obtained a low MD score of 1 and an EEQ score of 3.9, indicating a positive work environment (see Table 6).

Participants in private practice with more work experience, some of whom were practice owners, reported they were aware of needing to make a profit to ensure a viable business; however, instead of upselling patients, they focused on market-related strategies to bring new patients into the practice. Participants with more experience could justify the price of hearing aids and services compared to participants with less experience, which influenced MD and EEQ scores.

A participant with 6 months to 5 years of experience who works in private practice perceived her ethical work environment as neutral and had experienced low levels of moral distress stated, "charging patients different amounts sometimes, like giving some people the option to have a discount and others not." This participant also expressed that it was difficult for her to justify the price of hearing aids and whether it was ethical as they are not attainable

for many people; however, she could justify the cost of the services she rendered. Another participant in private practice reported with 6 months-5 years of experience stated, “I think it has been bugging me a little bit, just feeling like you’re overcharging patients, but then also in terms of general day-to-day practice, we have employees, and there are salaries that need to be paid.” Evidently, the participants felt conflicted when juggling patient care with profits.

P5, who scored 3.4 on the MD-APPS, indicating a moderate level of MD, and a neutral score of 3 on the EEQ, felt the underlying ethical boundaries were good but not always followed. She stated, “Being an audiologist in private practice for me is being less of a clinician and more of a salesperson. Patients on certain medical aids and socio-economic statuses are given more support and incentives than those (patients) that have your lower plan medical aids.”

Despite participants who work in the public sector having to follow rigid department guidelines and cannot decide on the cost of hearing services and instruments, with more years of experience, they conveyed a greater sense of autonomy. They were able to better navigate ethical dilemmas compared to participants in the public sector with less work experience, resulting in a more positive perception of their work environment and lower levels of MD. Overall, in both healthcare sectors, it appeared that participants with more autonomy viewed their ethical environment more positively.

Caseloads, appointment times and rapport

Quantitative and qualitative data indicated that higher caseloads, as well as short appointment times, influenced participants’ perceptions of their environments and MD levels. Participants who saw ≥9 patients per day were more morally distressed and perceived their ethical work environment as poorer compared to those who saw 0-8 patients per day. Interviews revealed that short appointment times and high caseloads resulted in shortcuts in

testing, insufficient time to establish rapport and trust with patients as well as complete administrative tasks.

P14, who works in the public sector, presented with a low MD score of 2 and an EEQ score of 3.7, viewing her ethical work environment as positive, reported that she establishes a good rapport which she is proud of and makes her feel fulfilled. She sees 5 to 6 patients a day, allowing her time to foster a nurturing therapeutic relationship, provide a comprehensive assessment and explain results.

Support impacts levels of MD and perceptions of work environments.

Participants had encountered similar ethical dilemmas and morally distressing events; however, some displayed high levels of moral distress and viewed their ethical work environment as negative while others did not. The main difference between these groups of participants was that participants who obtained neutral to positive scores had approachable bosses/management and were able to openly discuss ethical issues without the fear of negatively affecting their relationship with their boss, while the other group withheld seeking advice and disclosing information. They feared management would view them as incapable and negatively affect their work relationship.

Although P13 reported having experienced increased anxiety due to work-related stress, dealing with medical insurance companies, and ensuring the provision of profitable services for the practice, she agreed with clinical practice guidelines and had a supportive boss. Her MD score was 1, suggesting a low level of moral distress, and her EEQ score was 3.6, inferring a positive work environment. This finding suggests that despite experiencing stress-inducing obstacles, a supportive environment plays a vital role in one's well-being.

Conversely, P15 who encountered similar dilemmas and had an unapproachable boss scored 4.7 on the MD-APPS demonstrating high levels of MD and 2.5 on the EEQ, suggesting a neutral perception of her ethical work environment.

While in the public sector, P14 stated, “I think the place where I work has a lot of protocols which are signed once a year by the hospital and CEO and everything that make sure there are no grey areas. …if there are any ethical questions, it’s most certainly in the protocol, and so you don’t have to worry too much.” This statement demonstrates the rigidity of the public healthcare system that can assist in navigating ethical dilemmas and hinder alternative routes if protocols fail to meet patient needs. This perception of strict protocols was not universally appreciated as evidenced by P1, who works in the public sector, stated that strict protocols make her feel helpless when they hinder meeting the patient’s needs.

Summary of key findings

Findings showed that although participants faced ethical dilemmas and encountered situations that caused moral distress, most participants did not report significantly high levels of MD and did not perceive their ethical work environment as negative. Despite that some participants working in public and private healthcare sectors did not agree with all the clinical practice policies implemented by their managers, they viewed their ethical work environment as neutral and positive on the EEQ. The healthcare sector did not significantly influence how participants perceived their ethical work environment.

In private practice, practice guidelines, financial matters ranging from targets to affordability and high caseloads placed constraints on participants. Navigating complex situations caused stress and negatively affected how participants perceived their ethical work environment. Most participants felt comfortable discussing their concerns with management and sought advice from colleagues rather than professional bodies.

Neither age nor gender impacted MD and EEQ scores. However, work experience was linked to MD, with less experienced practitioners reporting significantly higher levels of MD compared to those with more work experience. Similarly, case load was influential with high caseloads being associated with higher levels of MD and poor perceptions of the ethical work environments compared with participants who saw 5-8 patients per day. In the private sector, no correlation was found between recommending a hearing aid within a certain price range and MD levels.

Chapter 4: Discussion

Introduction

The final chapter of this research report discusses the research findings in relation to the research aim and objectives, the study's limitations, and how the findings can contribute to future research before concluding the report. The study aimed to explore the levels of Moral Distress (MD) experienced by Hearing Healthcare Practitioners (HHPs) who dispense hearing aids in South Africa (SA) and their perceptions of their ethical work environment using the Ethics Environment Questionnaire (EEQ).

Moral Distress (MD) has been widely explored among other healthcare professions, including nurses; however, limited research has been conducted among rehabilitation professionals, particularly Hearing Healthcare Professionals (HHPs) and in developing countries (Baele & Fontaine, 2021; Emmamally & Chiyangwa, 2020; Morley et al., 2022; Simpson et al., 2018; Tian et al., 2021). In SA, there is a significant disparity in the provision of healthcare services between the public and private sectors thus, participants were recruited from both, to compare their challenges and whether there were significant differences in MD and EEQ scores.

Moral distress occurs when professionals feel they cannot perform specific actions which they believe are morally appropriate behaviours due to constraints within their environment (Badolamenti et al., 2017; Simpson et al., 2018). Previous studies pertinent to audiology report that poor ethical work environments, high patient loads, and pressure to boost hearing aid sales contribute to MD (Ng et al., 2019; Simpson et al., 2018), which was evident in this research report. In addition, studies reported that burnout, turnover of staff, absenteeism, job dissatisfaction, and early retirement are consequences of MD (Allen et al., 2013; Emmamally & Chiyangwa, 2020; Simpson et al., 2018), which could be detrimental for SA's already heavily burdened healthcare system (Bhamjee et al., 2022). Burnout was not directly

assessed with a burnout questionnaire; however, several interviews revealed mental health issues that could suggest burnout. Globally, as life expectancy increases, and with an impending shortage of HHPs worldwide, it is beneficial to address MD and improve ethical work environments to prevent HHPs from leaving their positions (Ng et al., 2019), which was one of the motivations for this study to be conducted.

An important aspect to consider when measuring MD is the ethical work environment, as the nature of the profession causes HHPs to have to navigate ethical dilemmas. Private HHPs depend on hearing aid sales to generate income (Sarkic et al., 2022; Simpson et al., 2018; Zimmer et al., 2022), making the profession vulnerable to ethical and moral situations, and public HHPs experience resource shortages, rigid department guidelines and high patient loads (Day et al., 2021). The HPCSA has investigated, fined, and suspended audiologists for fraud (Health Professions Council of South Africa, 2016). There have been reports of audiologists who have made hearing aid claims from medical insurance companies without dispending hearing aids, overserviced patients and overcharged for their services, despite the HPCSA's ethical guidelines to prevent malpractice. Audiologists have gone to jail for committing medical insurance fraud (Health Professions Council of South Africa, 2019-2020). The current study provided insight into HHPs' levels of MD and how they perceive their ethical work environment.

Significant research findings

Online surveys yielded a relatively good response rate of 35%, slightly lower than the average online survey response rate of 44.1% (Wu et al., 2022). The sample was predominantly females practicing diagnostics in the private sector with 6 months to 5 years of work experience and saw 6 to 8 patients a day.

MD scores ranged from 1 to 4.8, with an average of 2, indicating that participants experienced low to moderate levels of MD. According to previous research conducted by Allen et al. (2013), MD levels were lower for HHPs compared to nurses, physicians, and nurse practitioners who demonstrated moderate to high levels of MD and worked in hospital settings. The nature of the profession may influence levels of MD as HHPs seldom encounter life-threatening situations, unlike nurses, which may explain lower MD levels. According to the Top-10 2019 *Least Stressful Jobs* by CareerCast (2019), audiology was ranked 4th place; however, these lists can be controversial as they are ranked according to a specific criterion, including travel, own life risk, hazardous encounters, and physical demands. Audiology may not be perceived as a stressful occupation according to this criteria, however, there are many other contributing factors that induce stress, as seen in the current research report and evident in the United States, such as lack of time, targets, patient-related stressors, job control, and administration (Emanuel, 2022).

As most of the sample worked in private practice, participants may have had more autonomy when navigating constraints and ethical dilemmas in the workplace rather than being bound to rigid department protocols experienced by public HHPs. Regarding their perception of the ethical environment, EEQ scores ranged from 2.7 to 4 (neutral to positive ethical work environment), with an average score of 3.4 indicating a neutral work environment. Similar to previous research conducted by Simpson et al. (2018), audiologists in Oceania rated their ethical environment as neutral, and years of experience did not influence EEQ scores, unlike the current research findings.

In this research report, it was found that with more years of experience, HHPs perceived their ethical work environment as more positive and had lower levels of MD. Participants with 6 months to 5 years of experience had significantly higher levels of MD compared to participants who had 11-20 years and 20+ years of experience. The correlation between years

of experience and levels of MD was consistent with previous research, including nurses and physicians (Allen et al., 2013; Corley, Minick, Elswick, & Jacobs, 2005). The potential rationale for lower MD scores among participants with more experience could suggest that HHPs had developed moral resilience (Kolbe & de Melo-Martin, 2022; Simpson et al., 2018). HHPs with more work experience may have greater autonomy, higher salaries, and more career security, leading to increased job satisfaction (Brännström et al., 2016), as seen in the current study with practice owners and managers. Interview findings supported quantitative results as participants reported learning to navigate ethical dilemmas by gaining work experience rather than university training. Although almost half of the sample (44%) had 6 months-5 years of experience, five interviewees were practice owners with over 20 years of experience with an extensive network of colleagues to consult when navigating ethical dilemmas. The current findings differed from those obtained by Badolamenti et al. (2017), who studied nurses, and Goddard (2021), who studied occupational therapists and physiotherapists, found that with more years of experience, professionals developed higher levels of MD. Although the study by Goddard (2021) included rehabilitation professionals, the nature of these professions differs from HHPs which could give reason for opposing results.

Another significant finding was that heavy caseloads increased levels of MD as seen in previous studies by (Brännström et al., 2016; Simpson et al., 2018). This finding was apparent for both public and private HHPs. Participants who saw ≥9 patients per day reported significantly higher levels of MD and perceived their ethical environment as poorer than those who saw 6 to 8 patients per day, therefore, managing patient load is important. Results also showed that participants who saw 0-5 patients per day reported higher levels of MD and perceived their EEQ as poorer than those who saw 6-8 patients per day; therefore, the correlation between caseload and MD levels was non-linear. A low caseload may cause higher levels of MD in HHPs' who work in private practices, as they could be concerned about

bringing in sufficient income to maintain a viable business. Low caseloads could result in HHPs upselling patients and managers implementing incentives and targets. In the public sector, low caseloads could reduce the number of hearing aid fittings resulting in the inability to provide sufficient statistics needed to motivate for equipment and posts. In addition, 43% of more novice practitioners had caseloads of 0-5 patients per day and may be less sure of their way.

According to a study by Brännström et al. (2016), time-related stress is a universal problem experienced by private and public audiologists. Stress levels increase when appointment times are short, and cases are complex (Brännström et al., 2016). While most participants pride themselves on establishing trust with their patients by being transparent and explaining rehabilitation procedures, thus increasing job satisfaction, two participants reported that high caseloads raised stress levels and caused them to withdraw from patients, impacting their clinician-patient relationship. Another participant said taking shortcuts and abandoning administrative tasks was inevitable. Two participants felt that management enforced short appointment times to meet financial targets, a trend supported by a study by Callahan et al. (2011) involving 225 audiologists from the United States of America. These findings demonstrate the importance of managing patient load to protect HHPs' well-being and to ensure patients receive a high standard of care.

Factors that did not influence levels of MD and perceptions of the ethical work environment.

Age, gender, healthcare sector, nor hearing aid price had a significant impact on MD levels and HHPs' perceptions of their work environments. According to Simpson et al. (2018), audiologists between the ages of 55- 64 felt more positive about their ethical work environment than those between 45-54 and 65 years and over, while Corley et al. (2005) found that age was

negatively correlated with MD and could support that experience aids in learning to address ethical problems. In a study involving critical care nurses, increased age and years of experience suggested to have developed coping mechanisms and autonomy to withdraw from uncomfortable situations, thus reducing levels of MD as well as females reported higher MD levels than males (Emmamally & Chiyangwa, 2020). In the current study, results correlated to the findings of Emmamally and Chiyangwa (2020) with regard to years of experience, but not for age and gender.

Fitting expensive hearing aids did not cause higher levels of MD, as there was no correlation between hearing aid price and MD. Although hearing aid price did not influence MD levels, qualitative data indicated that targets induced stress which was in line with findings from Simpson et al. (2018), who further reported that upselling devices caused job dissatisfaction and caused audiologists to question their professional identity.

Organisational factors and constraints encountered by HHPs.

Previous MD research found that organisational factors and environmental constraints play a prominent role in causing MD (Callahan et al., 2011), which was evident in this research report. During interviews, organisational factors, including financial targets, lack of equipment, high caseloads, and practice policies, caused MD among participants and tainted their perceptions of the ethical work environment. According to Marques et al. (2022), incentives were found to affect audiologists' clinical judgment, leading to sub-optimal amplification, unethical practice, and noncompliance with professional guidelines. According to the study by Simpson et al. (2023), financial incentives to drive hearing aid sales created ethical challenges for Australian audiologists and audiometrists, which was experienced by participants in the current study. Incentive schemes created conflicts of interest where the audiologists were torn between financial benefit versus best practice and care for the patient. It was evident several

participants found it challenging to balance the business side of private practice with patient care. Incentive schemes were also enforced by practice owners to ensure their businesses were profitable.

Interestingly, and of clinical relevance, a lack of appropriate equipment was experienced by both public and private participants, preventing the provision of necessary services. Two participants working in the private sector reported they do not have hearing aid verification equipment, causing them to feel frustrated and misaligned with the practice's clinical guidelines as verification is best practice (Amri, Quar, & Chong, 2019). In the public sector, participants experienced a low supply of hearing aids and unrepaired equipment, hindering them from helping patients and causing feelings of guilt and hopelessness. Although there is a significant divide between the public and private healthcare sectors in SA (Bhamjee et al., 2021; Day et al., 2021), the healthcare sector in which participants worked did not influence levels of MD and EEQ scores. It was reported during interviews that organisational constraints decreased job satisfaction. Practices and departments should regularly review their protocols and guidelines to ensure HHPs can meet their patients' needs and evaluate whether there are conflicts with their personal values to help prevent the development of MD.

Throughout the study, qualitative data indicated most participants strive to practice ethically; however, they had to juggle organisational expectations, ethical guidelines and honouring their personal values and beliefs. This tension resulted in some participants suppressing their beliefs and ignoring ethical dilemmas to try to maintain a peaceful work environment. Two participants had moved practices as their values misaligned with the practice values. A study by Whitehead et al. (2015), involved nurses and physicians who left their positions due to the negative consequences of MD. Literature states that audiologists perceived a lack of power when excluded from decision-making; thus, empowering HHPs may improve their perceptions of their ethical work environment (Marques et al., 2022), which may be

challenging for public sector HHPs as state/government guidelines are rigid. Qualitative and quantitative data findings revealed the importance of a supportive work environment with open communication pathways. Provision of support made participants feel confident when navigating ethical dilemmas, thus reducing MD levels, and improving perceptions of their work environments.

In addition to organisational constraints, HHPs encounter external pressures such as medical insurance companies not contributing towards hearing aids, hearing aid manufacturers releasing new instruments with limited new features at a much higher price, and patients requesting insurance claim letters when wanting to upgrade their hearing instruments. Rapid advancements in hearing instruments and audiology equipment can become a source of MD, described almost two decades ago (Corley et al., 2005) and appears to persist in the results of this study. Medical insurance companies only cover a portion of the hearing aids, burdening the patient with large out-of-pocket payments (Knudsen et al., 2010; Peterson et al., 2021). Almost all participants mentioned that patient finances and insufficient medical insurance contributions were daily obstacles. In the public sector, health budgets often prioritise life-threatening diseases rather than hearing loss (Bhamjee et al., 2021) and thus audiologists are facing a situation of having no devices with which to ameliorate hearing loss.

Private practice participants reported that hearing aid manufacturers offer special discounts when they buy in bulk, which practices may or may not transfer to patients, creating motives to fit hearing instruments that may not be the best fit, causing internal conflict. This finding was in line with previous literature by Callahan et al. (2011), which states that special arrangements with hearing aid companies altered the behaviours of audiologists. Some private practices fit one to three brands of hearing aids, which participants viewed as a limitation. HHPs, like other medical professions, are required to set aside personal preferences and rewards and act in the best interest of their patients (Simpson et al., 2023); however, it was

evident that price-fixing occurred to ensure patients chose certain instruments from favoured hearing aid manufacturers. These manufacturers may offer discounts, therefore, larger profits are made and manufacturers may offer financial incentives to fit their products (Simpson et al., 2023).

HHPs' perceptions of ethics training

Throughout the study, it was evident that most participants had a great awareness of ethical dilemmas and morally distressing events despite reporting poor ethics training. Participants raised concerns that ethical dilemmas are unique and context-specific, making them difficult to navigate. Participants stated that more professional development opportunities should be made available to equip HHPs to navigate ethical dilemmas specific to their healthcare sector. Multiple participants reported that their motivation to contact the HPCSA was low due to unsuccessful past experiences of concern for the regulation of the profession of audiology. MD and ethics are highly interlinked therefore, university training and continued practice development programs should equip HHPs to detect and understand MD by reflecting upon their personal values and how they align with the profession and ethical guidelines. According to Olson (2018), creating a healthy, ethical and compassionate work environment is essential for positive patient and employee experiences.

Consequences of moral distress and poor ethical environments

Turning to the impact of moral distress, MD has been described to cause feelings of frustration, sadness, anxiety, and depression. (Hamric, 2012; Whitehead et al., 2015; Wiegand & Funk, 2012). Qualitative results revealed mental health challenges in some participants, for example, two HHPs reported taking medication for anxiety and depression, while two others reported consulting a psychologist due to work-related stress. Increased levels of MD have

been associated with decreased job satisfaction, compassion fatigue, errors in patient care, and withdrawal from patients (Wiegand & Funk, 2012), some of which were reported by participants during interviews. Qualitative data indicated that when errors were made, participants did their best to rectify them and sought advice from colleagues and bosses, which is why working in a supportive environment is important for HHPs' mental well-being and to ensure a high standard of care. Participants working in supportive environments felt more confident navigating morally distressing events and ethical dilemmas, thus having a positive effect on their mental health and job satisfaction. Audiologists in a better mental state can provide a higher level of care (Emanuel, 2021b). Two participants mentioned they should have considered other professions as their preconceived idea of the profession did not meet their expectations. Similarly, in a study by Emanuel (2021a), audiologists expressed their concerns about their professional future, the lack of unity across the profession and the lack of value by society.

Study Limitations

This study aimed to explore South African HHPs' MD levels and perceptions of their ethical work environment. Although the findings provided valuable insights, there were shortcomings.

The uptake of HHPs may have been limited due to email and social media invitations being overlooked, resulting in a small sample size. Although the sample represented a larger group, sampling strategies skewed the generalisability and transferability of the results. The desired target of 30 participants in each subgroup was not achieved, which reduced statistical confidence and the ability to make inferences based on the research findings (Creswell, 2018). There was an unequal distribution of public versus private HHPs, with 25 public HHPs and 59 private HHPs in phase one and three public HHPs, and 14 private HHPs in phase two. The inclusion criteria may have reduced the uptake of public HHPs as participants needed to fit an

average of ≥2 hearing aids per week when there is often a shortage of hearing aids. The second inclusion criterion, needing ≥6 months of experience, excluded community service audiologists as data collection took place at the beginning of the year. The unequal distribution of public and private HHPs made it difficult to determine whether there were statistically significant differences in MD and EEQ scores between HHPs working in different healthcare sectors.

Moreover, self-selection bias is inevitable in studies of this nature. It is likely that HHPs who decided to partake in the study had considerable interest in the topic, may or may not have experienced MD, and felt comfortable disclosing their experiences. In addition, HHPs who experienced high levels of MD and perceived their ethical work environment as negative may have refrained from participating.

Most participants (58%) were between 25-34 years old, limiting the age diversity of the sample, thus making it challenging for the data to yield strong conclusive statements about the correlations between age and MD and EEQ scores; and indeed, reflections on the level of preparedness to practice in an ethical manner once graduated. It would have been beneficial for the study to have a higher response rate and increase the distribution of participants to increase the generalisability and transferability of results (LaDonna et al., 2021).

There are no scales specific to the professions of hearing aid dispensing; therefore, some items on the EEQ and MD-APPS may not have accurately captured the amount of MD or HHPs' perceptions of their ethical work environment. In addition, these measurement tools use Likert scales that are subject to central tendency bias (Kreitchmann et al., 2019). It was also likely that HHPs working in different contexts and healthcare sectors experience different challenges and stressors, which interview questions may not have elicited from participants. A question to obtain more information about participants' work context may have been beneficial when analysing and interpreting results. Although the researcher ensured that participants'

identities would remain anonymous, they may have remained hesitant to disclose more sensitive experiences, and responses could have been influenced by social desirability bias.

The study strived to meet qualitative and quantitative quality indicators; however, it is difficult to avoid all shortcomings. Participants were described to ensure credibility and the researcher maintained a high standard of self-awareness by reflective journaling to avoid manipulating or leading participants to desired answers (Elo et al., 2014). Fittingness of the data is limited due to a small sample size; however, research findings correlated with previous research in this area (Simpson et al., 2023; Simpson et al., 2018; Zimmer et al., 2022).

A mixed-method approach increased the rigour, trustworthiness, and dependability of the data through data triangulation (Creswell, 2018). The MD-APPS and EEQ were used as they are valid and reliable scales to ensure an accurate representation of MD and ethical environments. The study is transparent and can be replicated in other settings as a detailed description of how the study was conducted is provided which will increase the generalisability and transferability of the research findings.

This research report provided significant insight into the ethical work environments and levels of MD experienced by HHPs in SA; however, there are areas for improvement upon which future research should aim to address.

Recommendations for future research

Future research should involve creating an HHP-specific scale to increase the accuracy of measuring MD and perceptions of their ethical work environments. Creating these tools would enable more in-depth and accurate findings and account for the differences between the public and private healthcare sectors. Alternatively, due to the nature of the topic, a purely qualitative research strategy may yield a more in-depth understanding of the topic.

Moreover, further studies could evaluate whether practice owners' perceptions correlate with their employees and whether MD levels are reduced, and whether ethical climates are improved when employees are involved in decision-making within the practice. Changes in organisational policies may be necessary to empower HHPs to identify and address MD (Allen et al., 2013).

It is of value to examine organisational factors linked to poor ethical climates and explore strategies to mitigate MD and prevent adverse consequences. Reducing negative outcomes, such as staff turnover, burnout, absenteeism, and early retirement, may assist in meeting the increasing needs of the aging population. From previous research, it is evident that the consequences of MD have impacted the ability of healthcare practitioners to provide patient-centered care, leading to patient dissatisfaction (Marques et al., 2022; Tian et al., 2021), which further emphasises the importance of addressing MD. Positive perceptions of ethical climate are associated with lower turnover and intention to leave (Epstein et al., 2021); therefore, findings could bring value to all avenues of service delivery. According to Corley et al. (2005), staff shortages can cause MD as there is less time for collaboration between professionals and additional strain on the remaining workforce. Future research should include interventions to equip HHPs to better navigate morally distressing and ethical issues as well as tools to cope with the mental impact. Literature shows that the consequences of MD have impacted the ability of healthcare practitioners to provide patient-centered care leading to patient dissatisfaction (Marques et al., 2022; Tian et al., 2021). In addition, future research could investigate whether patients are satisfied with the care they received from HHPs who reported higher levels of MD and, depending on the findings of this study, could further motivate for the implementation of interventions to reduce levels of MD.

Conclusion

This study revealed that participants in both public and private sectors in SA perceived their ethical work environments as neutral to positive. The sector of work did not influence the participants' perception of their ethical work environment. Participants who reported higher levels of MD perceived their workplace more negatively than those who were less morally distressed. Increased work experience was associated with lower levels of MD and a more positive perception of the work environment. Most participants who were interviewed felt they strived to be ethical; however, constraints that were perceived as beyond their control were challenging to navigate, resulting in MD and influenced their perceptions of the ethical work environment.

To conclude, this study aspired to measure levels of MD among HHPs and explore their perceptions of their ethical work environments. Most HHPs reported low levels of MD and considered their work environments to be neutral and positive. In addition, this study aspired to create a confidential space where HHPs could freely share their experiences. The hope is that research findings provide insight and awareness about HHPs' experiences in their workplace upon which future research can be conducted.

References

Allen, R., Judkins-Cohn, T., deVelasco, R., Forges, E., Lee, R., Clark, L., & Procunier, M. (2013). Moral distress among healthcare professionals at a health system. *JONA's Healthcare Law Ethics Regulation, 15*(3), 111-118; 119-120. doi:10.1097/NHL.0b013e3182a1bf33

Althubaiti, A. (2016). Information bias in health research: definition, pitfalls, and adjustment methods. *Journal of Multidisciplinary Healthcare, 9*, 211-217. doi:10.2147/JMDH.S104807

American Speech Language Hearing Association. (2022). Annual workforce data: 2021 ASHA certified audiologist and speech-language pathologist-to-population ratios. Retrieved March 9, 2023, from https://www.asha.org/siteassets/surveys/audiologist-and-slp-to-population-ratios-report.pdf

Amri, N. A., Quar, T. K., & Chong, F. Y. (2019). Meeting the best practice for hearing aid verification in children: challenges and future directions. *American Journal of Audiology, 28*(4), 877-894. doi:10.1044/2019_AJA-18-0156

Armstrong, R. A. (2014). When to use the Bonferroni correction. *Ophthalmic Physiological Optics, 34*(5), 502-508. doi:10.1111/opo.12131

Australian Competition and Consumer Commission. (2017). Issues around the sale of hearing aids: Consumer and clinical perspectives. Retrieved March 10, 2023, from https://www.accc.gov.au/system/files/Issues%20around%20the%20sale%20of%20hearing%20aids%20-%20Consumer%20and%20clinical%20perspectives.pdf

Badolamenti, S., Fida, R., Biagioli, V., Caruso, R., Zaghini, F., & Sili, A. (2017). Modified Moral Distress Scale (MDS-11): validation study among Italian nurses. *Professioni Infermieristiche, 70*, 240-250.

Baele, C. A., & Fontaine, J. R. J. (2021). The Moral Distress-Appraisal Scale: scale development and validation study. *Journal of Advanced Nursing, 77*(10), 4120-4130. doi:10.1111/jan.14923

Bazeley, P. (2009). Analysing qualitative data: more than 'identifying themes'. *Malaysian Journal of Qualitative Research, 2*.

Bergen, N., & Labonté, R. (2020). "Everything Is Perfect, and We Have No Problems": Detecting and Limiting Social Desirability Bias in Qualitative Research. *Qualitative Health Research, 30*(5), 783-792. doi:https://doi.org/10.1177/1049732319889354

Bhamjee, A., Le Roux, T., Schlemmer, K., Graham, M. A., & Mahomed-Asmail, F. (2021). Audiologists' perceptions of hearing healthcare resources and services in South Africa's public healthcare system. *Health Service Insights, 15*, 1-16. doi:10.21203/rs.3.rs-1173534/v1

Bhamjee, A., le Roux, T., Swanepoel, W., Graham, M. A., Schlemmer, K., & Mahomed-Asmail, F. (2022). Perceptions of telehealth services for hearing loss in South Africa's public healthcare system. *International Journal of Environmental Research and Public Health, 19*(13), 1-14. doi:10.3390/ijerph19137780

Bisgaard, N., Zimmer, S., Laureyns, M., & Groth, J. (2022). A model for estimating hearing aid coverage world-wide using historical data on hearing aid sales. *International Journal of Audiology, 61*(10), 841-849. doi:10.1080/14992027.2021.1962551

Brännström, K. J., Holm, L., Larsson, J., Lood, S., Notsten, M., & Turunen Taheri, S. (2016). Occupational stress among Swedish audiologists in clinical practice: reasons for being stressed. *International Journal of Audiology, 55*(8), 447-453. doi:10.3109/14992027.2016.1172119

Calculator.net. (2022). Sample Size Calculator. Retrieved September 9, 2022, from https://www.calculator.net/sample-size-calculator.html

Callahan, A. J., Lass, N. J., Richards, K. L., Yost, A. B., Porter, K. S., Schrock, J. J., & Vetica, M. D. (2011). Ethical dilemmas in audiology. *Contemporary Issues in Communication Science and Disorders, 38*, 76-86.

CareerCast. (2019). 2019 least stressful jobs. Retrieved July 6, 2023, from https://www.careercast.com/jobs-rated/least-stressful-2019?page=3

Cieza, A., Causey, K., Kamenov, K., Hanson, S. W., Chatterji, S., & Vos, T. (2021). Global estimates of the need for rehabilitation based on the Global Burden of Disease study 2019: a systematic analysis for the Global Burden of Disease Study 2019. *Lancet, 396*(10267), 2006-2017. doi:10.1016/S0140-6736(20)32340-0

Coolen, J., Caissie, R., & Aiken, S. (2012). Ethical dilemmas: are audiologists and hearing aid users on the same side? *Canadian Journal of Speech-Language Pathology & Audiology, 36*, 94-105. Retrieved from https://link-gale-com.ezproxy.uct.ac.za/apps/doc/A323659652/AONE?u=unict&sid=bookmark-AONE&xid=a5fda404

Corley, M., Minick, P., Elswick, R., & Jacobs, M. (2005). Nurse moral distress and ethical work environment. *Nursing Ethics, 12*(4), 381-390.

Creswell, J. W. (2018). *Designing and conducting mixed methods research* (Third Edition ed.): SAGE.

Day, C., Gray, A., Cois, A., Ndlovu, N., Massyn, N., & Boerma, T. (2021). Is South Africa closing the health gaps between districts? Monitoring progress towards universal health service coverage with routine facility data. *BioMed Central Health Services Research, 21*(1), 194. doi:10.1186/s12913-021-06171-3

Dias, M., Teixeira, C., & Antunes, B. (2022). Translation and cultural adaptation to European Portuguese of the "Measure of Moral Distress - Healthcare Professionals" Scale: a cross-sectional multicenter study. *Acta Médica Portuguesa, 35*(9), 624-632. doi:10.20344/amp.16531

Diekema, D. S., & Committee On, B. (2022). Health care clinicians and product promotion by industry. *American Academy of Pediatrics, 149*(4). doi:10.1542/peds.2022-056549

Dodgson, J. E. (2019). Reflexivity in qualitative research. *Journal of Human Lactation, 35*(2), 220-222. doi:https://doi-org.ezproxy.uct.ac.za/10.1177/0890334419830990

Elo, S., Kääriäinen, M., Kanste, O., Pölkki, T., Utriainen, K., & Kyngäs, H. (2014). Qualitative content analysis. *SAGE Open, 4*(1). doi:10.1177/2158244014522633

Emanuel, D. C. (2021a). The Lived Experience of the Audiologist: Connections Between Past, Present, and Future. *American Journal of Audiology, 30*(4), 994-1009. doi:10.1044/2021_AJA-20-00185

Emanuel, D. C. (2021b). Occupational stress in U.S. audiologists. *American Journal of Audiology, 30*(4), 1010-1022. doi:10.1044/2021_AJA-20-00211

Emanuel, D. C. (2022). Occupational stress and audiologists. Retrieved July 6, 2023, from https://www.audiologyonline.com/articles/20q-occupational-stress-and-audiologists-28159#:~:text=Audiology%20is%20often%20listed%20as,challenges%20and%20evolves%20over%20time.

Emmamally, W., & Chiyangwa, O. (2020). Exploring moral distress among critical care nurses at a private hospital in Kwa-Zulu Natal, South Africa. *South African Journal of Critical Care, 36*(2). doi:10.7196/SAJCC.2020.v36i2.435

Epstein, E. G., Ruhee, S., & Marshall, F. M. (2021). Effect of a moral distress consultation service on moral distress, empowerment, and a healthy work environment. *Healthcare Ethics Committee Forum, 35*(1), 21-35. doi:10.1007/s10730-021-09449-5

Epstein, R. M., & Street, R. L., Jr. (2011). The values and value of patient-centered care. *Annals of Family Medicine, 9*(2), 100-103. doi:10.1370/afm.1239

Fetters, M. D., Curry, L. A., & Creswell, J. W. (2013). Achieving integration in mixed methods designs-principles and practices. *Health Services Research, 48*(6), 2134-2156. doi:10.1111/1475-6773.12117

Fincham, J. E. (2008). Response rates and responsivenness for surveys, standards, and the journal. *American Journal of Pharmaceutical Education, 72*(2).

Goddard, D. (2021). Moral distress among physical and occupational therapists: a case study. *Physical and Occupational Therapy in Geriatrics, 39*(3), 316-324. doi:10.1080/02703181.2021.1887431

Grenness, C., Hickson, L., Laplante-Lévesque, A., & Davidson, B. (2014). Patient-centered audiological rehabilitation: perspectives of older adults who own hearing aids. *International Journal of Audiology, 53*(1), 68-75. doi:10.3109/14992027.2013.866280

Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2022). *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)* (Vol. 3). CA: Sage.: Thousand Oaks.

Hamric, A. B. (2012). Empirical research on moral distress: issues, challenges, and opportunities. *HealthCare Ethics Commitee Forum, 24*(1), 39-49. doi:10.1007/s10730-012-9177-x

Health Professions Council of South Africa. (2016, September). Guidelines for good practice in the health care professions: Ethical and professional rules of the health professions council of South Africa. Retrieved February 3, 2023, from https://aestheticdoctors.co.za/wp-content/uploads/2023/02/Booklet-2-Ethical-and-professional-rules-of-the-Health-Professions-of-South-Africa.pdf

Health Professions Council of South Africa. (2019-2020). *Annual Report 2019-2020*. Retrieved from

Ivankova, N. V., Creswell, J. W., & Stick, S. L. (2016). Using mixed-methods sequential explanatory design: from theory to practice. *Field Methods, 18*(1), 3-20. doi:10.1177/1525822x05282260

Jameton, J. (1984). *Nursing Practice: The Ethical Issues*: Englewood Cliffs, NJ Prentice Hall.

Jones, A. (2012). No such thing as a free lunch, pen, folder, or bag. *British Medical Journal, 344*, e2992. doi:10.1136/bmj.e2992

Katz, D., Caplan, A. L., & Merz, J. F. (2010). All gifts large and small: toward an understanding of the ethics of pharmaceutical industry gift-giving. *American Journal Bioethics, 10*(10), 11-17. doi:10.1080/15265161.2010.519226

Khazzaka, M. (2019). Pharmaceutical marketing strategies' influence on physicians' prescribing pattern in Lebanon: ethics, gifts, and samples. *BioMed Central Health Services Research, 19*(1), 80. doi:10.1186/s12913-019-3887-6

Kim, T. K. (2017). Understanding one-way ANOVA using conceptual figures. *Korean Journal Anesthesiology, 70*(1), 22-26. doi:10.4097/kjae.2017.70.1.22

Knudsen, L. V., Oberg, M., Nielsen, C., Naylor, G., & Kramer, S. E. (2010). Factors influencing help seeking, hearing aid uptake, hearing aid use and satisfaction with hearing aids: a review of the literature. *Trends in Amplification, 14*(3), 127-154. doi:10.1177/1084713810385712

Kolbe, L., & de Melo-Martin, I. (2022). Moral Distress: What are we measuring? *American Journal of Bioethics, 23*, 46-58. doi:10.1080/15265161.2022.2044544

Kreitchmann, R. S., Abad, F. J., Ponsoda, V., Nieto, M. D., & Morillo, D. (2019). Controlling for response biases in self-report scales: forced-choice vs. psychometric modeling of likert items. *Frontiers in Psychology, 10*, 2309. doi:10.3389/fpsyg.2019.02309

Kruger, L. J., Rodgers, R. F., Long, S. J., & Lowy, A. S. (2018). Individual interviews or focus groups? Interview format and women's self-disclosure. *International Journal of Social Research Methodology, 22*(3), 245-255. doi:10.1080/13645579.2018.1518857

LaDonna, K. A., Artino, A. R., Jr., & Balmer, D. F. (2021). Beyond the guise of saturation: rigor and qualitative interview data. *Journal of Graduate Medical Education, 13*(5), 607-611. doi:10.4300/JGME-D-21-00752.1

Marques, T., Silvestre, M., Rosa, B. S., & Miguéis, A. (2022). Audiologist's perspective in auditory rehabilitation: implications for ethical conduct and decision-making in Portugal. *Audiology Research, 12*(2), 171-181. doi:10.3390/audiolres12020020

McDaniel, C. (1997). Development and psychometric properties of the Ethics Environment Questionnaire. *Medical Care, 35*(9), 901-914.

Moors, A., Ellsworth, P. C., Scherer, K. R., & Frijda, N. H. (2013). Appraisal theories of emotion: state of the art and future development. *Emotion Review, 5*(2), 119-124. doi:10.1177/1754073912468165

Morley, G., Bradbury-Jones, C., & Ives, J. (2022). The moral distress model: an empirically informed guide for moral distress interventions. *Journal of Clinical Nursing, 31*(9-10), 1309-1326. doi:10.1111/jocn.15988

National Institute on Deafness and other Communication Disorders. (2021). Quick statistics about hearing. Retrieved February 26, 2023, from https://www.nidcd.nih.gov/health/statistics/quick-statistics-hearing

Ng, S. L., Crukley, J., Kangasjarvi, E., Poost-Foroosh, L., Aiken, S., & Phelan, S. K. (2019). Clinician, student and faculty perspectives on the audiology-industry interface: implications for ethics education. *International Journal of Audiology, 58*(9), 576-586. doi:10.1080/14992027.2019.1602737

Nowell, L. S., Norris, J. M., White, D. E., & Moules, N. J. (2017). Thematic analysis. *International Journal of Qualitative Methods, 16*(1). doi:10.1177/1609406917733847

O'Brien, B. C., Harris, I. B., Beckman, T. J., Reed, D. A., & Cook, D. A. (2014). Standards for reporting qualitative research: a synthesis of recommendations. *Academic Medicine, 89*(9), 1245-1251. doi:10.1097/ACM.0000000000000388

Olson, L. L. (2018). Building compassionate work environments: the concept of and measurement of ethical climate. In *Moral Distress in the Health Professions* (pp. 95-101): Springer International Publishing.

Onwuegbuzie, A. J., & Collins, K. M. T. (2017). The role of sampling in mixed methods-research. *KZfSS Kölner Zeitschrift für Soziologie und Sozialpsychologie, 69*(S2), 133-156. doi:10.1007/s11577-017-0455-0

Parsons, J., Reed, M., & Torre, P., III. (2019). Headphones and other risk factors for hearing in young adults. *Noise and Health, 21*(100), 116–124. doi:https://doi.org/10.4103/nah.NAH_35_19

Penny, N. H., Bires, S. J., Bonn, E. A., Dockery, A. N., & Pettit, N. L. (2016). Moral distress scale for occupational therapists: part 1 instrument development and content validity. *Americal Journal of Occupational Therapy, 70*(4), 7004300020p7004300021-7004300028. doi:10.5014/ajot.2015.018358

Peterson, A. M., Jiramongkolchai, P., & Piccirillo, J. F. (2021). Barriers to hearing aid adoption run deeper than the price tag. *Journal of the American Medical Association Otolaryngol Head and Neck Surgery, 147*(6), 497-498. doi:10.1001/jamaoto.2021.0133

Pillay, M., Tiwari, R., Kathard, H., & Chikte, U. (2020). Sustainable workforce: South African audiologists and speech therapists. *Human Resources for Health, 18*(1), 47. doi:10.1186/s12960-020-00488-6

Sarkic, B., Simpson, A., & Heine, C. (2022). The cost of privatisation to the profession: media representation of audiology in Australia. *Health Promotion Journal of Australia*, 1-9. doi:10.1002/hpja.653

Sedgwick, P. (2012). Pearson's correlation coefficient. *British Medical Journal, 345*(4), 4483. doi:10.1136/bmj.e4483

Simpson, A., Fawcett, M., McLeod, L., Lin, J., Tuncer, S., & Sarkic, B. (2023). Financial incentives and moral distress in Australian audiologists and audiometrists. *Clinical Ethics, 18*(1), 20-25. doi:10.1177/14777509221117687

Simpson, A., Phillips, K., Wong, D., Clarke, S., & Thornton, M. (2018). Factors influencing audiologists' perception of moral climate in the workplace. *International Journal of Audiology, 57*(5), 385-394. doi:10.1080/14992027.2018.1426892

Sooful, P., Dijk, C., & Avenant, C. (2009). The maintenance and utilisation of government fitted hearing aids. *Open Medicine, 4*(1), 110-118. doi:10.2478/s11536-009-0014-9

Tian, X., Jin, Y., Chen, H., & Jiménez-Herrera, M. F. (2021). Instruments for detecting moral distress in clinical nurses: a systematic review. *The Journal of Health Care Organization, Provision, and Financing, 58*(1), 1-12. doi:https://doi.org/10.1177/0046958021996499

Tufford, L., & Newman, P. (2010). Bracketing in qualitative research. *Qualitative Social Work, 11*(1), 80-96. doi:10.1177/1473325010368316

University of Cape Town. (2018, 17 March 2018). Policy research data management policy. Retrieved 1 May 2023, from http://www.uct.ac.za/sites/default/files/image_tool/images/328/about/policies/TGO_Policy_Resear ch_Data_Management_2018.pdf

Whitehead, P. B., Herbertson, R. K., Hamric, A. B., Epstein, E. G., & Fisher, J. M. (2015). Moral distress among healthcare professionals: report of an institution-wide survey. *Journal of Nursing Scholarship, 47*(2), 117-125. doi:10.1111/jnu.12115

Wiegand, D., & Funk, M. (2012). Consequences of clinical situations that cause critical care nurses to experience moral distress. *Nursing Ethics, 19*(4), 479-487. doi:https://doi.org/10.1177/0969733011429342

World Health Organization. (2021). Deafness and hearing loss. Retrieved February 17, 2023, from https://www.who.int/news-room/fact-sheets/detail/deafness-and-hearing-loss

World Medical Association. (2013). World Medical Association Declaration of Helsinki: ethical principles for medical research involving human subjects. *Journal of the*

American Medical Association, 310(20), 2191–2194. doi:https://doi.org/10.1001/jama.2013.281053

Wu, M.-J., Zhao, K., & Fils-Aime, F. (2022). Response rates of online surveys in published research: A meta-analysis. *Computers in Human Behavior Reports, 7*. doi:10.1016/j.chbr.2022.100206

Zimmer, M., Emanuel, D. C., & Reed, N. S. (2022). Burnout in U.S. audiologists. *Journal of the American Academy Audiology, 33*(1), 36-44. doi:10.1055/s-0041-1735253

Zohrabi, M. (2013). Mixed method research: instruments, validity, reliability and reporting findings. *The Journal of Health Care Organization, Provision, and Financing, 3*(2), 254–262.

Appendices

Appendix A: Adapted Ethics Environnent Questionnaire

Scale 2: *Adapted Ethics Environment Questionnaire (see adaptations in red)*

Please answer questions 1-20. Question 21 is optional.

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1. The administration/ manager of this organisation/ practice is concerned with ethical practice.

(5) strongly agree, (4) agree, (3) undecided, (2) disagree, (1) strongly disagree

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2. Although I know that costs are a concern, most of the time I think the administration/ manager of this facility/practice is more concerned with making money than with ethical care.

(5) strongly agree, (4) agree, (3) undecided, (2) disagree, (1) strongly disagree

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3. Administrators/employees at all levels of this organisation/ practice work to build shared ethics practice.

(5) strongly agree, (4) agree, (3) undecided, (2) disagree, (1) strongly disagree

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4. Personnel decisions in this organisation/practice reflect ethical considerations.

(5) strongly agree, (4) agree, (3) undecided, (2) disagree, (1) strongly disagree

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5. Administration provides their employees with ethics guidance when it is needed/I consult senior colleagues and professional society ethics committees for ethics guidance when needed.

(5) strongly agree, (4) agree, (3) undecided, (2) disagree, (1) strongly disagree

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6. Ethics accountability is not rewarded in this organisation/practice.

(5) strongly agree, (4) agree, (3) undecided, (2) disagree, (1) strongly disagree

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7. When ethics violations occur, this organisation/practice has procedures to identify and to deal with them.

(5) strongly agree, (4) agree, (3) undecided, (2) disagree, (1) strongly disagree

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8. The organizational culture of this institution/ practice is ethical.

(5) strongly agree, (4) agree, (3) undecided, (2) disagree, (1) strongly disagree

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9. If I were to have an ethical concern, I know it would be supported in this organisation/ practice.

(5) strongly agree, (4) agree, (3) undecided, (2) disagree, (1) strongly disagree

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10. Communication about ethical concerns in this organisation/ practice is open

between employees and administration/ management.

(5) strongly agree, (4) agree, (3) undecided, (2) disagree, (1) strongly disagree

11. Procedures and policies for employees in this organisation/ practice do not support ethical practice.

(5) strongly agree, (4) agree, (3) undecided, (2) disagree, (1) strongly disagree

12. Sometimes I think this organisation/ practice has different goals than mine, especially regarding ethical practice.

(5) strongly agree, (4) agree, (3) undecided, (2) disagree, (1) strongly disagree

13. Personnel policies in my work unit are consistent with what I would call ethical practice.

(5) strongly agree, (4) agree, (3) undecided, (2) disagree, (1) strongly disagree

14. When I need it, there are opportunities for employees to engage in ethical deliberations in my unit/ in the practice.

(5) strongly agree, (4) agree, (3) undecided, (2) disagree, (1) strongly disagree

15. If I reported one of my fellow unit employees for an ethics violation, my immediate supervisor would support me.

(5) strongly agree, (4) agree, (3) undecided, (2) disagree, (1) strongly disagree

16. In my opinion, employees' concerns about ethics issues are not "heard" in my work.

(5) strongly agree, (4) agree, (3) undecided, (2) disagree, (1) strongly disagree

17. If I reported a colleague for an ethics violation, there would be retaliation against me.

(5) strongly agree, (4) agree, (3) undecided, (2) disagree, (1) strongly disagree

18. Employees are unsure where we stand on ethics dilemmas that we encounter in our work.

(5) strongly agree, (4) agree, (3) undecided, (2) disagree, (1) strongly disagree

19. There is an ethics committee in this organisation/the professional body or association which I belong to which is available to me if I need it.

(5) strongly agree, (4) agree, (3) undecided, (2) disagree, (1) strongly disagree

20. I am involved in deliberations addressing ethics concerns about my work.

(5) strongly agree, (4) agree, (3) undecided, (2) disagree, (1) strongly disagree

Note. This scale uses a Likert Scale. (5) strongly agree, (4) agree, (3) undecided, (2) disagree, (1) strongly disagree

21. Do you have any comments or past experiences you would like to share? Please type them below.

(McDaniel., 1997)

Appendix B: Moral Distress Appraisal Scale

Scale 1
Moral Distress Appraisal Scale
Please answer questions 1-8. Question 9 is optional.

1. I am prevented from carrying out my work in a way that I believe is morally right.
(1) totally disagree (2) disagree (3) rather disagree (4) rather agree (5) agree (6) totally agree
2. I can work in accordance with my norms and values.
(1) totally disagree (2) disagree (3) rather disagree (4) rather agree (5) agree (6) totally agree
3. I am required to do things that are contrary to my own norms and values.
(1) totally disagree (2) disagree (3) rather disagree (4) rather agree (5) agree (6) totally agree
4. I am helped to work in a way that I believe is morally right.
(1) totally disagree (2) disagree (3) rather disagree (4) rather agree (5) agree (6) totally agree
5. I can work in a way that I believe is morally right.
(1) totally disagree (2) disagree (3) rather disagree (4) rather agree (5) agree (6) totally agree
6. I am compelled to do things that I believe are morally wrong.
(1) totally disagree (2) disagree (3) rather disagree (4) rather agree (5) agree (6) totally agree
7. I am supported to act ethically.
(1) totally disagree (2) disagree (3) rather disagree (4) rather agree (5) agree (6) totally agree
8. I am kept from working ethically.
(1) totally disagree (2) disagree (3) rather disagree (4) rather agree (5) agree (6) totally agree

Note. This scale uses a Likert Scale. (1) totally disagree, (2) disagree, (3) rather disagree, (4) rather agree, (5) agree, (6) totally agree. English translated of original Dutch Instrument

9. Do you have any comments or past experiences you would like to share? Please type them below.

(Baele & Fontaine, 2021)

Appendix C: Semi-Structured interview guide

Main questions	Additional questions	Clarifying questions
What are your thoughts and feelings about your workplace in terms of ethical practice?	What is your opinion about the ethical standards of the practice at which you work? Tell me about how the practice is managed and about patient care.	Can you give me some examples? Tell me more. How does this make you feel? Why do you think you hold this perspective?
Have you ever felt that you were unable to provide care to a patient due to constraints beyond your control?	Did/does this affect you and does it affect other areas of your life outside of work?	Give examples of scenarios and how it affects you and other areas of your life. How does this make you feel and what coping mechanisms do you use, if any?
Have you wondered whether you prescribed the correct treatment plan? Describe these situations, what did you do and how did you manage them?	How does this make you feel? Do you seek help in these situations? Who do you seek help from?	How often do these situations occur? Why do you think it makes you feel this way? Can you provide some examples
Do you feel that there are people you trust and can debrief with at work? Do you discuss ethical issues at work and how do you go about doing so?	Do you bring up ethical issues, and why? How do you feel when you raise ethical issues?	Why do you think you feel this way? How do you feel after you have discussed an issue? Describe an ethical issue and how was it addressed.
Are moral issues discussed in your workplace? If they are or are not discussed, what is your opinion on this?	When and how are moral concerns discussed?	How often are moral concerns discussed? Can you elaborate
Tell me a bit about your patient relationships	Are you able to establish trust and rapport?	How does this make you feel? What influence or impact does this have on you? Tell me more
Do you have any other thoughts, comments, opinions or experiences which you would like to share?		

Appendix D: Demographic Information Form

Please answer all items.

1. How old are you?
    - Under 25
    - 25-34
    - 35-44
    - 45-54
    - 55+

2. What is your gender?
    - Female
    - Male
    - Prefer not to say

3. Which sector do you work in for the majority of the time?
    - Public
    - Private

4. Area of professional practice in which you work for the majority of the time?
    - Adult Rehabilitation
    - Diagnostics
    - Implantable and bone conduction devices
    - Paediatrics
    - Vestibular

5. Number of years that you have fitted hearing aids?
    - 6months-5 years
    - 6-10 years
    - 11-20 years
    - 20 and above

6. Number of patients seen per day?
    - 0-5

- 6-8
- 9 or more

7. Number of hearing aids fitted per week?
    - 0-5
    - 6-10
    - 10 or more

8. Number of premium (top of the range) hearing aids recommended per week?
    - Hardly ever
    - Up to a quarter (25%) of patients
    - Up to half (50%) of patients
    - Up to 75% of patients
    - More than 75% of patients
    - NA, I work in the public sector

8.1 If you work in the private sector, how many patients do you recommend a hearing aid to that costs more than R 23 000.00 per aid, per week?

- Hardly ever
- Up to a quarter (25%) of patients
- Up to half (50%) of patients
- Up to 75% of patients
- More than 75% of patients
- NA, I work in the public sector

8.2 If you work in the private sector, how many patients do you fit a hearing aid to that costs less than R 23 000.00 per aid, per week?

- Hardly ever
- Up to a quarter (25%) of patients
- Up to half (50%) of patients
- Up to 75% of patients
- More than 75% of patients
- NA, I work in the public sector

8.3 If you work in the public sector, how many patients do you recommend a hearing aid to?

- Hardly ever
- Up to a quarter (25%) of my patients
- Up to half (50%) of my patients
- Up to 75% of patients
- More than 75% of my patients
- NA, I work in the private sector

8.4 If you work in the public sector, how many patients who need a hearing aid receive one?

- Hardly ever
- Up to a quarter (25%) of my patients
- Up to half (50%) of my patients
- Up to 75% of patients
- More than 75% of my patients
- NA, I work in the private sector

Appendix E: Ethics approval

UNIVERSITY OF CAPE TOWN
Faculty of Health Sciences
Human Research Ethics Committee

Room 45 E-52-E-Floor- Old Main Building
Groote Schuur Hospital
Observatory 7925
Telephone [021] 406 6492
Email: hrec-submissions@uct.ac.za
Website: www.health.uct.ac.za/home/human-research-ethics

17 January 2023

HREC REF: 745/2022

Dr C Rogers
Division of CSD
F-45 OMB
Email: christine.rogers@uct.ac.za
Student: cnxann001@myuct.ac.za

Dear Dr Rogers

PROJECT TITLE: HEARING HEALTHCARE PROFESSIONALS' PERCEPTIONS OF ETHICAL CLIMATE AND MORAL DISTRESS IN THE PROVISION OF AMPLIFICATION SERVICES (MASTERS IN AUDIOLOGY - MRS. ANNE BUDDEN)

Thank you for your response letter, addressing the issues raised by the Faculty of Health Sciences Human Research Ethics Committee (HREC).

It is a pleasure to inform you that the HREC has **formally approved** the above-mentioned study.

Approval is granted for one year until the 30 January 2024.

Please submit a progress form, using the standardised Annual Report Form (FHS016) if the study continues beyond the approval period. Please submit a Standard Closure form if the study is completed within the approval period.
(Forms can be found on our website: www.health.uct.ac.za/fhs/research/humanethics/forms)

The HREC acknowledge that the student: Mrs Anne Budden will also be involved in this study.

Please quote the HREC REF 745/2022 in all your correspondence.

Please note that the ongoing ethical conduct of the study remains the responsibility of the principal investigator.

Please note that for all studies approved by the HREC, the principal investigator **must** obtain appropriate institutional approval, where necessary, before the research may occur.

Yours sincerely

PROFESSOR M BLOCKMAN
CHAIRPERSON, FACULTY OF HEALTH SCIENCES HUMAN RESEARCH ETHICS COMMITTEE

Federal Wide Assurance Number: FWA00001637. Institutional Review Board (IRB) number: IRB00001938 NHREC-registration number: REC-210208-007

Appendix F: Template email of request for society members

Department of Health and Rehabilitation Sciences
FACULTY OF HEALTH SCIENCES

Divisions of Communication Sciences & Disorders • Disability Studies • Nursing & Midwifery • Occupational Therapy • Physiotherapy

F45 Old Main Building, Groote Schuur Hospital
Observatory, Cape Town, South Africa, 7925
Telephone: +27 (0) 21 406 6315
Website: www.dhrs.uct.ac.za Christine.Rogers@uct.ac.za

Date

Dear: *(insert association name here)*

I trust this e-mail finds you well. My name is Anne Budden, and I am a Master's student at the University of Cape Town. The research I am conducting is supervised by Dr. Christine Rogers. I would like to invite you and your members to participate in my study.

My research study is titled Hearing Healthcare Professionals' perceptions of Ethical Climate and level of Moral Distress in the provision of amplification services in South Africa.

Reason for this study

Moral distress has been widely explored in military, nursing and other health professions; however, minimal research has focused on healthcare professionals who dispense hearing aids, especially in South Africa. This study will explore Hearing Healthcare Professionals' (which for the sake of this study includes Audiologists, Community Service Audiologists and Speech-Language Therapist-Audiologists) levels of moral distress and the perceptions of the ethical climate in their workplace. Many private audiology practices depend on hearing aid sales to generate income making the profession vulnerable to ethical and moral concerns (Simpson et al., 2018). On the other hand, audiologists in state practices have limited resources and not every patient who warrants a hearing aid receives one, likely causing ethical and moral tensions (Day et al., 2021).

This study consists of two phases. Phase one consists of an online demographic questionnaire and two scales: the Moral Distress Appraisal Scale (MD-APPS) and the adapted Ethics

Environment Questionnaire (EEQ). **Phase one will take approximately 15 minutes; however, there is no time limit.** Once completing phase one, participants can decide whether they would like to complete phase two. **Phase two involves a semi-structured interview** via Zoom or other video call platforms and will take **approximately 30-45 minutes.**

There are no known risks for participating in the study; however, due to the sensitive nature of the topic, it may bring up unpleasant past experiences. To protect participants, necessary referrals will be made. Participants will be given a number, and pseudonyms will be used to ensure anonymity. The institution at which you work will not be mentioned. Only the researcher and supervisor will have access to the data collected.

Rewards or incentives will not be given to participants. Your input would be greatly valued and has the potential to raise awareness about moral distress amongst hearing healthcare professionals and the ethical climate in our workplaces. The findings of this study may serve as a basis on which interventions can be implemented to reduce levels of moral distress and improve the ethical climate in workplaces throughout South Africa.

If you would like to participate, please click the link below.
https://forms.gle/vLLGNP6PCEiQ1hQM7

If you have any questions or concerns, please do not hesitate to contact myself, Anne Budden or my supervisor, Dr. Christine Rogers.

This study has been approved by the Faculty of Health Sciences Human Research and Ethics Committee (reference HREC: 745/2022.).
If you have any concerns regarding the ethics or individual rights and welfare of participants, please contact them at 021 650 1236 or hrec-enquiries@uct.ac.za

Kind Regards
Anne Budden
Audiologist (AU0006556)
Email: CNXANN001@myuct.ac.za

Supervisor Contact details:
Dr. Christine Rogers
Tel: 021 406 6315 email: Christine.Rogers@uct.ac.za

Appendix G: Phase one questionnaire information sheet and consent form

DHRS
Department of Health and Rehabilitation Sciences
FACULTY OF HEALTH SCIENCES

Divisions of Communication Sciences & Disorders • Disability Studies • Nursing & Midwifery • Occupational Therapy • Physiotherapy

F45 Old Main Building, Groote Schuur Hospital
Observatory, Cape Town, South Africa, 7925
Telephone: +27 (0) 21 406 6315
Website: www.dhrs.uct.ac.za Christine.Rogers@uct.ac.za

Date

Dear Colleague

RE: Hearing Healthcare Professionals' perceptions of Ethical Climate and level of Moral Distress in the provision of amplification services in South Africa.

My name is Anne Budden and I am a Master's student at the University of Cape Town. The research I am conducting is supervised by Dr. Christine Rogers.

You are invited to participate in a research study that requires you to complete an online questionnaire. Your participation is entirely voluntary. There will be no incentives for participating, and you may withdraw without penalties or explanation.

Reason for this study

Moral distress has been widely explored in the military, nursing, and other health professions; however, minimal research has focused on healthcare professionals who dispense hearing aids, especially in South Africa. This study will explore Hearing Healthcare Professionals', (which, for the sake of this study, includes Audiologists, Community Service Audiologists, and Speech Language Therapist-Audiologists), levels of moral distress and perceptions of the ethical climate in their workplace.

What is Moral Distress?

It was first defined by Jameton (1984) and refers to psychological distress occurring from acknowledging moral responsibilities which are unable to be carried out as a result of perceived or real constraints; thus, individuals may be forced to act in a way that contradicts personal values and ethical principles (Badolamenti et al., 2017). In recent years, moral distress has been

given a broader definition: a psychological response to challenging ethical events (Epstein et al., 2019).

What is Ethical Climate?

This refers to whether the behaviours in workplaces are considered morally appropriate or not, and how ethical issues are dealt with in an organisation (McDaniel,1997).

Selection criteria to participate.

To participate, you need to practice within South Africa, have at least six months of experience fitting hearing aids, fitting an average of two or more hearing aids per week and see (on average) four or more patients per day. If you work in both sectors (public and private), you will be required to answer in relation to the sector you spend most of your time. You need to be registered with the Health Professions Council of South Africa (HPCSA) as either an Audiologist, Community Service Audiologist or Speech Language Therapist-Audiologist (SLT-A).

What is required from you?

If you agree to partake in the study, you will be asked to complete an online (Google forms) demographic questionnaire and two scales: the Moral Distress Appraisal Scale (MD-APPS) and the adapted Ethics Environment Questionnaire (EEQ). After submitting your answers, you will not be able to edit them. Once you have completed phase one, you will be kindly requested to participate in phase two, which involves a semi-structured interview via Zoom or other video call platforms. After you have complete phase one, you can choose whether you would like to continue in the study by reading the information sheet and consent form for phase two via the link at the end of phase one. If you are interested and want to find out more about phase two, please do not hesitate to contact me. If you agree to participate in the semi-structured interviews, you will be required to read the information sheet and complete and submit the consent form via Google forms.

Time requirement

The online survey will take approximately 10-15 minutes. There will be no time limit to encourage thinking and comments.

Risks

There are no known risks in participating in the study; however, the topic's sensitive nature may bring up past traumas. Please contact me or Dr. Christine Rogers if you feel negatively affected. A list of referrals will be sent to all participants who express concern. Your identity will remain confidential throughout the study. Only the researcher and supervisor will have access to information collected throughout the study. The online survey IP address tracking has been disabled to protect participants' privacy. Email addresses will not be shared and kept on a password-protected laptop with up-to-date anti-viruses.

Benefits

You will not receive any rewards for participating; however, the research findings will be shared with you, if requested. Your input is valuable and has the potential to contribute to future research as well as raise awareness about moral distress and the environments in which Hearing Healthcare Professionals work. Findings may serve as a basis for future research on possible interventions to decrease levels of moral distress and improve ethical climates.

If you need more information or have any questions or concerns about the study, please do not hesitate to contact me, Anne Budden, or my supervisor, Dr. Christine Rogers.

This study has received approval from Human Research and Ethics Committee (reference number 745/2022).

If you have any concerns regarding the ethics or individual rights and welfare of participants, please contact them at 021 650 1236 or hrec-enquiries@uct.ac.za

Kind Regards

Anne Budden
Audiologist (AU0006556)
Email: CNXANN001@myuct.ac.za

Supervisor Contact details:
Dr. Christine Rogers
Tel: 021 406 6315 Christine.Rogers@uct.ac.za

By ticking these boxes, I, as a hearing healthcare professional, agree to voluntarily participate in phase one of this study.

- ☐ I have read and understood the information sheet and have had the opportunity to ask questions about the study and my participation.
- ☐ I agree to participate voluntarily and for the researcher to use my results for potential publishing.
- ☐ I understand that I have the right to withdraw at any time without an explanation.
- ☐ I understand that my identity will remain anonymous and secure throughout the study. My name, e-mail address or institution will not appear in reports.

Name and Surname: _____Date:_____

Signature:_____

Please click the link below which will direct you to an online information sheet with a consent form which you can submit online as well as the questionnaire.

https://forms.gle/NnAPnr6EzjYSfatm7

Appendix H: Social media invitation

The graphic below depicts the social media invitation.

Appendix I: Phase two information sheet and consent form for semi-structured interviews

DHRS
Department of Health and Rehabilitation Sciences
FACULTY OF HEALTH SCIENCES

Divisions of Communication Sciences & Disorders • Disability Studies • Nursing & Midwifery • Occupational Therapy • Physiotherapy

F45 Old Main Building, Groote Schuur Hospital
Observatory, Cape Town, South Africa, 7925
Telephone: +27 (0) 21 406 6315
Website: www.dhrs.uct.ac.za Christine.Rogers@uct.ac.za

Date

Dear Colleague

RE: Hearing Healthcare Professionals' perceptions of Ethical Climate and level of Moral Distress in the provision of amplification services in South Africa.

Thank you for participating in phase two, which consists of a personal semi-structured interview. Your participation is entirely voluntary. There will be no incentives for participating. You may withdraw without penalties or explanation.

Reason for this study

Moral distress has been widely explored in the military, nursing, and other health professions; however, minimal research has focused on healthcare professionals who dispense hearing aids, especially in South Africa. This study will explore Hearing Healthcare Professionals' (which for the sake of this study includes Audiologists, Community Service Audiologists and Speech-Language Therapist-Audiologists) levels of moral distress and the perceptions of the ethical climate in their workplace.

Selection criteria to participate.

To participate, you need to practice within South Africa, have at least six months of experience fitting hearing aids, fit an average of two or more hearing aids per week, and see (on average) four or more patients per day. If you work in both sectors (public and private), you will be required to answer in relation to the sector you spend more time in. You can only participate in this study if you are registered with the Health Professions Council of South Africa (HPCSA) as either an Audiologist, Community Service Audiologist or Speech Language Therapist-Audiologist (SLT-A).

What is required from you?

You need a device eg. laptop, cell phone or tablet, which you can access Zoom as well as be familiar with Zoom or other video call platforms (if you choose). You will be asked several open-ended questions about your thoughts and feelings about moral distress and the ethical climate in your workplace. The interview will be recorded on Zoom, or other video call platforms and transcribed using specialised software. It will not be mandatory for you to have your camera on to respect your privacy. The recording will be stored on a password-protected laptop with updated anti-virus and anti-hacking software. It is important to note that information shared during interviews is strictly confidential and should not be shared with others.

Time requirement

Semi-structured interviews will take place via Zoom or other video call platforms for approximately 30-45 minutes. You will be able to check whether the information gathered from your interview is accurate, a transcript and list of themes will be shared with you. Participants will have 48 hours to request changes.

Risks

There are no known risks for participating in the study; however, due to the sensitive nature of the topic, it may bring up past traumatic experiences. Necessary referrals will be made if needed. You will be given a participant number and pseudonyms will be used to ensure you remain anonymous throughout the study. The institution at which you work will not be mentioned. Only the researcher will have access to data collected.

Benefits

You will not receive any rewards for participating; however, if requested, the research findings will be shared with you as well as other educational resources. Your input is valuable and has the potential to contribute to future research as well as raise awareness about moral distress amongst hearing healthcare professionals and the ethical climate in their workplaces. The findings of this study may serve as a basis on which interventions can be implemented to decrease levels of moral distress and improve the ethical climate in multiple workplaces within South Africa.

If you need more information or have any questions or concerns about the study, please do not hesitate to contact myself, Anne Budden or my supervisor, Dr. Christine Rogers.

This study has received approval from Human Research and Ethics Committee (reference number 745/2022).

If you have any concerns regarding the ethics or individual rights and welfare of participants, please contact them at 021 650 1236 or hrec-enquiries@uct.ac.za.

Kind Regards
Anne Budden
Audiologist (AU0006556)
Email: CNXANN001@myuct.ac.za

Supervisor Contact details:
Dr. Christine Rogers
Tel: 021 406 6315
Email: Christine.Rogers@uct.ac.za

By ticking these boxes, I agree to voluntarily participate in phase two of this study.

- ☐ I have read and understood the information sheet and have had the opportunity to ask questions about the study and my participation.
- ☐ I agree to voluntarily participate and for the researcher to use my results for potential publishing.
- ☐ I understand that I have the right to withdraw at any time without an explanation.
- ☐ I understand that my identity will remain anonymous and secure throughout the study. My name, email address or institution will not appear in reports.
- ☐ I agree to not disclose any information discussed during interviews with peers and colleagues etc.

Name and Surname: _____Date:_____
Signature:_____
E-mail address:_____

Please click the link below which will direct you to an online information sheet and consent form which you can complete and submit online and by doing so you will be signed up for phase two.

https://forms.gle/jibsrnozwb6T2ckq9

Appendix J: Semi-structured interview participant information

Participant no.	Sector of work	Years of experience	Additional information
1	Public	9+	– Paediatric audiology – Dispenses hearing aids. – Masters in Audiology
2	Private	2	– Dually qualified – Has previously worked in both healthcare sectors. – Dispensing hearing aids.
3	Public	3	– Dispensing hearing aids – Works independently
4	Private	10+	– Recently become part owner of a private practice. – Dispenses hearing aids
5	Private	7	– Dispensing hearing aids – Vestibular assessment and management – Central Auditory processing Disorders
6	Private	3	– Paediatric hospital – Lack of equipment and resources. – Dispenses hearing aids
7	Private	35+	– Dually qualified – Dispenses hearing aids. – Practice owner and works independently. – Thinking about retirement
8	Private	30+	– Practice owner with a team of employees – Dispenses hearing aids
9	Private	6	– Started their own practice after community service in SA. – Works independently. – Dispenses hearing aids. – Central Auditory processing Disorders
10	Private	4	– Dispenses hearing aids. – Vestibular assessment and management – Masters in Audiology
11	Private	25+	– Practice owner with a team of employees – Postgraduate training – Interest in ethics
12	Private	5	– Travelling audiologist – Dispenses hearing aids. – Worked in two private hearing aid practices
13	Private	4	– Works independently. – Paediatrics and adults – Dispenses hearing aids
14	Public	7	– Has worked in two public hospitals. – Sufficient resources
15	Private	7	– Worked in two private hearing aid practices. – Dispenses hearing aids
16	Private	7	– Worked in two private hearing aid practices. – Dispenses hearing aids
17	Private	35+	– Practice owner with a team of employees – Central Auditory processing Disorders – Dispenses hearing aids

Note: Some personal information was omitted to ensure that participants' identities remained anonymous. All practitioners dispense hearing aids.

Appendix K: Section extracted from the researcher's reflective journal

The researcher worked in a government hospital for one year in South Africa, then worked in two private practices and was not practicing clinically for the duration of this study.

Date	Research Process	Reflexive thoughts, observations etc.
21/03/2021	Interviews and transcribing	The affordability of hearing aids was a prominent factor creating stress. Scenarios were mentioned where patients could not afford hearing aids, causing hopelessness and frustration among HHPs. While interviewing participants, I did not make them aware that I had felt this way. Throughout the interviews, I withheld my personal experiences to prevent research bias. Some HHPs mentioned it was not worth taking specific ethical concerns to management, fearing it could strain relationships and worsen the work environment. Several HHPs from both the public and private sectors reported that lacking specific equipment caused MD as they felt they were not fulfilling their duties. The general trend is that most HHPs do not feel supported by the HPCSA. I have had no experience dealing with ethical issues with the HPCSA. So far, no participants thought that their university training prepared them for ethical issues, especially dilemmas in private practices. Some HHPs thought ethics training was portrayed in an 'ideal' setting, different from real-life situations. I felt that university training did not include many aspects of working in the private sector.
27/03/2023	Interviews and transcribing	When I had opposing views, I refrained from making them apparent. I was cautious not to contaminate the results. I allowed participants to speak openly and freely without interruptions, even when they got side-tracked. I used phrases like "*give me an example*" and "*describe a situation you have experienced*" to prompt participants to share personal experiences.
28/03/32	Transcribing	When transcribing the data, it was tempting to edit out words such as *"yeah, you know, ooo and um"*: however, these words, mutters, and sounds added valuable information to the data as they conveyed that the participant hesitated to answer the question, required more time to think or had difficulty expressing themselves. Word searching also provided greater insight into underlying messages, feelings, and thoughts. I asked participants how different experiences made them feel to prompt reflective thinking.

29/03/2023	Interviews	During my experience as an audiologist, I can relate to some participants; however, I ensured my facial expressions and body language remained neutral. In my opinion, it is beneficial for the study that I am not currently practicing as it helps me remain objective. I am removed from the working environment and when I identified having felt similar feelings and experiences to the participants, those feelings were not fresh and could easily be supressed. My personal experiences do not influence the questions I asked during the interviews and the interview guide enabled me to conduct consistent interviews. When I was currently practicing, my view was that if I was patient-centered and established trust with my patients, they would be more accepting of my clinical advice and rehabilitation process. I knew that the more I supported my patients in accepting their hearing loss, the hearing aid fittings would follow. I am aware that hearing aid fittings provide the bulk of income for private practices and can see how HHPs who have targets can feel conflicted and stressed having high caseloads and needing to fit hearing aids to meet financial targets. Some participants felt their boss thinks they are a better audiologist if they fit more hearing aids.
30/03/2023	Interviews	Several participants stated that patients present ethical dilemmas. One common example was patients ask HHPs to write insurance claims when they have not lost their hearing aids but would like an upgrade. The HHPs have stated that they do not write insurance letters if they know the hearing aid was not broken or lost; however, I am sure they wonder how many patients are telling the truth and whether it was ethical to provide an insurance claim letter. I used phrases such as “tell me more,” “go on,” “how did that make you feel” to encourage further sharing. Throughout the interviews, I felt participants shared openly.
05/04/23	Thematic analysis	During the analysis phase, I read the transcripts multiple times to see whether I would code and categorise the data the same as the previous time. This ensured confidence that I was conducting the analysis as thoroughly and accurately as possible. I found that the third time I checked the codes and categories, I could see themes emerging from the data. I am aware that I need to provide an accurate representation of the data and to achieve this I need to include opinions and experiences of HHPs which differ to remain unbiased.
19/04/2023	Writing up qualitative results	I am aware of the importance of not only reporting on the negatives but also the positive experiences which were reported. I am conscious of representing the data as accurately as possible without choosing a fixed angle to report findings from. Sometimes I feel that I am not coming up with a conclusive answer; however, the interviews were able to obtain rich, insightful narrative data about HHPs unique personal experiences. Due to HHPs sharing unique individual experiences, it is challenging to make overarching

		statements about their experiences of MD and the ethical work environment. There were many honest and insightful quotations to include in the report.
20/04/2023	Writing up qualitative results	I think the nature of the interviews were personal, confidential, and provided a safe place for many HHPs to express their true feelings and experiences. I was never short of honest and insightful quotations to include in the report.

Appendix L: Section extracted from the researcher's field notes

Date	Self-reflection	Observations
Personal semi-structured interviews		
20/3/2023-21/03/2023	During the first interview, I did not stick to the exact questions on the template. I deviated in the hope of creating an organic flow and to help build on the information the participant provided. The questions could have been more open-ended, and instead of proposing different perspectives when framing the question, I should have allowed the participant to take the lead. Throughout the interview, I probed for more examples and encouraged the participant to reflect upon their feelings. When transcribing some of the interviews, I noticed other opportunities where I should have asked the participant to elaborate. There were times when a participant's body language and facial expressions indicated that there was a deeper story behind the facts they were sharing. I was fortunate that most participants felt comfortable sharing even though I did not show empathy and remained objective, which is against my nature.	Once we stopped recording, a participant told me about a panic attack they had at work. I do not know whether I did not probe enough to access this information or whether the participant felt uncomfortable sharing the information during the recording. Overall, the participant seemed comfortable disclosing other events and feelings. The interview process reiterated that moral distress and ethics are sensitive topics and can bring up past traumas. A participant shared they are seeing a psychologist and have been diagnosed with anxiety and depression. These interviews highlighted the importance of referral/thank-you e-mails.
22/03/2023	I was able to stick to the guided questions while maintaining a natural organic flow throughout the interview. I felt confident during the interview and remained objective. After the interview, I felt inspired to analyse the interview. It was valuable to interview an audiologist who is an owner of a private practice and has over 35 years of experience. Her insight added valuable information to my research. She provided examples and descriptive answers.	The participant shared openly and freely without any hesitations. They provided raw descriptive and real experiences. As a practice manager, the participant shared their challenges, thoughts, feeling, and emotions. I noticed that the participant felt most constrained or heavily burdened by medical insurance companies and the financial constraints of their patients. The participant brought up a new topic about patients' perceptions of their hearing impairment being tainted by financial constraints, which I found very interesting.
23/03/2023	I was relaxed during the interview. I knew the participant which helped create an organic relaxed environment. I remained objective and reassured	The participant openly expressed concerns about her work environment. It seems the participant walks on 'eggshells' at work and has thought about

	the participant that their identity would remain anonymous to encourage frank sharing of information. She shared that she sees a psychologist and that work stress impacts her mood and affects relationships outside of work.	moving practice multiple times. It is obvious that the participant was unhappy with the way the practice is run but is 'trapped' as she needs to work to earn money. She tries to overlook the unethical issues in the workplace.
27/03/2023-28/03/2023	When I have opposing views or would like to ask the participant whether they have considered another point of view, I refrain from doing so. I do not want to contaminate the results. I allow participants to speak openly without interruptions, even if they do not directly answer the question.	Some audiologists in private practice do not necessarily feel pressured to sell hearing aids; however, the pressure lurks in the back of their minds. Other audiologists have targets and if they are not met, they receive a pay cut. Audiologists expressed that hearing aids needed to be fitted to pay salaries; therefore, there is an expectation placed on the audiologist even if it is not explicitly stated. Some employees felt that the more hearing aids they fitted or the more expensive the hearing aid was, reflected their capabilities.
29/03/2023	During one interview, I struggled to encourage the participant to elaborate on their answers; however, later in the interview they stated that they would probably struggle to identify an ethical dilemma. The main ethical dilemma they reported was lack of equipment and equipment not being calibrated or repaired.	I observed that the participant's limited knowledge on MD and ethical dilemmas reflected in her opinions. Although the participant had experienced working in both healthcare sectors, they did not have many years of work experience. The participant was a temporary employee which could have resulted in her being left out of certain conversations about the business. The participant felt that their ethics raining was inadequate.
30/03/2023	I am aware that situations are interpreted subjectively, and people's 'ethical compass' differs. Personally, I have never had to report or been reported for ethical misconduct. I ensured questions were broad and I stayed as neutral as possible.	Majority of audiologists felt that the training they received was inadequate. Most participants expressed they do not feel supported by the HPCSA in terms of ethics and rather seek support from other professional associations. Participants feel that the HPCSA try to help all audiologists; however, they need to approach the needs of private and public HHPs differently.
31/03/2023	When interviewing several participants, it was challenging sticking to the interview questions as more probing was needed. However, I used the following phrases which helped; "*tell me more, can you expand on that, can you give me an example, how did it make you feel?"*	In several public hospitals, there seems to be a sense of hopelessness that if ethical issues were to be taken to management, nothing would be done, and it would not be prioritised.

03/04/23	Some of the interview questions appeared to veer towards private practice, making it challenging to stick to the interview questions.	It was expressed that knowing your scope of practice is important not to overstep ethical boundaries. Participants felt the need to bend the 'rules' to help patients. Not being able to help patients caused feelings of hopelessness. Some patients had complex health issues and hearing may not be a top priority and places additional financial strain on the family. Participants expressed concern when it comes to charging patients for hearing aids in public hospitals as household income does not always accurately reflect a family's financial situation. In hospitals where they should be charging for hearing aids and are not, participants were concerned as patients did not look after their hearing aids. Participants reported if patients paid, it could create a greater sense of responsibility.

Appendix M: Appreciation email and list of referrals

DHRS
Department of Health and Rehabilitation Sciences
FACULTY OF HEALTH SCIENCES

Divisions of Communication Sciences & Disorders • Disability Studies • Nursing & Midwifery • Occupational Therapy • Physiotherapy

F45 Old Main Building, Groote Schuur Hospital
Observatory, Cape Town, South Africa, 7925
Telephone: +27 (0) 21 406 6315
Website: www.dhrs.uct.ac.za Christine.Rogers@uct.ac.za

Date

Dear Colleague

Thank you for your participation in this research study.

We want you to know that your mental well-being is of utmost importance. Due to the sensitive nature of this study, if you feel negatively affected in any way, please do not hesitate to contact myself, Anne Budden, or my supervisor, Dr. Christine Rogers. Below is a list of referrals whom you can contact should you need to report unethical behaviour or seek personal/mental help.

Health Professions Council of South Africa (HPCSA)
Ethical Queries
(+27) 12 338 9300
NtsikeleloS@hpcsa.co.za

South African Association of Audiologists (SAAA)
Ethics and Standards Committee
Lucretia Peterson (President)
president@audiologysa.co.za

South African Speech-Language-Hearing Association (SASLHA)
Ethics and Standards
Alison Dent (Chairperson)
Request email by emailing admin@sashla.co.za

Healthcare Workers Care Network

24 hour helpline 0800 21 21 21 o SMS 43001

www.healthcareworkerscarenetwork.org.za

South African Depression and Anxiety Group

24hr helpline telephone number: 0800 456 789

SADAG.org

South African Mental Health Helpline

011 614 9890

If you have any questions or concerns. Please do not hesitate to contact me.

Kind Regards
Anne Budden
Audiologist (AU0006556)
Email: CNXANN001@myuct.ac.za

Supervisor Contact details:
Dr. Christine Rogers
Tel: 021 406 6315
Email: Christine.Rogers@uct.ac.za

Appendix N: Singapore Statement of Research Integrity

Preamble

The value and benefits of research are vitally dependent on the integrity of research. While there can be and are national and disciplinary differences in the way research is organized and conducted, there are also principles and professional responsibilities that are fundamental to the integrity of research wherever it is undertaken.

Principles

Honesty in all aspects of research

Accountability in the conduct of research

Professional courtesy and fairness in working with others

Good stewardship of research on behalf of others

Responsibilities

1. Integrity: Researchers should take responsibility for the trustworthiness of their research.

2. Adherence to Regulations: Researchers should be aware of and adhere to regulations and policies related to research.

3. Research Methods: Researchers should employ appropriate research methods, base conclusions on critical analysis of the evidence, and report findings and interpretations fully and objectively.

4. Research Records: Researchers should keep clear, accurate records of all research in ways that will allow verification and replication of their work by others.

5. Research Findings: Researchers should share data and findings openly and promptly, as soon as they have had an opportunity to establish priority and ownership claims.

6. Authorship: Researchers should take responsibility for their contributions to all publications, funding applications, reports and other representations of their research. Lists of authors should include all those and only those who meet applicable authorship criteria.

7. Publication Acknowledgment: Researchers should acknowledge in publications the names and roles of those who made significant contributions to the research, including writers, funders, sponsors and others, but do not meet authorship criteria.

8. Peer Review: Researchers should provide fair, prompt, and rigorous evaluations and respect confidentiality when reviewing others' work.

9. Conflict of Interest: Researchers should disclose financial and other conflicts of interest that could compromise the trustworthiness of their work in research proposals, publications, and public communications as well as in all review activities.

10. Public Communications: Researchers should limit professional comments to their recognized expertise when engaged in public discussion.

11. s about the application and importance of research findings and clearly distinguish professional comments from opinions based on personal views.

12. Reporting Irresponsible Research Practices: Researchers should report to the appropriate authorities any suspected research misconduct, including fabrication, falsification, or plagiarism, and other irresponsible research practices that undermine the trustworthiness of research, such as carelessness, improperly listing authors, failing to report conflicting data, or the use of misleading analytical methods.

13. Responding to Irresponsible Research Practices: Research institutions, as well as journals, professional organizations, and agencies that have commitments to research, should have procedures for responding to allegations of misconduct and other irresponsible research practices and for protecting those who report such behaviour in good faith. When misconduct or other irresponsible research practice is confirmed, appropriate actions should be taken promptly, including correcting the research record.

14. Research Environments: Research institutions should create and sustain environments that encourage integrity through education, clear policies, and reasonable standards for advancement, while fostering work environments that support research integrity.

15. Societal Considerations: Researchers and research institutions should recognize that they have an ethical obligation to weigh societal benefits against risks inherent in their work.
    (Resnik & Shamoo, 2011).

Signed by candidate

Signed by Anne Budden on the 8th of July 2022