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Empathy and associated influencing factors in occupational therapy students: A cross-sectional study

ABSTRACT

Introduction: Empathy, often described as the comprehension of another person's state of mind, enables one to appreciate social environments and anticipate others' behaviour. In occupational therapy, the therapeutic use of self, which is grounded in empathy, is commonly considered essential, as it enables therapists to manage a therapeutic relationship with clients. However, high caseloads, stressors and pressure to perform often impact empathy levels. This study aimed to determine the empathy levels of undergraduate occupational therapy students, as well as factors affecting empathy levels.

Method: A quantitative approach was used, with an observational, cross-sectional study methodology, employing an electronic survey consisting of the Interpersonal Reactivity Index (IRI) and a questionnaire developed by the researchers.

Results: In total, 112 (response rate 70.4%) students participated in the study. Overall, the students had a satisfactory level of empathy. Of concern, however, was the impact of the Covid-19 pandemic and the lack of clinical fieldwork experience, which possibly contributed to the lower empathy levels observed among second- and third-year students.

Conclusion: From the findings, it is suggested that more attention should be given to empathy, as it plays an integral role in practice with clients, as well as in the training of occupational therapy students.

Implications for practice

The findings suggest the opportunity for interventions and support systems that can help students manage high caseloads, stressors, and performance pressures, while also fostering and maintaining empathy. Implementing strategies such as stress management programs, mindfulness training, and self-care initiatives can help mitigate the negative impact on empathy levels and promote the development of empathetic skills in future occupational therapists.

The research study's results have implications for the professional practice of occupational therapy. It emphasizes the need for ongoing education and training programs that focus on empathy development and maintenance throughout a therapist's career.

By providing therapists with the tools, resources, and support to sustain their empathy levels in challenging work environments, the study suggests that the quality of care provided to clients can be enhanced, leading to better therapeutic outcomes and overall client satisfaction.

Organizational changes within healthcare settings may be necessary to address workload issues and create a supportive environment that nurtures empathy among occupational therapy professionals.

INTRODUCTION

Empathy has no script. There is no right way or wrong way to do it. It's simply listening, holding space, withholding judgment, emotionally connecting, and communicating that incredibly healing message of 'You're not alone'^{1:Internet}

Empathy is difficult to define². It is a versatile, complex and dynamic concept

resulting from the various interpretations thereof³. Throughout this study, empathy was operationally defined by the Interpersonal Reactivity Index (IRI) as the “reactions of one individual to the observed experiences of another”^{10:internet}. Empathy has been described as consisting of a set of facets that reflect individual cognitive and emotional experiences of concern for others, compassion, warmth and individual feelings of discomfort and anxiety from observing others’ negative experiences^{5,6}.

Empathy plays a critical role in the formation of meaningful relationships in society⁷. It enables the understanding of the mental states of others, including their emotions, aspirations, behaviours and thoughts⁸. The therapeutic use of self, regarded as a cornerstone in occupational therapy practice, is considered to be an essential part of the therapeutic process as it enables the therapist to develop and manage a therapeutic relationship with their clients⁹. According to the Occupational Therapy Practice Framework (OTPF), possessing empathy as a therapist is essential to enable the therapeutic use of self, as it allows more open communication between the therapist and the client⁹. Client is defined by the Merriam-Webster Dictionary as “a person who engages the professional advice or services of another,”^{10:internet} whereas the term patient is defined as “an individual awaiting or under medical care and treatment; the recipient of any of various personal services”^{10:internet}. These two terms are used interchangeably throughout this article.

Research has shown that healthcare practitioners who interact with their patients in an empathic manner, can contribute to an increase their patients’ comfort, are able to build trusting relationships with them and encourage clients to adhere to their treatment programmes¹¹⁻¹⁵. Healthcare practitioners refer to individuals who support health and well-being in people through the implementation and administration of the principles and procedures of evidence-based practice¹⁶. Additionally, empathic interactions enable the therapist to connect with the client on an emotional level, which will contribute to the enhancement of their current life situation⁹. This level of involvement ultimately results in improved client outcomes².

However, high caseloads, stressors and pressure to perform and be successful in treating clients often have a negative influence on empathy levels¹⁷. Clients, or patients, who are dissatisfied with practitioners due to a lack of empathy, lead to feelings of distress and this may cause them to lose faith in the healthcare system, whereas the presence of empathy results in feelings of satisfaction, relief and trust¹³. Furthermore, it has been noted that in addition to empathy declining during the course of studying in a healthcare-related field, countless students fail to recognise the value of this important skill concerning their future profession¹⁸. Thus, it is important to encourage and inculcate the importance of empathy among students before these pressures take hold and control their quality-of-service delivery¹⁹.

Contrary to the literature indicating a decline in empathy during the course of study, multiple other studies have produced results suggesting that not only is the decline in medical students’ empathy levels “over-exaggerated”, but it also oscillates in the opposite direction, with empathy

levels having been reported to increase as students’ progress through the years of medical training²⁰⁻²³. These contradicting results from multiple studies provided a rather unclear conclusion pertaining to the possible increase and/or decline in the empathy levels of medical and health sciences students.

The available literature further demonstrates a lack of research with regard to the levels of empathy among occupational therapists (and particularly students) within the South African context. When searching the literature, only a single study conducted at an Australian University in 2010 that measured the empathy levels of occupational therapy students, could be located²⁰. More recently, another study, also from an Australian University, using the Emotional and Social Competency Inventory to compare the emotional and social competence among the baccalaureate occupational therapy students across four academic year levels²⁴, was published. The results indicated that subscale scores on teamwork, empathy and achievement orientation were the three competencies receiving the highest scores²⁴.

These contradictory results and inadequate research in a South African context indicated the need to measure empathy levels to implement changes to the curricula based on the findings and instill the importance of empathy in students. The value of this study as a mechanism for skills development in student training is founded on the notion that empathy is a skill. As early as 1976, Keefe²⁵ suggested that empathy is a set of behaviours that accounts for a skill crucial to the successful treatment of a patient. He went on to say that behaviours constituting the empathic skill are acquired throughout life and include feeling, thinking, perceiving, and communicating²⁵. Thus, empathy used to be considered as merely an innate characteristic that could not be taught, but studies have indicated that this essential human capacity is susceptible to change, therefore, progressing to a characteristic capability that can be taught¹⁹.

This study aimed to measure, describe and compare the levels of empathy of all four undergraduate year groups at the University of the Free State by using a standardised empathy measure, the Interpersonal Reactivity Index (IRI), as well as a questionnaire developed by the researchers. The study sought to determine whether differences in the empathy levels of the different year groups were present, and which year groups, respectively, had the highest and lowest empathy levels.

LITERATURE REVIEW

Empathy

Empathy is considered a complex and multidimensional concept to define³, mostly due to various schools of thought (i.e., sociological, psychological and medical fields), each having their own perspective and understanding thereof. For example, in the 1950s, Carl Rogers, an influential psychologist, dominated the formulation of the definition of empathy in social services. Most of the definitions of empathy at that time were derived from Rogers’ explanation of empathy as the therapist’s ability “to sense the client’s private world as if it were your own, but without ever losing the ‘as if’ quality”^{26:99}. Furthermore, the definition of empathy in the

context of client care and medical education assumed a more “component-based” perspective of empathy, with Hojat and Gonnella^{27,344} describing it as “predominantly a cognitive attribute (as opposed to affective) that involves understanding (as opposed to feeling) of the patient’s pain, experiences, concerns, and perspectives combined with a capacity to communicate this understanding and an intention to help”. Theorists and seminal authors of empathy have come to a relative consensus, implying that there are various components to empathy²⁸.

Components of empathy

As previously mentioned, empathy is not an exclusive phenomenon, as it comprises different forms and aspects⁸. Many theorists have proposed that various “components” are part of empathy, namely those of affective (empathy related to emotions and one’s emotional state), cognitive (the intentional and conscious act of perspective-taking and thinking), behavioural (the act of showing empathy, such as attentive listening, for example) and moral empathy (the willingness of an individual to care for and improve an individual’s situation through altruism)^{8,17,18}. As empathy is such a complex and multidimensional concept³, it is necessary to identify the different components that empathy consists of, and to understand each component individually and how it contributes to empathy as a whole, in order to comprehend and react to the hardships experienced by another person^{17,29}. These components facilitated the identification of factors that required focus when attempting to measure empathy levels among students.

The measurement of empathy introduces a burdensome task that originates from the lack of a clear, universal definition of empathy³⁰. The measures used in investigating empathy levels can be separated into three classes: self-report instruments, behavioural observational techniques and neuroscientific procedures³⁰.

Empathy and occupational therapy

World Wars I and II created a significant demand to develop the speciality of rehabilitation medicine in order to aid returning war veterans with disabilities and help them to recover function and reintegrate into society³¹. The early growth and development of occupational therapy as a health-related discipline occurred within this culture of rehabilitation medicine³¹. In occupational therapy, the therapist-client relationship is characterised by a blend of competence and caring or empathy³¹. Pierce believed that the humanistic values, that exist within occupational therapy culture, are in direct opposition to the values of medicine and that an even balance of competence and caring results in the highest quality of a therapeutic relationship³¹.

In many settings where occupational therapy services are provided, the delivery thereof is guided by the Occupational Therapy Practice Framework: Domain and Process (OTPF)⁹. The OTPF was designed not only for occupational therapists and occupational therapy students, but also for other healthcare practitioners, educators, researchers and consumers. The OTPF provides a summary of interdependent concepts that are relevant to occupational therapy

practice⁹. It emphasises the importance of the inclusion of possessing empathy, practising client-centred therapy and collaborating with the client³². Thus, according to this framework, an occupational therapist needs to possess empathy when providing services to clients.

Additionally, the Health Professions Council of South Africa (HPCSA) formulated and presented thirteen core ethical values and standards required for good practice. One of the core ethical values required is compassion, which the HPCSA describe as health care practitioners’ ability to be sensitive to, and empathise with, the individual and social needs of their patients, as well as to create mechanisms for providing comfort and support where appropriate and possible³³. These specific values are perceived as all-inclusive ethical aspects required of a healthcare practitioner to maintain good professional practice, therefore, compassion or empathy is viewed as a necessity in practice in any healthcare setting.

Previously, empathy was regarded as an instinctive, inborn characteristic that could not be taught. However, research has indicated that this essential human ability is capable of change, which contributes to its teachability¹⁷. Viewed as a range of behaviours, the empathic skill becomes more attainable, in the sense that like all behaviours, it can be taught and learned. As early as the 1970s, various approaches, some using the empathy scales of Truax or Carkhuff, for example, have been established for teaching empathy in practice, such as providing students with feedback on the level of empathy they were demonstrating in role-played or recorded interviews situations²⁵. Hegazi, Hennessy and Wilson²³ emphasised the fundamental significance of schools educating students on the significance of empathy. The acquisition of relevant knowledge and the application of this information in the intervention of clients is vital, although an equally essential skill in treatment is the ability to relate successfully to one’s clients²³. Students’ capability for effective communication during interviews with clients requires a different skill set, including the capacity to comprehend patients’ emotions and circumstances (i.e., empathy) and the ability for introspection and understanding one’s own feelings and emotional reactions in response to patients’ circumstances and actions (i.e., self-awareness)²³. Furthermore, Hegazi *et al.* stated that empathy in a medical setting is an essential skill and a core component of “professionalism”²³.

In addition to empathy being considered a professional virtue, many studies reported multiple benefits experienced by both healthcare practitioners and their clients when empathy had been demonstrated in a therapeutic relationship. Research has produced conclusive evidence suggesting that empathy is a “powerful tool”, with many positive advantages in client care²³. For example, for both therapists and students, it is of particular value to be empathic as it facilitates a client-centred understanding to ensure that the client pursues meaningful occupation and attains all therapeutic outcomes¹⁹. Additionally, having empathy also provides one with job satisfaction¹¹. Moreover, empathy in client care, such as verbal communication and understanding non-verbal cues, as well as time spent with

the client, can increase client satisfaction and compliance³⁴. Empathic care enhances clients' perceptions of being helped, improves their feelings of empowerment and increases their experiences of a support network³⁴.

Concerning an example that is fitting to recent circumstances, research has indicated that the COVID-19 pandemic had influenced empathy levels globally³⁵. In the present healthcare setting, affective empathy, more specifically, was suggested to enhance health-related outcomes. Additionally, it was found to encourage healthcare practitioners' compliance with handwashing in order to protect others in hospitals³⁶. Additionally, literature emphasised the importance of maintaining a balance by ensuring that healthcare practitioners are equally provided with sufficient support, care and empathy from their establishments, to enable them to provide high-quality, empathic services, and to ensure that they experience the benefits of empathy themselves³⁷.

Furthermore, the absence of empathy in healthcare negatively impacts the therapeutic relationship^{8,13,25}. It has been suggested in the literature that occupational therapy students' style of clinical practice is influenced by their empathy levels, whereas lower levels of empathy ultimately make them more vulnerable to work-related stress and consequent burnout³⁸. Consequently, a lack of empathy can result in clients becoming reluctant to return and adhere to their treatment programmes¹³. Furthermore, inadequate empathy can lead to disappointment in the healthcare system or an increase in malpractice litigations¹³. Research has emphasised that a practitioner who is non-empathic could potentially cause more harm to a client's wellbeing and health than not consulting a practitioner at all³⁹.

Hence, as noted above, high caseloads, stressors and pressure to perform and successfully treat clients are factors that have been proven often to negatively influence empathy levels¹⁹. Additionally, studies have shown a probable trend of decline in empathy levels not only among medical students, but healthcare students in general. This observation has been attributed to several reasons, such as extreme emotional and academic pressure, exposure to clinical settings, burnout and dissatisfaction with one's chosen profession or field of study¹⁵. The concepts of empathy and the ability to "experience" and relate to another individual's pain, becoming eroded could be found to be prominent, not only among physicians, but also among other healthcare professionals. In their daily business of treating clients, occupational therapists and students are also exposed to the pain and traumatic experiences of these individuals. Thus, occupational therapists are also at risk of being "emotionally exploited" within clinical settings, which may lead to a decrease in their levels of empathy.

On the contrary, other studies have suggested that the empathy levels of students in various healthcare professions may remain unchanged or that it may oscillate in the opposite direction, with empathy levels having been reported to increase as students progress through the years of medical training²³. Such contradictory information indicates that no firm and conclusive evidence has been drawn to determine whether a definite increase or

decrease in the level of empathy occurs³⁴ among students in healthcare professions, specifically in the occupational therapy profession.

It is evident from the literature that empathy in a healthcare setting has multiple benefits for both healthcare practitioners and their clients. This knowledge contributed to contextualising the study, as it had been identified that empathy is a necessary component for client care, consequently demonstrating the importance of investigating the empathy levels of occupational therapy students at the University of the Free State. The study would ultimately contribute to ensuring that these students will approach their clients with the necessary empathy when providing their therapy.

Doris Pierce, a renowned occupational therapist, stated that to understand the occupations of others better, "... we must become very skilled at methods to gain access to the perspectives of others. Such methods include empathy, reflection, interview, observation, and rigorous qualitative inquiry."^{40:304}. From the literature, it is evident that empathy necessitates careful consideration, not only in practice with clients, but also in the training of occupational therapy students.

METHODS

Study design

An observational, cross-sectional study methodology was used by employing an electronic survey of the Interpersonal Reactivity Index (IRI) and a questionnaire custom-developed for the purpose of the study, both of which were administered to the students.

Research participants

All the undergraduate students enrolled in the occupational therapy course at the UFS were requested to participate. Because the entire population was represented, no sampling method was necessary. The population of 159 occupational therapy students included both male and female students between 18 and 38 years of age. The UFS offers a four-year Bachelor of Occupational Therapy degree.

Measurement instruments

The IRI and the questionnaire that was developed by the researchers were used to measure and determine the empathy levels of the students. Table 1 (page 36.) lists the references used for the compilation of the questionnaire.

The standardised IRI, with proven validity and reliability, is a 28-item scale including four subscales, each comprising seven items. The four subscales include the Fantasy scale (FS), Perspective-Taking (PT) scale, the Empathic Concern (EC) scale and the Personal Distress (PD) scale. FS explains the probability of an individual relating to a fictional character; it measures respondents' tendencies to transpose themselves imaginatively into the actions and feelings of fictitious characters in movies, books and plays^{4,5}. PT relates to the cognitive component of empathy as it evaluates unintended, spontaneous efforts to assume others' points of view^{4,5}. EC scale refers to individuals' feelings of compassion and concern for others, thus, assessing "other-orientated"

Table 1: References for the sources that informed some of the questions included in the questionnaire developed by the researchers

Sources used to compile the self-developed questionnaire		Questions informed by the specific source
Ref. No.	Reference	
41	Komeda H, Kosaka H, Fujioka T, Jung M, Okazawa H. Do individuals with autism spectrum disorders help other people with autism spectrum disorders? An investigation of empathy and helping motivation in adults with autism spectrum disorder. <i>Frontiers in Psychiatry</i> . 2019;10:376.	Question 1.8: Have you been formally diagnosed with an autism spectrum disorder?
42	Hojat M, Spandorfer J, Louis DZ, Gonnella JS. Empathic and sympathetic orientations toward patient care: conceptualization, measurement, and psychometrics. <i>Academic Medicine</i> . 2011;86(8):989–995.	Question 2.1: What is your understanding of empathy? Please select the relevant option.
17	Riess H. The science of empathy. <i>Journal of Patient Experience</i> . 2017;4(2):74–77.	Question 2.3: Do you regard empathy as a skill, or is it an inborn trait?

feelings of concern for unfortunate others^{4,5}, which relates to the affective component of empathy. PD indicates the extent to which an individual feels uneasiness, or worry when exposed to the negative experiences of others, thus, measuring “self-orientated” feelings of personal anxiety and unease within tense interpersonal settings^{4,5}, which relates to the moral component of empathy. Therefore, this empathy measurement instrument covers three of the four components of empathy described in the literature review (affective, cognitive, behavioural and moral empathy).

Additionally, the IRI was chosen as it is the most frequently used self-report measure of its kind and purportedly addresses the emotional as well as the cognitive aspects of empathy^{5,29,43}, which are not covered by most other empathy measures. The IRI was developed by Mark H. Davis⁵, a professor of psychology at Eckerd College, thus, this empathy measure originated from the Psychology discipline. However, since the IRI was intended to be a multidimensional measure of empathy, designed to measure individual disparities in cognitive, perspective-taking proclivities, as well as variations in the sort of emotional responses typically demonstrated⁶, it would be relevant to measure the empathy levels of occupational therapy students. The IRI has been extensively utilized within medical and health contexts, on a variety of individuals (e.g. residents, medical students, nurses, physicians, dentists), with several fascinating results, indicating its utility and validity within these milieus⁴⁴.

Students rated their level of agreement with each statement on the IRI on a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree). Nine of the twenty-eight questions are negatively worded in order to decrease the confounding effect of submissive responding, which were reversed afterwards for analysis. Thereafter, the mean score for each subscale was calculated. These scores were used to determine the mean scores for each year group that were compared to reveal differences and similarities in empathy levels among the different year groups.

Secondly, concerning the self-developed questionnaire, information was obtained from the respondents’ feedback provided to the questions included in the questionnaire. The questions were both open- and closed-ended questions aimed to determine the demographic characteristics of the students (e.g. age, year of study, having to repeat a year of study), background information (e.g., their knowledge about the subject of empathy, their attitude towards empathy) and students’ perceptions of the impact of the

COVID-19 pandemic on their empathy levels. Participants were asked to select options that were the most applicable to themselves, and to provide more information by typing in certain answers.

Measurement procedures

A pilot study was conducted with eight students (two from each of the year groups) to determine possible errors in the data collection, administering and scoring of the IRI and the self-developed questionnaire. Additionally, the pilot study provided the researchers with an understanding of the students’ comprehension of the questions and the ability to provide accurate responses. These students’ findings were included in the data analysis as no changes to the questionnaire were required.

When invited to participate in the study, students were provided with an explanatory statement and informed that participation was voluntary and anonymous, through the use of an information and consent form made available by means of email and WhatsApp messages to each of the year groups. A link to the online survey was included in these messages. Consent was implied by the completion of the questionnaire. The researchers administered the survey online via the EvaSys platform.

A total of 43 questions (IRI and questionnaire combined) were completed, which took approximately 20 minutes. The online survey was available for completion by the students for two weeks. The researchers invited the participants via email and WhatsApp messages weekly to complete the survey and also one day before the cut-off date.

Data analysis

The data were collected via the EvaSys online survey platform, which ensured the confidentiality and anonymity of all the information obtained. The data were available for download from EvaSys as a CVS file, i.e., an Excel spreadsheet. Thereafter, the data for each year group were typed into a Microsoft Excel spreadsheet, thereby de-identifying the data obtained. The completed questionnaires were divided, among the researchers, as per the respective year groups.

Data analysis was performed by the Department of Biostatistics, UFS, using SAS software version 9.4 (SAS Institute Inc.; Cary, NC). Descriptive statistics, namely frequencies and percentages for categorical data, and medians and percentiles for numerical data, were calculated. A chi-squared test was conducted with $p < 0.05$ regarded as

Table II: Mean scores* for each of the subscales of the Interpersonal Reactivity Index (IRI) per year group

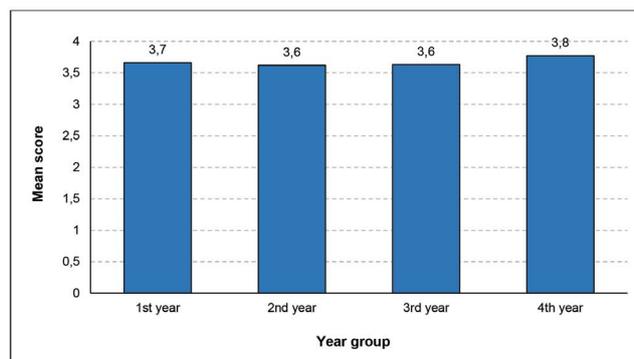
Subscale of the IRI	Year group				Total group (n=112)
	1st (n=22)	2nd (n=17)	3rd (n=38)	4th (n=35)	
Fantasy Scale (FS)	3.92	3.87	3.64	3.81	3.81
Perspective-Taking Scale (PT)	3.87	3.88	3.97	4.14	3.97
Empathic Concern Scale (EC)	4.29	4.12	4.23	4.40	4.26
Personal Distress Scale (PD)	2.56	2.61	2.67	2.73	2.64

*Converted from a 1–5 Likert scale to summed scores.

Table III: The probability (p-value) of an association between student empathy levels and different variables

Variables	p-value per year group			
	1st (n=22)	2nd (n=17)	3rd (n=38)	4th (n=35)
Repeating a year of occupational therapy training	0.5518	–	0.3339	0.4101
Treating clients	0.4685	0.6711	0.7541	–
Occupational therapy training	0.3021	0.3854	0.6780	0.1346
COVID-19 pandemic	0.4267	0.2670	0.2377	0.7161

Note: Where a dash (–) has been used, the variables could not produce results of association with any other variable, due to those respective values being single numbers in the data set.

**Figure 1: Empathy level scores per year group (n=112).**

statistically significant.

Ethical considerations

The study adhered to the ethical guidelines set by both the Department of Occupational Therapy at the UFS and the Health Sciences Research Ethics Committee (HSREC) of the university. Ethical approval to perform the study was obtained prior to the commencement of the research (ethical clearance number UFS-HSD2021/0103/2004).

RESULTS

A total of 112 students from the total population of 159 participated in the study (70.4% response rate). The majority of students were between the ages of 18 to 23 years (90.2%). Students from each of the four year groups were adequately represented in the sample for statistical analysis, with 22 (19.6%) first-year, 17 (15.2%) second-year, 38 (33.9%) third-year and 35 (31.3%) fourth- (final-) year students.

The scores of each of the IRI subscales were determined for the respective year groups. Table II (above) indicates the mean scores for each of the four subscales of the IRI per year group and the combined mean score for a particular

subscale.

A chi-square test was performed to determine whether significant differences between students' empathy levels occurred. The variables included repeating a year of occupational therapy training, treating clients, occupational therapy training and the COVID-19 pandemic. Referring to the first-mentioned variable, repeating a year(s) of occupational therapy training increases the total time spent in the program, thus, the potential of that having an influence (whether positive or negative) evoked investigation. Secondly, as described in the literature review, encounters with patients influence the empathy levels of healthcare practitioners, thus, an association with this variable urged an investigation. Thirdly, as this study aimed to determine the empathy levels of occupational therapy students, the influence of occupational therapy training on empathy levels had to be inspected. Lastly, as the study was executed amidst the global COVID-19 pandemic, the authors wanted to investigate the association between the pandemic and the students' empathy levels. The results are summarised in Table III (above).

The mean scores for each subscale were averaged to reveal the aggregate score for each of the respective year groups' empathy levels. Figure 1 (above) illustrates the average empathy level of each year group.

Of the 112 participants, nine students have repeated at least one year of occupational therapy training (first-year n=3 [2.7%]; third-year n=2 [1.8%]; fourth-year n=4 [3.6%]). Of these nine students, six (66.7%) participants felt that repeating a year of occupational therapy training might have had a positive impact on their empathy towards others.

Ninety-two (82.1%) of the students reported having worked with a patient or client as part of their occupational therapy training. Overall, most students (n=102, 91.1%) indicated a good understanding of the concept of empathy, namely that empathy is "the ability to understand and share the

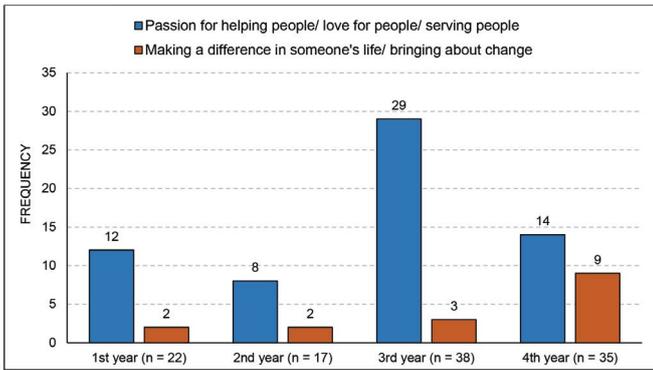


Figure 2: Most common reasons for choosing to study occupational therapy.

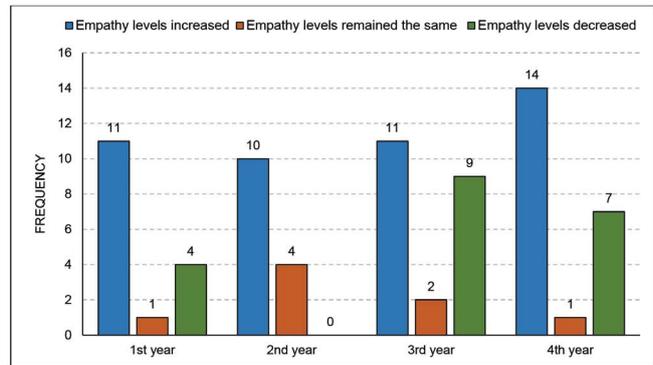


Figure 3: Students' perceptions of what impact the COVID-19 pandemic had on their empathy levels (n=74).

Table IV: Most common reasons provided for the increase or decrease in empathy levels during the COVID-19 pandemic

	Year group			
	1st	2nd	3rd	4th
Reasons why empathy levels increased during the pandemic and percentage (%) respondents (n=46)				
All faced the same hardships/experienced similar things.	9.1	18.2	15.9	18.2
Many people (or they) lost loved ones to Covid-19.	11.4	4.6	0	0
Increased awareness of other people's experiences and situations.	0	0	6.8	13.6
Reasons why empathy levels decreased during the pandemic and percentage (%) respondents (n=21)				
People became more self-absorbed – focusing on their own problems and experiences.	14.3	4.8	9.5	4.8
Decreased clinical exposure – decreased contact with patients.	0	14.3	4.8	23.8
Less contact with people.	4.8	0	19.1	0

feelings of another.”

Seventy (62.5%) students indicated that they regarded empathy as a specific skill that can be taught to people, whereas 42 (37.5%) students felt that empathy is an inborn trait and a person is either born with or without it. The majority of students (n=107, 95.5%) felt that empathy is important in pursuing a career such as occupational therapy. Of these 107 respondents, 60 (56.1%) attributed the importance of empathy to the fact that it enables an understanding of your patient or client.

The students were asked, using an open-ended question, to elucidate why they chose to study occupational therapy. The responses provided served as categories; respondents' answers were grouped under the various categories that emerged from the data based on the similarity of the responses. New responses served as additional categories. The two most frequent reasons that informed their choice of study are indicated in Figure 2 (above).

Overall, students' perceptions of their empathy levels were indicated as having either an excessive (n=43, 38.4%) or sufficient (n=68, 60.7%) level of empathy. Only one (0.9%) student perceived their empathy level as poor. The majority of students (n=92, 82.1%) felt that the way in which they responded to people or patients had changed since they started studying occupational therapy. Students from each of the four year groups were adequately represented in this response (first-year 17.39%, second-year 16.30%, third-year 31.52%, fourth-year 34.78%).

Eighty-four (75.0%) students indicated that they expect their empathy levels to increase during the course of study,

six (5.4%) students believed that empathy levels will remain unchanged and 22 (19.6%) students expected their empathy levels to decrease during the course of their study.

Of the 84 students that indicated that they expect empathy levels to increase across the years of study, 44 (52.4%) respondents attributed this anticipated increase to exposure to patients, which would have contributed to them developing the skill of empathy. The second most frequent response (n=18, 21.4%), pertaining to why empathy levels are expected to increase, was that a holistic understanding of a person is likely to have developed over the years, which would increase their level of empathy.

Table IV (above) indicates the percentages of respondents for each of the three most common reasons provided for the increase or decrease in empathy levels during the COVID-19 pandemic. These percentages per reason are categorised according to the respective year groups.

The majority of students (n=74, 66.1%) felt that the COVID-19 pandemic had impacted their empathy levels. Students from each of the four year groups were adequately represented in this response (1st-year = 21.6%, 2nd-year = 18.9%, 3rd-year = 29.7%, 4th-year = 29.7%). The remaining 38 students believed that the COVID-19 pandemic did not have an impact on students' empathy levels. The specific impact that students believed the COVID-19 pandemic had on their empathy levels is represented in Figure 3 (above).

DISCUSSION

This study had a good response rate (70.44%) in comparison to the only other available study¹⁹ that measured levels of

empathy in undergraduate occupational therapy students. In this mentioned study by Brown *et al.*⁹² out of a total of 169 occupational therapy students participated in the study (54.4% response rate)⁹³.

The results demonstrated that undergraduate occupational therapy students enrolled at the UFS had an acceptable level of empathy, as measured by the IRI. The scores reported in this study were higher than those reported in the original IRI validation study, involving the University of Texas undergraduate students⁶. Davis⁶ reported a mean FS score of 4.47, PT score of 3.49, EC score of 3.91 and PD score of 2.55.

Referring to the results indicated in Table II (page 37), in terms of the mean scores for each of the subscales of the IRI, the fourth-year students obtained the highest score for each of the subscales, except for the FS. The first-year students obtained the highest score for the FS. When considering the average empathy levels per year group, it ranked as follows from the highest to the lowest level: fourth-, first-, third- and lastly, second-year.

The chi-square test proved no statistically significant difference between students' empathy levels and the four variables that could potentially influence one's empathy level, as indicated in Table III (page 37). Thus, according to the results, there was no significant association between students' empathy levels and repeating a year of occupational therapy training, treating clients, the commencement of occupational therapy training or an association with the COVID-19 pandemic.

The fact that 82.1% of respondents reported having worked with a patient or client as part of their occupational therapy training was a noteworthy finding. The result could either be attributed to a misinterpretation of the question, or students experienced their clinical fieldwork exposure differently. For instance, some of the first-year students might have felt that they had worked with a patient after their community service learning, which entailed a visit to a rural town, Trompsburg, located in the Free State Province. On the contrary, other students in the first-year group might not have experienced this aspect of their training as having worked with a patient or client due to the nature of the visit.

It has been suggested that once students progress from their first year of academic education and subsequently acquire hands-on experience through the completion of clinical fieldwork placements, their views of their chosen fields transition from an "idealised perception" to a more "realistic perception"^{45,46}. Moreover, exposure to the realities of working with clients and patients, which might sometimes be quite challenging, may result in students developing a "professional or clinical distance" as a coping mechanism to deal with stressors¹⁹. Hence, with more advanced academic education and clinical fieldwork experience, healthcare students' empathy levels may decrease⁴⁷.

The literature discussed might support the findings of the lower levels of empathy among the second- and third-year students. As a result of the COVID-19 pandemic in 2020, both of these year groups unavoidably lost valuable clinical fieldwork experience and patient contact, despite already being limited in the first years of training. With the commencement of 2021 and the return of students to

campus, these year groups were possibly overwhelmed when confronted by the evident gap in their experience and knowledge, when they were expected to perform assessments and treatments on real or simulated patients, with limited prior experience in clinical fieldwork. Thus, the COVID-19 pandemic could be suggested as a factor that influenced students' empathy levels within this specific period and context.

Additionally, when asked to indicate the impact of the COVID-19 pandemic on their empathy levels, it was also the third-year students with the highest indication that it had resulted in a decline of their empathy levels (n=9). Moreover, two third-year students (5.3%) indicated that at the time of participating in the study, they had not yet worked with clients as part of their occupational therapy training, which raised some concerns (n=38). This could be attributed to a poor understanding of the question or it could be a reflection of their lack of clinical exposure, possibly due to the COVID-19 pandemic.

The two most frequent reasons given by the students pertaining to why they decided to study occupational therapy are that (i) they have a passion for helping people, love for people or serving people (n=63, 56.3%) and (ii) being able to make a difference in someone's life or bringing about change (n=16, 14.3%). Empathy is an element that inclines people to pursue helping professions and contributes to comprehending others' experiences. However, self-empathy is a much-forsaken domain. It is essential, nevertheless, to guarantee that healthcare practitioners have sufficient resources to continue being empathic toward others¹⁷. When one is emotionally exploited, overloaded, overwhelmed or burnt out, the capability for an empathic approach towards others decreases¹⁷.

Recommendations and future research

When discussing the results of the IRI, it is important to note that it is a self-report questionnaire. Therefore, one needs to be mindful when interpreting these results that they are the participant's responses and not undoubtedly predictions of their behaviour when practising as occupational therapists. The findings from this study will possibly allow the positive qualities identified (e.g., that most students believe that empathy is important in pursuing a career such as occupational therapy and that empathy is a specific skill) to be promoted in the curriculum. Regarding the negative findings (e.g., perceptions of empathy decreasing or changing since they have started studying or due to COVID-19), it is suggested that the Department of Occupational Therapy at the UFS develops alternative education and training processes to address the challenges that have surfaced. Additionally, it would be important for the Department of Occupational Therapy at the UFS to take special note of the findings, as these could possibly suggest that second- and third-year students feel inept to work with patients, which might have resulted in lower empathy levels in comparison to the other groups. As previously mentioned, research indicated that substantial workloads and expectations to be successful in treating clients are proven elements that often negatively influence empathy levels¹⁹. Furthermore, the

importance of cultivating an awareness of the concept and significance of practising self-empathy should be conveyed in student training.

Current evidence confirms that training can enhance healthcare practitioners' empathy and compassion⁴⁸. Medical education research regarding skills and behaviours that promote empathy and provide a framework from which researchers and educators can develop evidence-based curricula is available in recent literature⁴⁸.

This study possibly forms the foundation for further research investigating undergraduate occupational therapy students by undertaking a longitudinal study of students' empathy levels from the first year of enrolment to graduating as a qualified therapist. Additionally, future research would benefit from a larger scale exploration through collaboration across several occupational therapy programs on a national and possibly an international level.

Limitations of the study

Potential limitations of the study include that the IRI is a self-report scale and it is possible that participants might have been biased in their responses. A further limitation is that all participants were from only one South African university baccalaureate occupational therapy course. Therefore, the relatively small population size potentially might have impacted the findings, as the generalisability of the results is limited to groups of participants with similar characteristics. Furthermore, the context within which this study was conducted - in the midst of a global pandemic - potentially impacted students' responses, and subsequently the results, and should, therefore, be recognised as a possible limitation. Lastly, a methodological limitation was the manner in which some of the questions in the self-developed questionnaire were phrased. It is suggested that for future studies, all questions are phrased in a straightforward manner that is not open to inaccurate interpretation.

CONCLUSION

The findings from this study suggest that occupational therapy students at the UFS have a good and acceptable level of empathy, although the second- and third-year students demonstrated slightly lower levels of empathy. However, factors such as the COVID-19 pandemic, lack of clinical fieldwork experience, repeating a year of training and the commencement of occupational therapy training were identified as factors that influenced students' empathy levels. Therefore, if educators were to promote empathy among students as a beneficial professional characteristic, the primary areas to focus on would be the teachability of empathy as a skill, the benefits of empathy in healthcare and the concept of self-empathy. Further investigation into the trends of empathy levels in occupational therapy students across the four years of training (particularly in a South African context) is recommended.

Doris Pierce believes that occupational therapists and occupational therapy students "... are special people: creative, caring, intelligent, empathetic, playful and humanistic."^{40:308} From the literature and the findings of this study, it is strongly recommended that more attention

should be given to empathy, as it plays an integral role not only in practice with clients, but also in the curriculum and training of occupational therapy students.

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Conflict of interest

The authors do not have any conflict of interest to declare.

Author contributions

The research study was conceptualised during collaborative actions between all undergraduate researchers, as well as the study leader, as part of the undergraduate research module. A. Jansen, the study leader, supervised the study, provided feedback throughout the entire process, evaluated the different components of the study (i.e. literature review, protocol, research article etc.), assisted the undergraduate researchers with the interpretation of the data, as well as reviewed and edited the researched article. L. de Klerk, M. Kramer, B. Pieterse, K.A. Smith and A. van Tiddens, the undergraduate researchers, each contributed to writing the literature review, the study protocol, executing the data collection procedures, as well as writing up the results, presenting the research project during the annual research presentation day and writing the initial drafts of the research article. O. Aluko, the biostatistician, performed the statistical analysis of the data and provided the descriptive statistics that informed the results of the study.

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