Clinical associate students' perceptions of factors influencing their developing professional identity

By

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Declaration

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This work is dedicated to my mother, Makaziwe Mgobozi. Your positivity is never-ending; your eagerness for lifelong learning has encouraged me to be a lifelong scholar. Thank you for your support, love, prayers, blessings and limitless dreams for your children. Thank you to my family for cheering me on.

I also dedicate this work to one of my guardian angels, my grandfather, who was a teacher in the rural areas of Shawbury. Your love for education triggered my passion for teaching and learning. Thank you But'Mangi, for your light, wisdom and never-ending support.

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"*We shall not cease from exploration, and the end of all our exploring will be to arrive where we started and know the place for the first time*"

T.S. Elliot

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CONTENTS

Declaration ii
Acknowledgments iii
Contents iv
List of tables and figures vi
Abstract vii
Opsomming viii
CHAPTER 1 1
INTRODUCTION 1
1.1 Problem statement 2
1.2 Research question 3
1.3 Study aims and objectives 3
CHAPTER 2 5
LITERATURE REVIEW 5
2.1 Introduction 5
2.2. Background of the clinical associate profession 5
2.3 Professional identity in medical education 6
2.4 Definitions of professional identity 7
2.5 Influences on professional identity 8
2.6 Research methodologies for professional identity 9
2.7 Pedagogical implications for professional identity 9
2.8 Conclusions 11
CHAPTER 3 12
MATERIALS AND METHODS 12
3.1 Research design 12
3.2 Research setting 12
3.3 Selection of study population 12
3.4 Collection of study data: Focus groups 13
3.5 Data analysis 14
3.6 Role of the researcher 15
3.7 Ethical considerations 16
3.8 Research trustworthiness 16

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3.8.1 Credibility 16
3.8.2 Dependability 17
3.8.3 Conformability 17
3.8.4 Transferability 17
CHAPTER 4 18
RESULTS 18
4.1 Participant demographics 18
4.2 Focus group discussions 19
4.3 Theme one: Individual factors 20
4.3.1 Unfulfilled personal needs 20
4.3.2 Students' core aspirations 20
4.3.3 Internal and external motivation 22
4.4 Theme two: Training related factors 23
4.4.1 Medical campus experience 23
4.4.2 Clinical experience 24
4.5 Theme three: Perceptions of identity 25
4.5.1 Students' perceptions of their identity 26
4.5.2 Students' perceptions of the clinical associate profession 27
4.5.3 Healthcare workers' perception of clinical associate identity 30
4.6 Conceptual map of the identified themes, sub-themes and minor themes 31
4.7 Summary 33
CHAPTER 5 34
DISCUSSION AND CONCLUSIONS 34
5.1 Individual factors 34
5.2 Factors from the educational training platform 35
5.3 Perceptions of identity 37
5.4 Strengths and limitations of the study 38
5.5 Conclusion 39
References 41
Appendices 47
Appendix A: Ethics approval certificate from Stellenbosch University 47
Appendix B: Ethics approval certificate from the University of Witwatersrand 49
Appendix C: Approval from the university deputy registrar 50
Appendix D: Participant Information Leaflet 49
Appendix E: Consent form 53
Appendix F: Semi-structured interview guide 54

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List of tables and figures

Figure 1: Miller's original pyramid: Assessment of clinical skills/competence/performance

Figure 2: Amended version of Miller's pyramid

Table 1: Demographics of the study participants

Table 2: Main themes and sub-themes of the study

Figure 3: A conceptual map showing the progression of emerging themes from the first- to third-year focus groups

Abstract

The Carnegie Foundation for the Advancement of Teaching and the Lancet Commission called for educational reforms to improve the preparation of 21st century healthcare professionals through strengthening of professional identity in medical education.

The factors influencing professional identity amongst nurses and doctors emerge as role modelling, patient encounters, clinical experience, and professional practice. However, factors influencing professional identity within the clinical associate profession have not been described. The study explores clinical associate students' perceptions of factors that influence their developing professional identity. The research question is positioned within the phenomenological research paradigm. The research inquiry used a qualitative descriptive interpretivist approach. The study was conducted at the University of Witwatersrand in Johannesburg. The population for the study were all undergraduate clinical associate students enrolled at the University of Witwatersrand in 2018. A non-probability convenience sampling technique was utilised. Sampling were done from first-year and the final-year group of students. Three focus group discussions were held per year of study. The focus group discussions were guided by the researcher utilising semi-structured interview questions. Focus group discussions were audio recorded. Ethics approval was received from Stellenbosch University and the University of Witwatersrand.

Three themes emerged from the results, namely, individual factors, training related factors, and perceptions of identity.

The focus on professional identity aims to provide formal educational opportunities to enhance factors that positively influence student professional identities and dispel negative factors. Strengthening professional identities produces healthcare professionals who embody the professional qualities, values and dispositions required in an effective profession. The study reveals clinical associate students' perceptions of factors that influence their professional identity. The information suggests a need to increase marketing and advocacy of the profession, improve student selection into the programme, include inter-professional education and faculty development, and utilise clinical associate role models at clinical learning facilities.

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Opsomming

Die Carnegie Stigting vir die Bevordering van Onderrig en die Lancet Kommissie het 'n versoek gerig dat daar opvoedkundige hervorming moet wees (in die 21ste eeu) om, beroepslui in gesondheidsorg, se voorbereiding te verbeter deur hul professionele identiteit in gesondheidsopleiding te versterk.

Faktore wat verpleegsters en dokters se professionele identiteit beïnvloed, is geskikte rolmodelle, interaksies met pasiënte, kliniese ervaring en professionele praktyk. Faktore wat professionele identiteit van kliniese genote beïnvloed, is egter nog nooit opgeteken nie. Hierdie studie verken kliniese genoot-studente se persepsies van faktore wat hul ontwikkelende, professionele identiteit beïnvloed. Die navorsingsvraag word binne 'n fenomonologiese paradigma geposisioneer. Die navorsing het 'n kwalitatiewe beskrywende interpretivistiese benadering gevolg. Die navorsing is aan die Universiteit van Witwatersrand in Johannesburg gedoen. Die navorsingsbevolking was almal voorgraadse kliniese genoot-studente wat gedurende 2018 by die Universiteit van Witwatersrand ingeskryf was. 'n Nie-waarskynlike, gerieflikheidsproefneming is onder eerste- en derdejaar studente gedoen. Drie fokusgroepbesprekings is per jaargroep gehou. Die fokusgroepbesprekings is deur die navorser gelei deur middel van semi-gestruktureerde onderhoudsvrae. 'n Klankopname is van die fokusgroepbesprekings gemaak. Beide die Universiteit van Stellenbosch en die Witwatersrand het etiese klaring vir die studie gegee.

Drie temas het in die resultate na vore gekom. Hierdie drie temas is individuele faktore, faktore wat met opleiding verband hou en persepsies rondom identiteit.

Die fokus van hierdie studie, op professionele identiteit, beoog om formele opvoedingsgeleenthede uit te lig, sodat faktore wat 'n positiewe invloed op studente se professionele identiteit het, bevorder kan word asook om negatiewe faktore uit te skakel. Die versterking van professionele identiteit lewer beroepslui in gesondheidsorg op, wat die professionele kenmerke, waardes en ingesteldheid verpersoonlik om gesondheidsorg sodoende meer effektief te maak. Die studie openbaar die kliniese genoot-studente se persepsies rondom die faktore wat hul professionele identiteit beïnvloed. Die resultate dui daarop dat bemarking en voorspraak vir die beroep moet toeneem. Verder dui die resultate daarop dat studentekeuring tot die program moet verbeter. Inter-professionele opvoeding en fakulteitsontwikkeling moet ook ingesluit word. Laastens word voorgestel dat kliniese genote as rolmodelle ingesluit word aan kliniese onderrigfasiliteite.

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CHAPTER 1
INTRODUCTION

The field of health professions education has increasingly explored not only the attainment of knowledge, skills and attitudes of health science students, but also the process of an individual fully embodying and *becoming* the healthcare professional of choice (Barnett, 2009). This process is described as an individual developing all qualities and dispositions relevant to being a professional (Barnett, 2009).

The concept of developing a professional identity during the years of training at medical school is increasingly gaining attention (Brandt, 2017; M. Holden, Buck, Clark, Szauter, & Trumble, 2012). Current research studies posit various definitions of professional identity within the medical education field, with most research studies focusing on nursing and medical students (Cook, Gilmer, & Bess, 2003; Goldie, 2012; Öhlén & Segesten, 1998). However, there is not a lot of research demonstrating the factors that influence professional identity amongst students.

Achieving a professional identity has been described as an ongoing process that encompasses the development of individual characteristics, attitudes and values of a profession, as expressed by Merton (1957, p. 7) as "to think, act, and feel like a physician" (Cruess, Cruess, Boudreau, Snell, & Steinert, 2014). A professional identity develops in collusion to an individual's personal identity. An individual's personal identity is an intangible philosophical entity that results from the individual's perception of themselves as the profession of choice. In addition, the individual's identity is constructed of ego identity, personal identity, and social influences that enable self-categorisation as they situate themselves in the world around them (Goldie, 2012; Haslam, Jetten, Postmes, & Haslam, 2009; Monrouxe, 2010). Building on the construct of personal identity, the professional identity is amalgamated with the individual personal identity through learning and developing attributes, professional roles, and values that underpin a particular healthcare profession (Ibarra, 1999).

The concept of attaining a sound professional identity is seen as a vital component of professional well-being and the attainment of this is linked to good clinical practice (Monrouxe, 2010). The complexities of understanding professional identities are exacerbated by the multitude of definitions of professional identity (Wilson, Cowin, Johnson, & Young, 2013) These definitions do not contradict each other but rather provide varying perspectives and dynamic insight into the philosophical intricacies of identity formation.

The inability to integrate personal and professional identities results in identity dissonance. Joseph et al (2017) suggests identity dissonance is an emotional manifestation which results in students

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doubting their self -worth, questioning their values and ambitions due to their tampered existing identities. As a result, students display dissatisfaction of the profession and experience challenges disenabling success in the profession of choice due to the feeling of not belonging to the profession (Joseph et al., 2017). Professional identity dissonance is suggested by Costello (2005) to have negative consequences for students. The effects on students included student discomfort, lack of ease in learning, low self-worth, uncertainty of capabilities, and ultimately rejection of the professional role. Identity dissonance has also been seen to have a negative effect on learning as a result of an under-developed professional identity. Consequently, there is a need to further explore professional identity formation so as to formally understand the process to achieve a sound professional identity and thus create supportive educational strategies that can assist the student to transition to a status of owning their professional identity. The status of an individual's professional identity fuels the intrinsic motivation to express their learning preference and elicit a deep or surface approach to learning (Designs, 2005). It is evident that the student's professional identity has implications for student learning.

The literature suggests professional identity should be assessed and formally addressed within the curriculum as opposed to being constructed informally by the hidden curriculum (Brandt, 2017; Holden et al., 2015). Several pedagogical methods have been suggested by educationalists to enhance professional identity formation (Goldie, 2012). It is claimed that the formal efforts made by medical educators in shaping professional identity formation will influence student learning and consequently result in ensuring quality healthcare through good clinical practice (Monrouxe, 2010).

1.1 Problem statement

As a clinical associate educator, I have a special interest in supporting the development of clinical associate students' professional identity. My experience of being a clinical associate was a challenge when I was a student journeying through the programme. Being in the first cohort of the Bachelor of Clinical Medical Practice (BCMP) degree programme at the University of Witwatersrand, there was a lack of role models. As a student, there were uncertainties regarding scope of practice, roles and responsibilities, and the broader definition of what it meant to be a clinical associate was poorly understood.

Moreover, transitioning to being an educator, I have identified similar challenges being experienced by students. I therefore make an assumption of a measure of professional identity dissonance. Students are faced with the challenge of being in a programme that they understand minimally but are holding onto the ideas of eventually working in a medical space or aspire to one day being admitted into the Bachelor of medicine bachelor of surgery programme. Consequently, there is an easier inclination to reject the clinical associate programme due to unfamiliarity to the career.

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Therefore, the current journey is less appreciated due to the lack of understanding of the definition and role of the clinical associate profession. A lack of ownership of the profession decreases the advocacy of profession. In addition, learning may be negatively influenced if the student does not relate to the attributes and definition of what it means to be the professional of choice. This process has not been explored in literature and there is no published research on clinical associate students' perspectives on their professional identities.

There are several reasons contributing to students' professional identity dissonance. The reasons include a lack of active role models who are employed clinical associates within clinical areas and a lack of knowledge about healthcare professions. It is my assumption that some students have not met the requirements for selection of their first choice, such as the Bachelor of Medicine and Surgery programme, and then they alternatively opt for the clinical associate programme. This causes uncertainty in their planned career trajectories, which potentially influences their professional identities.

Amongst various possible factors, the intention of the study is to explore the students' perceptions of factors that influence their developing professional identity. The results will assist educators who are involved in the clinical associate programme to develop educational strategies to support the professional identity formation of clinical associate students.

During clinical associate training, students are exposed to the intended curriculum and the unwanted effects of a hidden curriculum. The hidden curriculum is experienced within university premises and in clinical areas where doctors' and nurse's behaviours unconsciously shape the behaviour of the clinical associate. As a result of the various professional influences on the clinical associate's professional identity, there is a need for an evaluation of students' understanding of professional identity. Despite most literature referring to the doctor or nurse professions as target recipients for monitored professional identity formation, the principle applies to the diverse range of health science students.

1.2 Research question

What are clinical associate students' perceptions of factors that influence their developing professional identity?

1.3 Study aims and objectives

The overarching aim of the present study is to **explore clinical associate students' perceptions of factors that influence their developing professional identity**. Towards this goal, the specific study objectives are as follows:

- To explore students' definitions and understanding of professional identity

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- To identify factors that are thought of by students to influence their developing professional identities.

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CHAPTER 2
LITERATURE REVIEW

2.1 Introduction

There is increasing interest within the health professions field to teach beyond the attainment of knowledge, skills and attitudes, as well as the embodying of a profession (Barnett, 2009) and strengthening of professional identity (Wilson et al., 2013). However, little is known on how education in the medical field incorporates professional identity as a component of curricular design. The importance hereof lies in the critical role personal embodiment plays in becoming the healthcare professional of choice (Barnett, 2009). In this context, this narrative review provides an overview of the call for education to draw attention to professional identity in health professions education. Firstly, a background of the profession is discussed, following definitions of professional identity. Next, factors suggested as influencers of professional identity and the educational implications are discussed. The present literature review was informed by a non-systematic overview of the academic literature, including Stellenbosch University's e-databases such as PubMed and Ebscohost as well as educational journals, for example *Medical Teacher*, *Medical Education*, and *Academic Medicine*.

2.2. Background of the clinical associate profession

The physician assistant profession began during the mid-1960s in America to alleviate the workload burden on medical doctors and address the shortage of primary healthcare doctors (Mittman, Cawley, & Fenn, 2002) The physician assistant renders medical services under the supervision of the medical doctor. Following the rise of the physician assistant profession, there was globalisation of the profession and countries such as the United Kingdom, Canada and Australia (Hooker & Kuilman, 2011) as well as several African countries (Mullan & Frehywot, 2007) introduced the mid-level healthcare worker into their African and sub-Saharan healthcare systems (Eyal, Cancedda, Kyamanywa, & Hurst, 2015). South Africa started conceptualising and introducing the mid-level healthcare worker in 2004 and started training clinical associates in 2008 (Couper, 2014). Despite the source of influence being the physician-assistant concept, the introduction of this kind of mid-level healthcare worker was modified per country to address country-specific healthcare needs. The inception of the clinical associate profession in South Africa aimed to alleviate disease burdens in the primary healthcare sector and for the cadre to work under the supervision of the medical doctor to render medical services especially at district hospitals (Doherty, Conco, Couper, & Fonn, 2013).

In South Africa, clinical associate training comprises a 3-year programme structured in an integrated decentralised curriculum (Doherty et al., 2013). As a result of the nature of the curriculum, the

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students experience early patient interaction from their first year and interact with the realities of the healthcare system challenges at an early stage. In addition, students learn about the varied roles of different healthcare professionals and are exposed to the hierarchical structures of the hospital personnel in the clinical areas. The presence of a variety of healthcare professionals create challenges, as students' interaction with professionals of their own kind is minimal. This lack of engagement with qualified clinical associates is due to the lack of employment opportunities in the training clinical facilities and within primary health care facilities at large. This causes the dominance of doctor and nurse clinical preceptors for the clinical associate students.

Professional identity within medical education has been explored internationally and less on African and sub-Saharan terrains. In addition, this topic has mainly been researched amongst medical, nursing (Solveig & Ma, 1997), and social worker students (Adams, Hean, Sturgis, & Clark, 2006). This triggered a search for research studies that would be relevant to the South African context and inclusive of the clinical associate profession. As a result, the researcher has not found research studies of professional identity amongst clinical associates and therefore the researcher included mainly doctor and nurse healthcare professionals in the literature search. Professional identity formation is a particularly less understood topic in relation to the clinical associate profession in South Africa and the physician-assistant profession in the United States of America. The search was not limited to the term clinical associate but also included physician-assistant and clinical officer terms as the professions are products of the same concept, namely being mid-level healthcare workers named differently because it originates from different countries.

2.3 Professional identity in medical education

New advancements in medical education are led by highly qualified communities of practice within the medical education field. These communities of practice issue recommendations and reports of commissions for the improvement of global medical education. One of the recommendations from the Lancet Commission report includes the strengthening of professional identity through medical education in order to strengthen healthcare leadership (Frenk et al., 2010). In addition, the Carnegie Foundation for the Advancement of Teaching also called for reforms to improve the preparation of 21st century healthcare professionals (Irby, Cooke, & Brien, 2010). One of the recommendations stated in the report is to address the hidden curriculum by aiming to formally align an individual's values to the envisioned professional values within a clinical environment (Irby et al., 2010).

Barnett (2009) confirms a need to explore pedagogical activities that should provide more than just an encounter to attain knowledge but rather to encourage processes to enhance the embodiment of one's professional identity. This implies educators should seek to develop particular qualities and dispositions in students envisioned to be characteristics of a chosen profession. He argues knowledge

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is easily accessible and has become a public entity. Thus, it is essential to focus on professional identity in order to cultivate the kind of characteristics, values and epistemic virtues required as a product of higher education (Barnett, 2009). With this end goal in mind, it is crucial to determine what exactly is meant by professional identity, then identify factors that influence professional identity in order to build pedagogical strategies on these findings (Goldie, 2012).

2.4 Definitions of professional identity

The definition of professional identity is construed from the philosophical definitions of identity in itself. The identity concepts were developed from early sociologists, anthropologists and psychologists. One of the early psychologists, Erikson (1963), developed a theoretical framework for identity development. In the 1960s, the concept of professional identity became of particular interest amongst professionals other than healthcare professionals, such as teachers. Consequently, the concept was explored amongst social workers (Loseke & Cahill, 1986) and nurses (Öhlén & Segesten, 1998; Solveig & Ma, 1997).

There are various definitions of professional identity that will be discussed in this section. The definitions demonstrate the lack of a unified definition in literature. The lack of a standard definition is due to the complexities of a multidimensional, dynamic and evolving phenomenon of professional identity. The complexities encompass various influences that shape one's identity, including both internal and external factors. These diverse meanings of professional identity enable relatability of the term to various professional fields (Cardoso, Batista, & Graça, 2014).

In the field of medical education, professional identity is commonly referred to as an all-encompassing term for how individuals perceive themselves as their profession and the extent to which they commit to the behaviours and attributes of the profession (Lesser et al., 2010). However, explicit differences have been identified (Holden et al., 2012) whereby professional identity is defined not only as achieving professionalism but how an individual sees themselves as a professional who must serve and behave within their professional role (Cruess & Cruess, 2006) and how others see them as professionals (Monrouxe, 2010).

Early studies seeking to explore professional identity amongst qualified nurses in Norway suggest a close association of personal values and beliefs to the strength of a professional identity. It was observed through reflection that the nurse clinical practice was guided by the alignment of professional ethos to personal values (Solveig & Ma, 1997).

Pratt et al. (2006) posit that professional identity is defined through the attainment of professional competencies, understanding professional roles, and skill competencies. This resulted in strengthening professional identity amongst medical residents (Pratt et al., 2006). Jarvis-Selinger,

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Pratt, and Regehr (2012) share a different view, stating that skills competency amongst medical students is not sufficient in achieving professional identity. They state that the focus should rather be on *being* the health-care professional. This is echoed by Barnett (2009) who says that medical students' will to engage with and function in the world are deeply rooted in the values of their profession of choice.

2.5 Influences on professional identity

External influences to professional identity include the impact of role models on shaping students' perceptions of themselves. Hendelman and Byszewski (2014) identify that poor professional behaviour by healthcare professionals influenced students' professional identity.

A study presented by (Wong & Trollope-Kumar, 2014) identified factors influencing professional identity amongst medical students through narrative reflection. The effect of prior experiences, role models, curriculum design, patient encounters, and social expectations were the themes that influence professional identity.

Kunhunny and Salmon (2017) show the importance of role clarification as an important feature to strengthening the professional identity of nursing professionals. In support of this finding, inter-professional education arises as an educational strategy providing professional role clarification, nurturing of mutual respect for other professions, strengthening communities of practice (Goldie, 2012), and enhancing team work and team communication (Brandt, 2017).

Kaiser (2002) and Burford (2012) acknowledge that professional identity stems from social identity theory, which states that the development of an identity is influenced by the larger society and is affected by the interactional activities occurring in a particular system or organisation. This is further based on the concept of professional identity being multifaceted with the complexities of individual identities being shaped by social factors and, therefore, contributing to the formation of one's professional identity (Jarvis-Selinger, Pratt, & Regehr, 2012).

A study in China revealed a relationship of poor professional identity to low self-esteem (Hao, Niu, Li, Yue, & Liu, 2014). These features were attributed to societal influences such as a lack of public respect and lack of opportunities for professional development (Hao et al., 2014). The findings of this study reflect Monrouxe's explanation of how institutions and society can frame one's thoughts and beliefs about their profession and consequently influence their behavioural patterns (Monrouxe, 2010). Poor attainment of merging personal identities to a professional identity may lead to identity dissonance and detachment from professional identity and responsibility (Goldie, 2012). This results in poor clinical practice and student under-performance (Hao et al., 2014).

2.6 Research methodologies for professional identity

Various studies have utilised several methods to improve understanding of professional identity. Such methods have included mostly qualitative methods such as reflection, semi-structured interviews (Öhlén & Segesten, 1998), surveys, and questionnaires (Cook et al., 2003). In addition, very few quantitative research methods have been utilised, for example using interviews to translate data into professional identity measuring scales (Kalet et al., 2017). Thus, qualitative research methods provide further insight into student experiences and viewpoints.

2.7 Pedagogical implications for professional identity

Medical education has displayed efforts to attend to professional identity amongst students through curricula. Developments concerning educational assessment include the adaptation of George Miller's pyramid of competency assessment that encapsulates an additional level assessing professional identity (Cruess, Cruess, & Steinert, 2016). Figure 1 demonstrates the original pyramid with levels of achievement depicted as obtaining knowledge, application, performance, and action.

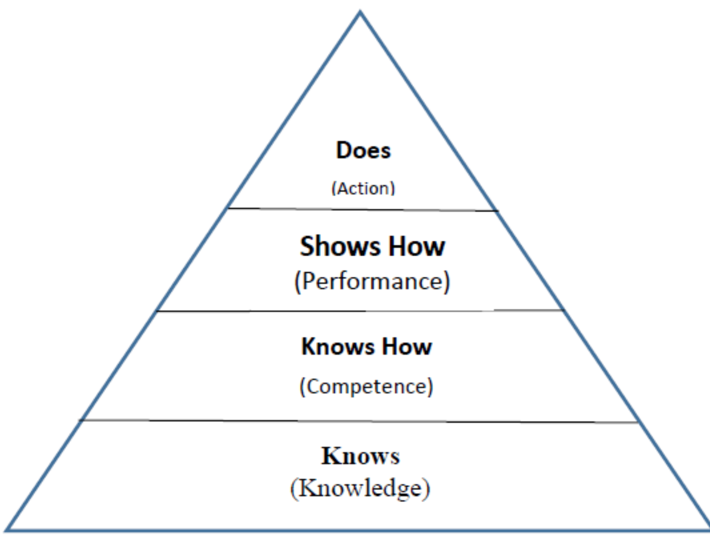

Figure 1: Miller's original pyramid: Assessment of clinical skills/competence/performance (Cruess et al. 2016)

Figure 2 displays an improved version of Miller's pyramid by including the highest level as *is*. This incorporation of the highest level guides educational strategies to include educational methodologies to assess professional identity with the aim of nurturing professional identities (R. L. Cruess et al., 2016). The adoption of a new level reflects the need for professional identity to be a mandatory objective in medical education. This adoption highlights the significance of the study to identify influencing factors which can be the targeted factors utilised in medical pedagogy.

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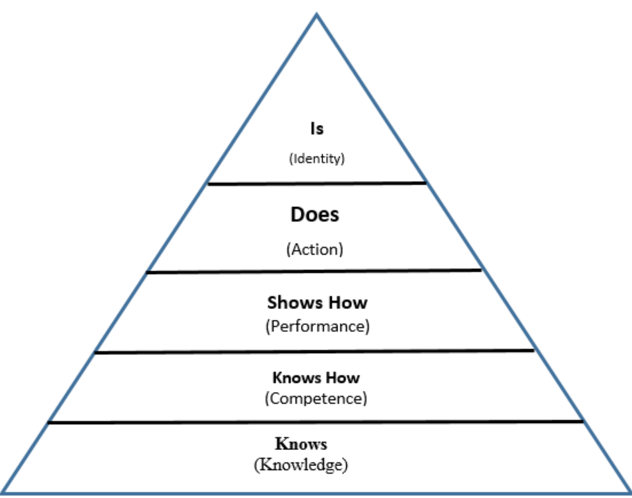

Figure 2: Amended version of Miller's pyramid (Cruess et al. 2016)

Medical education is envisioned and encouraged to strengthen and support the development of students' professional identities by incorporating pedagogical methods that monitor and effectively manage the formation of the student's identity (Clandinin & Cave, 2008). These pedagogical methods should nurture the type of qualities we would like to propagate in future medical graduates (Clandinin & Cave, 2008; Goldie, 2012; M. D. Holden et al., 2015; Monrouxe, 2010).

Various influences contribute to the students' views of themselves as professionals, namely existing values or belief systems about their profession before commencement of a programme, their own experiences related to the profession, social media and movie influences, and societal expectations and professional stereotypes (Adams et al., 2006). For this reason, medical education should contribute to forming the professional identity of life-long learners and shape it in a manner that reduces unwanted effects of the hidden curriculum as well as supports professional identity development. Medical education must enhance students' confidence in their profession and enable the training of healthcare professionals with grounded values and beliefs that can promote good clinical practice and good leaders (Wilson et al., 2013).

A variety of educational strategies have been utilised at medical schools to support the development of professional identity. These formal strategies embedded in curricula include role modelling (Cruess, Cruess, & Steinert, 2008), early patient encounters (Schrewe, Bates, Pratt, Ruitenberg, & McKellin, 2017), student reflections (Clandinin & Cave, 2008), and inter-professional learning (Reinhold, Otieno, & Bacon-Baguley, 2017).

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2.8 Conclusions

Monrouxe (2010) suggests acknowledgement of personal identity in congruence with a profession's identity has positive implications for medical education and clinical practice.

The development of professional identity has remained as a result of individual students' experiences, societal influence and a large component of the hidden curriculum (Goldie, 2012). With the aim of moving from traditional methods of teaching, transformative education calls for medical education to influence the shaping of future healthcare professionals through training that ensures fulfilment of the 21st century healthcare professional and through the attainment of desired attributes, behaviours, values, and belief systems (Wilson et al., 2013).

It is noted that the current body of knowledge regarding professional identity is formulated in relation to specific groups of healthcare professionals, commonly medical doctors and nurses. There was a lack of evidence regarding the development of professional identity amongst mid-level healthcare workers, such as physician assistants and clinical associates. The development of professional identity in clinical associate students' needs to be explored and analysed. It would be vital for clinical associate students to better understand their developing professional identity as students and better understand themselves as part of the clinical associate profession.

The present literature review suggested various professional identity definitions linked to acknowledgement of professional roles, attainment of skills, and professional competencies or achieving humanism and professional commitment. In addition, prior experiences, role models, patient encounters, curriculum (formal and hidden), and societal expectations are identified factors posited by research studies as indicators influencing professional identity (Wong & Trollope-Kumar, 2014). The qualitative approach commonly utilised to explore professional identity is used as a basis for the research methodology for this research study as it seeks to explore clinical associate students' definition of professional identity and their perceptions of factors that influence it.

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CHAPTER 3

MATERIALS AND METHODS

This chapter describes the research design that formed the foundation of the study. The research methods will follow with a description of the research setting, the study population and the sampling technique used to effectively engage the relevant participants, the data collection method, and research trustworthiness.

3.1 Research design

In this study, a qualitative descriptive interpretivist approach was utilised (Bunniss & Kelly, 2010). The qualitative research approach was appropriate to obtain the clinical associate students' viewpoints, attitudes, and opinions pertaining to the factors that they perceive to influence their developing identity (Tavakol & Sandars, 2014). The research question sits within a phenomenological perspective, seeking to understand and describe the embodied perceptions of the clinical associate students' experience as clinical associate students. In turn, the data was envisioned to be subjective in nature and relative, as it is acknowledged each individual student has constructed his/her own meanings through his/her experiences that are socially constructed (Tavakol & Sandars, 2014).

3.2 Research setting

The study was conducted at the University of Witwatersrand's medical school campus in Johannesburg.

3.3 Selection of study population

The study population consisted of undergraduate clinical associate students enrolled at the University of Witwatersrand in 2018. The research study specifically focused on first- and final-year clinical associate students. The population was accessible to the researcher as all students are currently enrolled in the clinical associate programme and the students regularly attend compulsory academic classes at the medical school campus. The decision to focus on first- and final-year clinical associate students was to gain insight into similarities and differences between student experiences at an entry level and exit level of the training programme. All first-year (N= 53) and third-year (N=38) clinical associate students were invited to participate in the study.

The researcher attended two separate class sessions where the first-years were having their regular on-campus classes and an academic day for the third-years where they had come to the medical school for skills teaching during their clinical block. During the classes, the researcher took time to introduce

the research study and students were invited to participate in the research study on a voluntary basis. Students were assured of confidentiality, privacy and respect.

The researcher provided information leaflets via email to be read by the students at their own pace and time. This was important to provide a platform for students to raise concerns and questions regarding the study. Following these encounters, some students signed up to participate in the study and others communicated interest via email to participate in the study. Students signed on different consent pages, namely a first-year volunteer list and a third-year volunteer list. This division was to ensure students were grouped in their year of study to formulate the focus groups.

A non-probability convenience sampling technique was utilised. A convenience sampling technique was appropriate for the study as the clinical associate students are not known thoroughly enough to enable purposive sampling but rather were selected from their accessible class cohorts. The convenience sampling was deemed adequate, as the clinical associate students are the group of choice to answer the research question. Leading up to data collection, the resulting numbers of voluntary participants were 22 first-years and 20 third-years.

For the purpose of the data collection, the researcher grouped the participants as the first six to eight students listed on the volunteer lists. The second eight formed the next group and so forth. As a result, three focus groups were formed out of each of the first- and third-year participant volunteers. A single focus group consisted of 6-10 clinical associate students. The selected numbers of participants per group is based on the recommended numbers of participants per focus group (Denscombe, 2010). Communication regarding the date, estimated time of the focus group discussions and venue were communicated to the study participants a few days prior to the focus group discussions.

3.4 Collection of study data: Focus groups

Focus group discussions were used as a method for data collection and a semi-structured interview as the instrument for data collection. Three focus group discussions were held per year of study. The focus group discussions served to obtain rich data in the form of expressed experiences, thoughts and personal stories from the individual participants. The data collection method was in line with the aims of the research and was expected to yield qualitative data, which is suitable to respond to the research question (Tavakol & Sandars, 2014).

The focus group discussions were held at Wits Medical School and facilitated by the researcher. Each focus group discussion varied in duration, lasting from 45 minutes to 1 hour 45 minutes. The researcher allowed the discussions to continue, as they were lively and informative.

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The focus group discussions were facilitated by utilising semi-structured interview questions, as listed in Appendix A. Open-ended questions were used to trigger discussion amongst the students. The researcher invited a research assistant to take field notes and invited a senior researcher for guidance, as requested by the Wits Human Research Ethics Committee. The senior researcher is external to the clinical associate programme and has no relationship with the participants. The documenting of field notes ensured non-verbal cues such as facial expressions and emotions were recorded.

The focus group discussions were facilitated as follows:

1. Participants arrived for food and refreshments prior to the commencement of the focus group discussion. On commencement, the note-taker facilitated registration and selection of letter name tags.
2. The interviewer began with an introduction of the research team in the room to ensure the environment was comfortable for the participants.
3. An outline of the process of the focus group discussion was explained. Participants were encouraged to feel free to answer and ask questions during the process. The interviewer emphasised that privacy, anonymity and confidentiality should be upheld by researchers and participants.
4. The informed consent form was explained and time was provided for participants to sign. The researcher explained the presence of the audio recording equipment and obtained consent for the recording from the participants. No participant declined the request.
5. The interview commenced following the activation of the audio recorders.
6. The researcher used the semi-structured question guide to facilitate the focus group discussion (Appendix F).
7. A recap of the discussion was provided prior to the closing of the focus group discussion.
8. Participants were thanked for participation.

3.5 Data analysis

Each focus group discussion was recorded to ensure the data collected was captured effectively. Two tape recorders were used to ensure quality in sound and to ensure functionality of the audio tapes. The audio recordings of the interviews upheld the richness of the data and ensured credibility. The recordings were stored as a backup in an external drive to eliminate the risk of losing the data. This external drive was stored securely. Once the research study is complete, the audio recordings will be deleted from the audio recording equipment and computer files.

Data analysis was an iterative process that followed the five steps of data analysis as described by Vaismoradi, Turunen, and Bondas (2013). The observations made by the note-taker were collated and provided to the researcher. After each focus group discussion, a debriefing session was held between the researcher and the note-taker. This activity enabled reflection on the concepts that emerged during the focus group discussion. This information was consolidated and kept aside to be used to supplement the observations made during coding and theme formation (Cleland, 2017).

The catalogued files of the audio recordings were downloaded from the audio recorder and saved onto the desktop. Following this, manual transcription of the audio files onto MS Word documents was performed by the researcher and a transcriber from Stellenbosch University. Consequently, six MS Word documents, one for each focus group discussion, were uploaded onto MaxQDA, which is the preferred qualitative software of choice. This software enabled the manual coding process of the scripts and the grouping of codes to finalise emerging categories and themes from the transcripts.

The approach used was an inductive thematic analysis, which involved the process of reading through the transcripts repeatedly and drawing information to formulate themes from the documented data and ultimately drawing conclusions (Vaismoradi et al., 2013). This data analysis technique was the preferred choice as the research question aimed to determine how students perceive professional identity and content analysis was suitable as it highlighted the emerging themes that answered the research question. Codes were identified using the auto-coding feature on MaxQDA (VERBI Software, 2016) to create codes and highlight key quotes on the transcripts to create groups of solid thematic categories that responded to the research question. The method of coding was used to build themes inductively as the scripts are analysed (Denscombe, 2010). The third-year students' data was analysed first in order to consolidate common findings that are prevalent to one group of students. Next, the first-year students' data was analysed in the same manner as the third-year group. As this was not a comparative study, the findings were juxtaposed in the discussion as relationships were observed. In the end, a visual map with the key themes was created to illustrate the key points that the researcher interpreted from the findings.

3.6 Role of the researcher

The researcher facilitated the focus group discussions. Commonly, researchers actively participate with their participants in qualitative methods of research to understand better the opinions and viewpoints of participants and their responses. The researcher takes on this position due to being in a position to positively influence students to openly and comfortably express themselves during the focus group discussions. The researcher acknowledges the potential influence on the research study and therefore strived to remain neutral by applying reflexivity principles, namely distancing herself from student opinions and remaining neutral to statements of disagreement (Ramani & Mann, 2015).

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Prior to embarking on data collection, the researcher was trained by a senior researcher who is currently the research co-ordinator within the Department of Family Medicine and Primary Care at the University of the Witwatersrand. In addition, the researcher attended a three-day course on qualitative research methods with a focus on data collection and data analysis using software.

3.7 Ethical considerations

Ethics approval was received from the Stellenbosch Health Research Ethics Committee (Appendix A) and the University of the Witwatersrand (Wits) Human Research Ethics Committee (Appendix B). In addition, the Wits University deputy registrar granted permission for the research study to include student participants (Appendix C).

The participants were informed about the study and invited to participate in the study on a voluntary basis. The participants were informed that the information captured will be documented anonymously. The participants were requested to maintain confidentiality and the researcher maintained confidentiality of the focus group discussions.

Informed consent forms were available for students to sign prior to participating (see Appendix A). As a result, there were low risks for potential harm to the participants that could arise from the research.

3.8 Research trustworthiness

To ensure the quality of the research methodology, Guba's model of quality criteria for inquiry were used to ensure trustworthiness and transparency of the qualitative research (Ramani & Mann, 2015). The features of trustworthiness are credibility, dependability, confirmability and transferability (Guba, 1981). The four aspects were addressed to ensure rigour in the qualitative research study.

3.8.1 Credibility

The researcher was trained to facilitate focus group discussions prior to data collection. The training was facilitated by a senior researcher within the Department of Family Medicine and Primary Care. In addition, the senior researcher was present in the focus group discussion to ensure skilful facilitation of the focus group discussion by the researcher. Credibility is maintained through persistent observation by studying the data, iteratively coding and renewing codes to identify the intended depth of meaningful insight. Furthermore, methodological triangulation was utilised through analysis of focus group discussions, focus group observations made by the researcher and note taker, and notes by the note taker to ensure consistency and accuracy in results (Korstjens & Moser, 2018).

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3.8.2 Dependability

Dependability was maintained through accurate recordkeeping of participant responses via audio recording, field notetaking, observation and iterative data analysis. A set of notes was maintained by the researcher demonstrating reflective notes during the research process. This provides evidence of a trail of data collection (Ramani & Mann, 2015).

3.8.3 Conformability

Conformability was maintained by withholding researcher opinions and perspectives during the focus group discussions. Bracketing was practised by setting aside personal assumptions and views (Tavakol & Sandars, 2014). Member-checking was performed by the principal researcher through summarising the discussion to the participants and providing time for voluntary additions or clarifications at the end of the focus group discussion. Lastly, sources were triangulated by using focus group discussions, observations, field notes, and a tape recorder to ensure consistency in the results (Moon, Brewer, Januchowski-Hartley, Adams, & Blackman, 2016).

3.8.4 Transferability

Transferability was addressed through detailing the research methodology and data collection methods. This enables external researchers to assess whether the research methodology and results are transferable to their settings (Ramani & Mann, 2015).

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CHAPTER 4

RESULTS

In the previous chapter, the methodology of the research study explained a qualitative approach utilising focus group discussions. The results from the focus group discussions are discussed in this chapter through formulations of themes and sub-themes that emerged as responses to the research question asking students' perceptions of factors that influence their developing professional identity.

At first, the demographics of the study participants are shown. Following this, a table shows the three main themes and subthemes emerging from the participants' responses. Responses are included as direct quotations to demonstrate student responses.

4.1 Participant demographics

Table 1 provides a summary of the scheduled dates of the focus group discussions and demographics of the study participants. Six focus group discussions were held over two weeks. A focus group consisted of five to eight students. The groups were combined homogenously for year of study. Three groups consisted of first-year students and three groups consisted of third-year students. The student ages ranged from 18-30 years. All groups predominantly consisted of females with few male students.

Table 1: Demographics of the study participants

Date of FGD	Focus Group	Year of Study	No. of Participants	Females	Males	Age
21st September 2018	1	1st year	8	6	2	18-21
27th September 2018	2	3rd year	7	5	2	20-22
28th September 2018	3	3rd year	5	4	1	20-23
2nd October 2018	4	3rd year	8	5	3	20-22
4th October 2018	5	1st year	7	4	3	20-23
4th October 2018	6	1st year	7	4	3	19-30

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4.2 Focus group discussions

The data analysis resulted in the categorising of codes into themes and sub-themes. The three main themes identified were individual factors, training related factors, and perceptions of identity (see Table 2).

Table 2: Main themes and sub-themes of the study

Main themes	Sub-themes	Codes
1. Individual Factors	• Student perceptions of unfulfilled personal needs • Student core aspirations • Internal and external motivation	• Salary • Career progression • Becoming a medical doctor • Enrolling in health sciences • Information received prior to enrolment • Societal influence • Media • Personal need to serve communities • Self-discovery • Valued patient encounters • Positive emotional response
2. Training related factors	• Student clinical experience • Medical campus experience	• Valued patient interaction • Role appreciation • Preceptor influence • Professional isolation • Curricular design • On-campus student interaction
3. Perceptions of identity	• Student perceptions of identity as a student • Student perceptions of clinical associate profession • Healthcare perceptions of clinical associate identity	• Undefined identity • Professional challenges • Limited professional practice • Negative labour related matters • Poor recognition of profession • Lack of understanding of profession

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4.3 Theme one: Individual factors

Three sub-themes were identified in the category of factors of the individual context. This theme describes student perceptions of factors specific to their individual selves that influence their developing professional identity. The sub-themes are named as students' unfulfilled personal needs, students' core aspirations, and internal and external motivation.

4.3.1 Unfulfilled personal needs

The perception of unfulfilled personal needs resonated in both student groups. Students expressed concern and unease regarding the realisation of unachieved personal desires and career goals. This includes the perception of lacking personal development and immovable career progression.

> *"Personally that difference creates that sense of being literally stuck, as a clinical associate because if it was – I don't know how to put it. In terms of doctors, you become an intern, you become an MO, you become Commserve, there is a whole hierarchy and everything." (3rd year student – FGD 3)*

> *"Just with the question, do I see myself as a clinical associate: uhm, I don't know I'm, …the thought of being a clinical associate scares me because I almost feel like if I graduate and kinda become a clinical associate I've almost failed myself and failed uhm what my ultimate dream was because I'm ultimately want to be a paediatrician and kind of specialise in children." (3rd year student – FGD 4)*

Most of the students in both year groups emphasised the personal need for financial security. This feeling results from students' responsibilities to financially assist families and, for others, an individual desire for individual financial stability.

> *"You always want to do better than your parents did. Be better than the last generation so that you can provide for your kids kinda carry on the chain of being better and if, with this degree you don't really have the chance to financially grow yourself and protect yourself , and kind of have the security blanket for you and your family." (1st year student – FGD 5)*

> *"At the end of the day you still need to meet your own needs as a person. You need salary, you need to do things. We are still very young." (3rd year student – FGD 2)*

4.3.2 Students' core aspirations

Numerous students aspire to enrol in a well-known institution and particularly within a health science faculty to pursue a degree in medicine. It is the students' original aspiration to become a medical doctor. A first-year student mentioned a desire to "*[talk] to people and [help] people*". This is largely raised amongst first year students as "*finally going to learn about the human body, how it works and how if something is not right, how do I fix it, how do I help someone*". Interestingly, most first-year

students were excited for enrolment as they perceived the clinical associate programme to offer training to somewhat become a doctor.

> *"I was also happy because I was getting into this degree and, ja, it was nice, even though I didn't know a lot about the degree but just because it was under health sciences and I thought it would be the same as being a doctor or related or something like that, as I saw on the internet." (1st year student – FGD 5)*

The original intention to become a doctor persists. This intention conflicts with the mission of the clinical associate programme and students become confused. This conflict challenges the students' perceptions of themselves and, as a result, students start to reject the profession of study. This is shown through a third-year student's response.

> *"You don't see the difference and the value added component to us clinical associates. I think that's one thing that really stood out for me during my entire training, which is that if I'm already doing this, why don't I just, okay, the sentiment that continues to reverberate itself is that since you are already doing this, why don't to just do medicine?" (3rd year student – FGD 3)*

To a large extent, some core aspirations are results of societal expectations. Most students mention external factors relating to society as factors contributing to their aspirations and desires. Students acknowledge a degree in medicine is viewed by society as the supreme profession, holding professional power and professional recognition. Therefore, families and communities at large strongly encourage students to achieve this level in the profession. In comparison to traditional occupations, the clinical associate profession is gaining gradual recognition in areas with working clinical associates, however the profession is still less understood by the larger society and general public despite a decade of existence. Consequently, the students fear the persisting lack of clarity in role differentiation between medical doctor and clinical associate.

> *"I think it goes with the standards and the history. You know, as our parents, they always know it's either a doctor or a nurse, and you know that a doctor is up there, and nurse, you find them in the clinics. It's always been like that. It's always been a mind-set in the society. .....they don't really know anything about other degrees." (1st year student – FGD 1)*

> *"… if people were more aware you what I do. Even patients, it's really hard to tell a patient that you are a clinical associate" (3rd year student – FGD 5)*

> *"…some nurses, they will expect you , yes, they know you are a clinical associate, even though they don't recognise you in a way, they will be like okay, they will expect you to be at a doctor level and to behave that way." (3rd year student – FGD 2)*

4.3.3 Internal and external motivation

Motivation is seen as an influencing factor that shapes the student's developing professional identity. Discussions on both internal and external motivation emerged in all student groups as a defining stimulation for a positive student drive. Internal motivation is evident in first-year students who see value in the skill competencies they will develop in training to function within the South African healthcare system.

> *"You must understand, you must be self -aware, know yourself. Know what you are capable of and know where you're going in life because then that will give you confidence to be a clinical associate, even with what everybody is saying about you or about your profession. Its believing yourself, having confidence in what you are doing, because at the end of the day, I know that we are looked down upon and everything but what we do in hospital, that advocates for us." (1st year student – FGD 1)*

Encounters with patients maintained student passion for practicing within the healthcare field and the value seen in their own practice contributed to the internal motivation. A third-year student saw the "importance of creating your own footstep".

> *"…the passion is still there, if there is anything I can say , and I won't flinch after saying this is that I am proud to be a clinical associate, I have worked with consultants, MOs and I have done so much to stand up for myself." (3rd year student – FGD 3)*

> *"I think the positive factors actually come from myself and seeing what I am actually capable of doing. It didn't really come from any healthcare worker in the system. It's just because most of the time, people are just telling you what you are studying is nothing." (3rd year student – FGD 2)*

In addition to the individual students' awareness of the clinical associate profession, some students' encountered encouragement and positive motivation from senior professionals, such as medical doctors and nurses, in the clinical setting. These professionals articulated their wishes and motivated students to continue to learn and positively contribute to the health system rendering medical services to patients. The positive remarks enlightened the students with a sense of acknowledgement and validation. The positive remarks are initiated by medical personnel who understand the clinical associate profession or who have witnessed the contribution the clinical associates have made as students or as qualified professionals.

A third-year student appreciated positive encouragement from healthcare workers saying that "the staff opinion about us in second and third year also helps you grow to a level where you end up having to be forced to be competent and independent in your own way".

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In addition, inspiration resulted from external motivation where "*seeing the clinical associates back home working and making a difference. So I do see myself working as a clinical associate*" (*3rd year student – FGD 2*).

Alternatively, a lack of external motivation negatively influences how students see themselves. An example is the lack of information on university websites and media sources regarding the programme that leaves students uninformed about the programme until enrolment.

> *"I couldn't come to university to ask questions, I could only rely on what was there on the internet. So, here is so less information there, it's blurry, you can't really understand because there's not much information." (1st year student – FGD 1)*

Thus, students receive programme information from family members, medical personnel or from encountering working clinical associates who provided a mixture of positive and negative remarks about practising as a clinical associate. A first-year student was told to "do something else" and a third-year student encountered "a lot of doctors and they were not really positive about it".

4.4 Theme two: Training related factors

The second main theme emerging from the data analysis was the educational training platform. Within this context there are a wide variety of factors that students encounter as influencers of their professional identity. Students provided insights into factors that influence their developing professional identity from within the medical school campus and also from outside the medical campus during their clinical experience. Two sub-themes emerged, namely medical campus experience and the clinical experience.

4.4.1 Medical campus experience

Many students raised frustration relating to the curricular design of the clinical associate programme at the University of Witwatersrand. As an integrated programme, the nature of the curriculum emerged as a recurring theme as some students mentioned the disadvantages of an integrated curriculum. The students viewed the programme as limiting their growth and aspirations due to a lack of accreditation with other health science programmes through the absence of module accreditation. They also viewed the curricular design as inferior to other health science programmes due to their perception of minimal teaching of medical sciences knowledge. As a result, they emphasised a perception of a theoretical knowledge gap in comparison to medicine students, which is highlighted during the clinical experience as they are questioned by senior preceptors and they continuously strive to close the gap in order to reach the medical doctor's level. The students recurrently pointed out the concern of learning less knowledge in comparison to the medicine programme but are content and proud of their practical skill competencies.

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First-year students felt there is insufficient theory taught and suggested that they might often be "lacking in some theoretical point of view". Third-year students agreed with this notion and further expressed a need to "catch up" to the level of medical doctors.

> *"I was like could you put me into integration second year, leave me with a choice in first year, to be like if I'm not happy, I can go somewhere and actually get some accreditation." (1st year student – FGD 1)*

> *"People look down on you just because you don't have separate modules. I mean, we do go to the lab, we do see cadavers, we do anatomy and physiology, but our peers themselves, they judge our competence according to the kind of modules that we do." (1st year student – FGD2)*

> *"Not that I'm saying our degree is easy and we can just get through it. It's just a thing of, I just feel like we are lacking in some theoretical point of view but practically we are excellent. Even the way we treat patients, I think we're great in that sense." (3rd year student – FGD 2)*

> *"...we are constantly trying to catch up to them and because of the fact that we do not get taught everything and we are faced with things that we do not understand, we can't know with the knowledge we have, it's impossible for us to catch up with them and that creates a sense of inadequacy." (3rd year student – FGD 3)*

First-year students spend most of their time on medical campus. The students interact with other students and socialise across different faculties. During campus classes, students experience an existing institutional culture of hierarchy amongst health science students. The clinical associate students struggle to place themselves in this student matrix. They feel power dynamics at play amongst their peers studying medicine and they experience judgement from fellow peers regarding their enrolment.

> *"I feel like also with medical school itself, like you can feel it when you walk into the school that okay, if you are studying medicine, you are taken more seriously. What are you studying? Medicine. Oh wow! What year? What are you studying? Clinical Associate. What does that mean, what do you do?" (1st year student – FGD 1)*

> *"We rank each other. Like without even saying it, but we know that okay, you're a nurse, your place is your, you're a clinical associate, your place is here, oh you're studying medicine? Okay, your place is here."(1st year student – FGD 1)*

4.4.2 Clinical experience

The third-year students rotate through various clinical rotations and thus their final year is predominantly occupied by the clinical experience. Unlike the first-year students, third-year students possess the closest experience to how it might feel as a qualified clinical associate working in a hospital. The early patient contact to which students are exposed within the clinical associate training is highlighted by most students as a positive experience that helps them better understand the meaning of being a clinical associate by learning the skills and knowledge necessary for clinical practice. First-

year students noted their excitement about being exposed to patient interaction early on in the first semester.

> *"But in terms of like first year, oh my God, I'm learning how to touch patients in the first, second month, that's so exciting" (1st year student – FGD 1)*

It seems that the initial idea of one day healing and practicing medicine did not emerge as strongly from third-year students as it did with first-year students. The third-year students rather confidently expressed their satisfaction of interacting with patients as a student.

> *"I always tell them that I don't want to do medicine, I'm a clinical associate and I'm happy here." (3rd year student – FGD 2)*

> *"I would like to practise because I like what I do, what I see, especially in primary healthcare" (3rd year student – FGD 4)*

As the years of study progress, students increasingly have real life experiences with healthcare professionals functioning in a healthcare system. The curriculum takes the student through an institutional environment to a clinical environment. Being in the clinical environment enables the application of knowledge, skills and attitudes to the clinical setting. Through workplace-based learning, there is a realisation of the future professional role. The positive experiences are linked to the appreciation of patient encounters, the feeling of contributing to health outcomes, and providing healthcare even as a student. This experience enables the student to imagine themselves practising as a qualified clinical associate. Consequently, students engage in clinical practice similar to what will be expected from them as qualified clinical associates. The students observed the value of the clinical associate profession by identifying how the skills of a clinical associate are utilised in the hospitals and how the gaps within the hospitals can be filled by clinical associates. The value was defined based on seeing the need of the clinical associate profession and the difference made by the students as juniors in the profession.

> *"But when you see the difference you make in someone else's life and knowing that no, that was my knowledge. I put that in my head, I actually went, studied that skill. You know what I mean? It makes you feel that actually now, even though I might not do medicine, but as a clinical associate I am competent enough where I am supposed to be. So I feel for me, seeing it and practising it myself brought the positive factors." (3rd year student – FGD 2)*

4.5 Theme three: Perceptions of identity

Identity surfaced as a challenge to students and healthcare professionals as a result of an unclear and undefined identity of the clinical associate profession at large. Students' views of their profession's identity will be discussed first. Secondly, students' perceptions of the profession in South Africa and,

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lastly, the perceptions of healthcare workers regarding the clinical associate profession will also be discussed. Collectively, internal and external perceptions of the profession influence how students see themselves within the profession.

4.5.1 Students' perceptions of their identity

The definition of professional identity was not explicitly defined by the first- and third-year students. It was evident through the focus group discussions that the factors influencing their professional identity could be identified. Yet, the definition of professional identity could not be outwardly defined. Overall, the basic understanding of the definition was observed to equate to not only acknowledging the professional role but to feel recognised, accepted by society, and their professional value to be seen and to *be* a certain kind of person when practicing. Interestingly, first-year students demonstrated uncertainty about their identity based on the lack of understanding of the profession's identity.

> *"I think we focus too much on what we do instead of who we are, it's more like what is a clinical associate? Well, we can do X, Y, Z but like what are we? I can't even really answer that question, to be honest, but I mean, nobody defines a nurse from what they do. They define them from like who they are." (1st year student – FGD)*

> *"I think if you don't know who you are and where you stand, like in your profession, you can't defend your standpoint. So if someone tells you, we have doctors, we have nurses, we don't need you, if you don't know for sure where you stand and why you are valuable, you can't say actually you do X, Y, Z. So for me, I'd be like, I can't fight you, I feel like I'm necessary, but I can't tell you why." (1st year student – FGD 5)*

Most third-year students agree that there is a notion of uncertainty regarding the clinical associate profession's identity. In addition, they have been more challenged than first-year students as they negotiate their professional identities when engaging with healthcare professionals in the clinical areas. As a result, students encounter doctor identities relayed to them as a result of how patients and healthcare professionals cannot differentiate between medical doctors and clinical associate roles. A third-year student mentioned an encounter during ward rounds were the doctor says to patient "my young doctor here is going to see you". Thus, the perception from others of clinical associate students is incorrectly seeing them as student doctors despite some effort to correct this by students.

> *"… so that's where the whole profession and identity gets lost because now even in hospital, there are some clinical associates who are like you know what I have introduced myself so many times as a clinical associate to doctors but they refuse to address you as a clinical associate." (3rd year student – FGD 2)*

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A third-year student mentioned interactions with patients to being similar to that with doctors in how they were seen.

> *"… we interact with them as doctors do and because of that, it kind of creates, centres our identity around a doctor and because our identity is centred around what doctors are, we have no clear identity because we are constantly striving for, we are constantly holding onto what they are." (3rd year student - FGD 3)*

4.5.2 Students' perceptions of the clinical associate profession

Most students from the focus group discussions raised challenges relating to the clinical associate profession in South Africa. The codes were formulated based on students' perceptions of the professional challenges.

4.5.2.1 Professional practice

The first-year clinical associate student's perceptions of professional practice is identified as secondary information. The third-year students start to assimilate what they hear about the profession into their student experiences as clinical associate students training in the hospital. Despite this, the nature of the information received as well as the challenges faced by qualified clinical associates in the country was raised as a factor influencing the students' development of a professional identity. The external sources originate from qualified clinical associates, societal understandings of the profession and political understandings and challenges heard from media sources. The first challenge was the students' discomfort regarding the scope of practice of the clinical associate profession.

The scope of practice emerged as unclear and undefined in the first year group.

> *"What do I do, what don't I do, how far do I. Like where do I draw the line before I step on other people's toes when I am in this profession? So I think there's just, there isn't a lot of clarity around exactly where does your scope start and where does it end." (1st year student-FGD 6)*

In the third-year group, perceptions of the scope of practice changes in some students' minds as they appreciate and understand that "*there is a bit of leniency in that scope, but ja, the scope of practice really made me understand a bit better*" (*3rd year student – FGD 2*).

Coupled with the scope of practice, supervision of a qualified clinical associate was raised with concern in first- and third-year groups. The supervision of the practising clinical associates alters how students see their capabilities. The understanding of required supervision instils an inferiority complex, a sense of performance inadequacy and was thus found to be demotivating. Most students felt mistrusted and this counteracted original intentions to attain professional independence.

Interestingly, the perception of how the clinical associate profession functions in a workplace was related through how they are trained as students and how they were currently supervised as students. A large number of students across groups equated supervision as a confirmation of incompetence.

> *"…even when they explained supervision to me, it's still a problem because the fact that I need to be supervised, to me it says that, it feels like I am not competent enough." (1st year student – FGD 1)*

Interestingly, having experienced workplace based training and working with medical teams of doctors and nurses at the clinical facilities, the third-year students' perceptions of supervision agreed with first-year students' perceptions.

> *"Factors that sort of have an impact on our identity as we are said to be, we are defined as supervised, the term supervised. In our training we are so joined to the hip of the doctor that our sense of independence sort of does not exist. So the minute you have to see a patient yourself, you doubt your competency." (3rd year student – FGD 2)*

4.5.2.2 Professional challenges

Professional challenges faced by qualified clinical associates in South Africa are known to some students and hence a theme of professional challenges emerged. Under this theme, three sub-themes emerged and were categorised as the factors observed by students to influence their developing professional identity.

4.5.2.2.1 Poor understanding of the clinical associate profession

Most students in first and third year mentioned the poor understanding of the clinical associate profession. This was targeted at the community at large, which includes patients, family members, other students in the health science field, and the medical staff at hospitals. The definition of a clinical associate, the role of the profession, the value, and the professional differentiation are not seen to be understood.

> *"They don't truly understand the field, what it is we do and the impact that we have in the health system and in patients, because there are certain things which we do and even beyond which nurses don't do. So, there is a difference between us, but people just don't know. They just like you guys are like glorified nurses." (1st year student – FGD 1)*

> *"I'd feel if people were more aware of what I do. Even patients, it's really hard to tell a patient that you are a clinical associate." (3rd year student – FGD 3)*

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"You realised no one even knows who you are [laughter], so it was a huge disappointment and because you're like where do I fit in? Like what is my part in all of this" (3rd year student – FGD 2)

"The role of a clinical associate is not necessarily well defined and you can't particularly say what it is within the team that makes a clinical associate." (3rd year student)

4.5.2.2.2 Poor recognition of the profession

Students expressed that poor recognition of the profession influenced students' experiences in the hospitals. As a result, they learnt how the profession is potentially treated in the real workplace. Largely, third-year students experienced marginalisation and a lack of recognition from hospital medical staff, which led to a sense of professional isolation, questioning of belonging, and being undermined.

"I feel like with our degree you are isolated. Not only after you graduate but even when you are still in the degree." (3rd year student – FGD 4)

"I feel like actually when you do go into the hospital and what not, you actually do see, oh my God, actually I am being undermined, but we do so much more than is actually being put out there in the world and then why is that not being seen when we are constantly here doing these things?" (1st year student – FGD 5)

4.5.2.2.3 Employment related affairs

Current labour related issues faced by working clinical associates within the public sector influenced students' perceptions of their professional identities. The lack of jobs post qualification was an alarming factor raised by most students. In addition, as mentioned under individual influences, students commented on poor career progression. Most students perceived the lack of postgraduate opportunities as limiting and, therefore, their perception meant that there is no vertical individual development for the students.

"… those who have gone out uh, uhm starting complaining about how some can't even find jobs. And as a first year to hear that uh…" (1st year student – FGD 5)

The commentary on career progression was closely linked to the students' need for a hierarchy. They associated career progression to hierarchy and expressed frustration with having to stay in the same professional role for years without evidence of having advanced in knowledge and skills and, therefore, no differentiating is highlighted between a new graduate and an old graduate. This concept linked to salary as the lack of career progression was perceived to result in poor remuneration growth.

"… if the same thing would have to happen as clinical associate, that there is some sort of hierarchy that will recognise the fact that I have been in the clinical setting for five years, or I have worked in the obs and gynae department for five years, can I have some sort of recognition of the amount of work that I have put in for the past five years, and be differentiated from a graduate." (3rd year student – FGD 3)

"I mean, with other degrees or whatever, when you like study something, you become something more. Here you study, oh no, you are still that clinical associate who is working in OPD, earning R10000 or R14000 with your honours, and you're like what is the difference does it make in your career, in your path, to study honours?" (3rd year student – FGD 4)

4.5.3 Healthcare workers' perception of clinical associate identity

Healthcare workers create the learning environment for clinical associate students. Their perceptions of the clinical associate profession is seen to influence their engagement with students and thus influence students' perception of the profession. Participating in doctor- and nurse-led medical teams challenged students' ideas of where clinical associates fit in as they felt continuously overlooked and undermined. The negotiation of identities prevails amongst third-year students as they struggle with a lack of role models and are by default required to learn about their role from different professionals. The students mention the lack of clinical associates working in the training hospitals and identify this lack of role models as an influential factor to their developing professional identity. Discrediting remarks and negative commentary by senior doctor preceptors influenced students' views of themselves as clinical associate students. Such comments imposes a junior doctor identity on the students due to the doctor's observations of the students' work in the clinical setting.

"When you do a simple mistake, they'll be like that clinical associate did this and this and this. You're like, the thing is, you know the profession, but you just won't be recognised in a way. It's like whether I'm good or bad, refer to me as a clinical associate, because now people are like if everything bad that happens, it's because of the clinical associate, then there is going to be that rep of oh, the clinical associate did it. But what about the good things? They'll be like oh, the doctor did it." (3rd year student – FGD 2)

The observation was that some third-year students became comfortable with the imposed junior doctor identity because it serves as a safeguard for them not to explain what a clinical associate is when asked by patients or healthcare professionals. The students shy away from the clinical associate identification due to various reasons. The reasons include that the lack of clarity about the role of clinical associates, places students in a vulnerable position, which requires them to constantly stand up against the status quo of an already fixed health care system. In addition, the lack of knowledge from healthcare professionals regarding where clinical associates fit in, results in students feeling

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professional isolation and segregation. Lastly, students shy away from the clinical associate identification to cover up an inferiority complex.

> *"… we interact with them as doctors do, and because of that, it kind of creates, centres our identity around a doctor, and because our identity is kind of centred around what doctors are, we have no clear identity….we have no clear identity because we are constantly striving for, we are constantly holding onto what they are." (3rd year student- FGD 3)*

To dispel the doctor imposed identity, the students raised a need for more clinical associates to be visible in the training areas. This was perceived to potentially influence how they see themselves as student clinical associates and increase their pride in their work.

> *"I need someone who can be a father figure or something to me, because I am a clinical associate, I'm not a doctor. I need to know how to practice within my own field, not just copying and pasting from other people. Like oh, nurses put up catheters, I want to learn how to do that, oh doctors do surgeries, let me tag there, oh, OTs do chest physio, you know. You need something that's going to guide you, like okay, this is how to go about being a clinical associate." (3rd year student – FGD 4)*

> *"What? Having clinical associates around? I would feel way more comfortable." (3rd year student – FGD 2)*

4.6 Conceptual map of the identified themes, sub-themes and minor themes

Following the presentation of results, a conceptual map is provided (figure 3) as an overview of the themes emerging from the data analysis. The three main themes consist of individual factors that students mentioned as factors that personally affect how they view themselves as clinical associates. These are factors that students experienced during their training as well as on campus and off campus experiences that influenced how they see themselves as developing clinical associates. The last emerging theme is the perception of identity. Each theme contains sub-themes that were identified as alike in the first- and third-year focus groups. Sub-themes specific to each year group were highlighted to show the progression of experiences from first to third year.

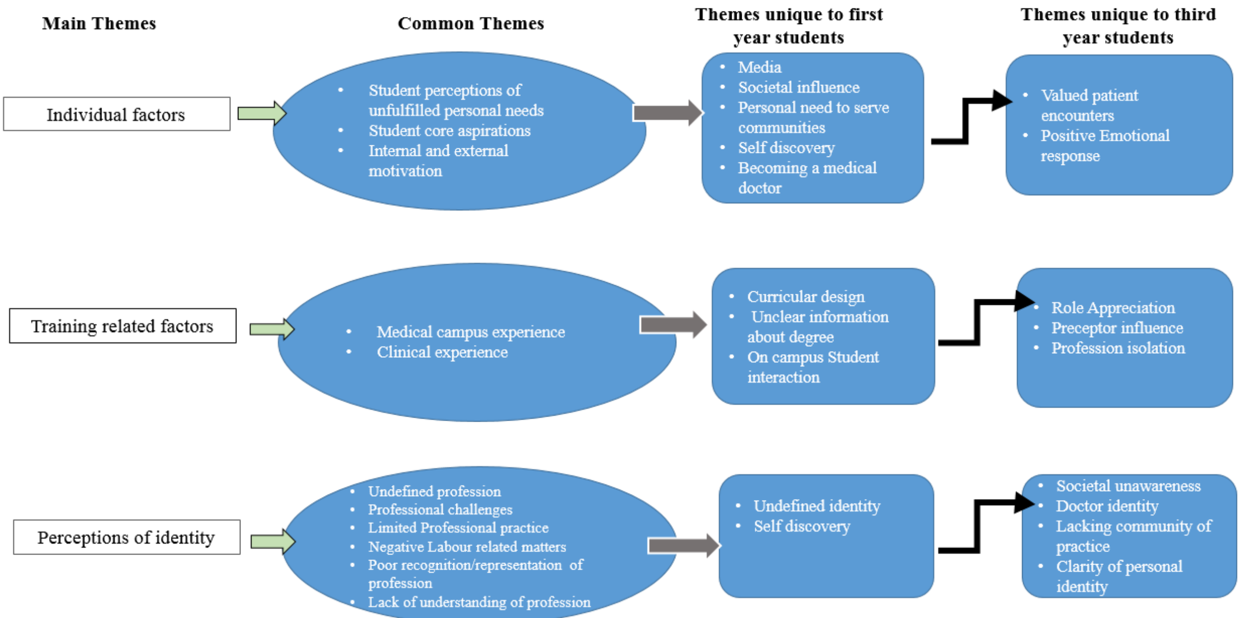

Figure 3: A conceptual map showing the progression of emerging themes from the first- to third-year focus groups

The results show the multi-dimensional nature of professional identity and the varied factors that influence students' developing professional identity. Seemingly, first-year clinical associate students largely do not have much understanding of the clinical associate profession and seek for external contribution to improve their understanding of the clinical associate profession. Many of the first-year students' stance resonates from a position of undefined professional identity amalgamated at a personal stage where students are still figuring out their own personal identities.

The conceptual map shows a transition of factors that influence their professional identity from first to third year. In the third year there is seemingly more acknowledgement of the role of the clinical associate, the value of the profession is seen by students, and there is an increase in an internal motivation to function as a clinical associate and serve patients.

Overwhelmingly, the professional challenges related to the work of a qualified clinical associate remain a persistent factor that demoralises a large number of students to practise as a clinical associate. In addition, the undefined identity of the clinical associate profession persists as a theme, which causes both first- and third-year students to question whether they will one day see themselves practicing as clinical associates.

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4.7 Summary

This chapter presented the results obtained through focus group discussions with first- and third-year students. The three main themes formulated resulted from merging the codes, which highlighted the factors as perceived by students to influence their developing professional identity. The discussion and conclusion follow with closing statements.

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CHAPTER 5

DISCUSSION AND CONCLUSIONS

This study has provided insight into clinical associate students' perceptions of factors that influence their developing professional identity. The formation of professional identity in medical students is identified as a multi-dimensional, relational and contextual process that involves the influence of ego identity, personal identity and social identity (Goldie, 2012). This is evident in the findings of the research.

5.1 Individual factors

Individual factors contributed to student understanding of themselves within the programme of study. As undergraduate students at post-matriculation stage, there is a strong hunger for achieving pre-existing aspirations to assimilate to envisioned professional selves. Considering the late adolescent age group of students, Erikson (1963) described the stages of identity development in the late adolescent phase as a psychological revolution concerned with societal views on that individual. The research study demonstrates students' confusion and challenges with professional identity. The nature of the clinical associate profession results in the current profession being less favourable to students.

The fixed innate feeling to aspire to become a medical doctor remains constant through the years of undergraduate study. This is largely due to unmet needs. Several clinical associate students transition through the programme without satisfaction and this is due to personal aspirations of reaching professional independence, financial security, societal appreciation, societal validation, and status that they perceive will not be met in the current enrolment. The ideas of unmet needs directly affects motivation. The strong feeling of unmet needs reflects the pyramid of the hierarchy of needs as theorised by Maslow (1943). Students with unmet needs are largely fixated on their end occupational goal. This gives rise to dissatisfaction with the current training and therefore rejection of the current profession of study despite enjoyment of clinical practice as a student. This dissociation from a profession is described as identity dissonance by Monrouxe (2010) where the identification of self is not congruent with the professional identity.

The study confirms societal views do influence the developing professional identity. Clinical associate students take into consideration societal expectations of their professional endeavours. In view of this, many clinical associate students possess innate ambitions to qualify as medical doctors. This is due to societal validation of the doctor's professional status, a higher regard or professional respect, professional appreciation of service from the community and valued contribution to society.

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Wong & Trollope-Kumar (2014) showed that societal expectations influenced medical students' professional identity.

Clinical associate students are confronted with the complexities of accommodating a less popular professional identity than the one to which they aspire. This is a significant finding of the study that highlights the potentially harmful learning implications. Largely, the profession is less favourable due to the lack of role clarification and undefined brand of the profession.

Despite challenges accepting the profession, there is variation of motivation displayed by the students. Certainly, increased external motivation is required for students to feel validated and encouraged, whereas a lack of external motivation discourages students. On the other hand, students with a positive outlook were driven by an internal motivation due to the personal enjoyment of clinical tasks, patient interactions, appreciation of achieving clinical competence, and directly seeing the impact of better healthcare outcomes for patients. The internal motivation grew out of acknowledgement of the role of the clinical associate profession and self-awareness of personal goals. This intention is seen to be supported by the student seeing value in the clinical associate profession to the healthcare system.

5.2 Training related factors

Interestingly, students questioning the nature of the integrated programme contradicts advancements in 21st medical education. There is great comparison to other programmes within universities by students and largely students seek accreditation to move to the programme of medicine. This area provides an opportunity for further research to explore clinical associate students' or physician assistant students' perceptions of an integrated curriculum. New teaching strategies or curricular design is rejected by the students due to the dissimilarity to other programmes and thus seen as limiting because of unachievable academic accreditation to other programmes.

Students also encounter an institutional culture that lacks knowledge about their profession, encourages a hierarchical system of authority amongst professions and views the doctor professional with increased authority. Thus, engagement with other students on campus poses a threat to the development of students' professional identity. Students on campus innocently question clinical associate students about their profession due to lack of knowledge from both individuals. This interrogation encounter causes much despair and a lack of motivation amongst first-year clinical associate students. These encounters reflect the culture of disciplines functioning in silos and exclusively (Weaver, Peters, Koch, & Wilson, 2011b).

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In as much as students attend on medical campus, workplace-based learning requires integration of students in clinical areas. Unfortunately, the difficulty in incorporating clinical associates into the learning platforms reflects the difficulty of the incorporation of the profession within the South African health system. This challenge opposes the initial understanding of the incorporation of clinical associates into the South African health system and physician assistants internationally (Couper, 2014; Doherty et al., 2012; Hooker & Kuilman, 2011) where the profession was intended to be an addition to the medical team with the aim to increase quality healthcare and human resources.

Despite workplace-based learning triggering enjoyment amongst third-year students, the developing professional identity is increasingly challenged in hospital settings as they interact with qualified professionals. As students, they are subjected to the complexities of a real-time functioning healthcare system consisting of human resource constraints, hierarchical structures, increasing workload burdens and healthcare professional fatigue. At this final-year stage, their socialised mind yearns for validation from seniors and reassurance of occupying a valued professional role. In addition, the clinical preceptors, being medical doctors, subject students to the inevitable power dynamic that places them on higher pedestal than educators from which students seek direction and guidance. An observed misuse of preceptor power during discouraging encounters with students results in student uncertainty regarding the value of their profession.

The doctor and nurse preceptors play a vital role in shaping clinical associate students' developing professional identity. Clinical associate students are most likely to adopt false professional identities as they start learning behaviours and attitudes from the medical doctors teaching them. This becomes a challenge as students start forming their professional identity based on role attainment associated with the doctor. Largely, students interact with doctors more than qualified clinical associates. The students undoubtedly struggle to see a fit for their profession within the medical team and due to the lack of understanding of the clinical associate profession at large, healthcare worker biases regarding careers demotivate students.

The findings of the study agree with the dynamics of professional identity discussed by (Goldie, 2012) where it is suggested that one's identity is dynamic and undergoes influences which may be situational and relational. Situational influences play a crucial part in the clinical associate students' experience in the clinical areas as they partake in workplace-based learning. Having situated students to train at the clinical areas results in students learning from hospital processes, staff behaviours, patient encounters, and hospital experiences that may not necessarily result in positive influences on their developing professional identities.

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A relational influence is depicted by the engagements students have with clinical staff and the power dynamics in which students are subjected to preceptors such as medical doctors and nurses bearing power to teach and assess student performance in the clinical areas. Subjection to this power may result in positive influences or misuse of power may result in unintentional effects resulting in negative influences (Hafferty & Franks, 1994).

As suggested, students negotiated their developing identities as clinical associates within an environment with set professional behaviour cultures and role-related pressures (Goldie, 2012).

The patient exposure offered in the academic programme is seen to influence the students' perception of their professional identity. By the third year of study, the students understand the skill competencies expected from the clinical associate. The active engagement with patients contributes to the students' understanding of their profession. This finding of the study is similar to results found by Cook et al. (2003) where nursing students identified working with patients a factor that strengthened professional identity.

The findings of this study agree with Kaiser (2002) who identified professional identity as constructed through recognition of professional difference. The need for professional differentiation strongly emerges and, by default, failure to differentiate between a clinical associate and medical doctors has resulted in the clinical associate being seen as medical doctor students and encouraged to further follow the career path of medicine thus eliminating the clinical associate identity. It is evident from the study that socialisation of professions impacts the students' developing identities (Burford, 2012). Failure to monitor socialisation at clinical platforms results in the increasing impact of the hidden curriculum and thus negative influences may prevail in shaping students' developing professional identities.

There is a perception that roles and skill competencies of the clinical associate and medical doctor unfavourably overlap and therefore triggers confusion amongst students. As an unfortunate result, there is minimum effort to further understand the role of the clinical associate and rather students are unnoticed and automatically seen as medical students. Consequently, students experience a sense of professional discrimination and isolation during workplace-based learning, leaving a lack of professional inclusivity, which was found by Weaver et al. (2011) as important to strengthening professional identity.

5.3 Perceptions of identity

There is concern regarding the conceptualisation and implementation of the clinical associate profession in South Africa. As undergraduate students, they map out their future plans and ambitions

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for their careers and start to seek a career providing financial stability, recognition, and fulfilment in their profession.

The lack of validation and reassurance from society challenges students' perceptions of their professional identity. In addition, circulating casual negative information about the profession from qualified graduates demotivates students. Following this, if the student does not have a strong core identity, the professional identity is easily rejected. Current professional challenges faced by qualified clinical associates in South Africa influence the aspiring clinical associate students as they realise the complexities and challenges of the real working world. Interestingly, the students have no first-hand experience of the challenges but the experiences of graduates is relatable to students as they experience some professional challenges as a student. These challenges include perceptions of a lack of a career pathing, a perception of a limiting scope of practice, experiences of being undervalued, and a lacking definition of the clinical associate. These findings confirm that urgent attention is required to strengthen and support the developing professional identity of clinical associate students in order to stop confusion, encourage an improved understanding of the clinical associate profession, and empower the young students. Failure to support the development of professional identity will result in identity dissonance as described by Joseph et al (2017) and Costello (2005).

Seemingly, false professional identities are increasing amongst clinical associate students due to a lack of external validation for the clinical associate profession from some senior members of the training platform. This further leads to students' identity conflict due to the lack of their own professions visibility at the training platforms. Consequently, students manifest student doctor identities as a result of the dominating professional influence during workbased learning. This false identity is dangerous for patients and breaches ethical principles where patients have a right to know the practising clinician. Comparatively, Helmich et al.(2010) suggests the placement of health science students within a discipline other than their profession possesses benefits to learning but may perpetuate identity dissonance.

As a result, crucial attention from educators within the health professions field should focus on utilising pedagogical strategies to enhance positive factors that strengthen students' professional identity and mitigate negative factors that influence students' developing professional identities.

5.4 Strengths and limitations of the study

There are identified limitations to the research study. Firstly, the small scale study focused on the perceptions of clinical associate students at one institution namely, the University of Witwatersrand. Therefore, a limited sample size was used. The results cannot be translated to clinical associate student views at other universities in South Africa. A second limitation is a lack of diversity in the

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focus group participants due to the nature of the volunteers who participated in the study, which resulted in more females participating than males. Thirdly, there were limitations to the scheduled time of the focus group discussions as they were held during a clinical rotation where students were mostly off campus, which means that they came in during free afternoons to participate in the study. Another limitation is the students' inclusion of secondary sources as they based their views and opinions regarding qualified clinical associates' experiences of the profession on other people's viewpoints. This prompts a research opportunity for the same question to be explored amongst qualified working clinical associates within the South African healthcare system.

In addition to the identified limitations, there are identified strengths of the research study. The results provide insight into the clinical associate students' perception of factors that influence their professional identity. In addition, the results provide new insights from an institution which trains clinical associate students.

5.5 Conclusion

Clinical associate students experience a variety of factors that influence their developing professional identity. It is evident that internal and external factors possess variable power to positively or negatively influence how students see themselves. Consequently, educators within the field of health professions education are recommended to research deeper insights into how educational strategies can be utilised to support the development of a professional identity. Following the identification of the presented factors, suggestions are proposed below.

- Increase marketing and advertising strategies for the clinical associate programme and profession to improve access to correct information.
- Improve admission criteria into the clinical associate programme by focusing on acceptance of students who select the programme intentionally as their first choice of study. In addition, include an admission requirement of job shadowing prior to enrolment to demonstrate student effort in engaging with the clinical associate profession.
- The University of the Witwatersrand needs to incorporate inter-professional learning. This provides accessible educational opportunities for students to interact and learn about each other's professional roles with the aim of one day strengthening medical teams (Brandt, 2017).
- Department of Health and health care stakeholders such as non-governmental organisations should employ more clinical associate graduates in clinical facilities. This would increase the visibility of qualified clinical associates to clinical associate students thus increasing clinical associate role models who can provide exemplary actions and behaviours for students. (Kenny, Mann, & Macleod, 2003)

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- Universities should increase and strengthen the training of all health care professionals training clinical associate students, to educate preceptors about the role and function of the clinical associate profession within the health care system.
- Provide formal curricular opportunities to strengthen professional identity via discussions and professional lectures.

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APPENDICES

Appendix A: Ethics approval certificate from Stellenbosch University

UNIVERSITEIT
STELLENBOSCH
UNIVERSITY

Health Research Ethics Committee (HREC)

Approval Notice

New Application

11/06/2018

Project ID :6709

HREC Reference #: S18/04/085

Title: Clinical Associates' students perceptions of their professional identity

Dear Miss Palesa Mgobozi,

The **New Application** received on 24/04/2018 18:34 was reviewed by members of **Health Research Ethics Committee 2 (HREC2)** via **expedited** review procedures on 11/06/2018 and was approved.

Please note the following information about your approved research protocol:

Protocol Approval Period: **This project has approval for 12 months from the date of this letter.**

Please remember to use your **Project ID [6709]** on any documents or correspondence with the HREC concerning your research protocol.

Please note that the HREC has the prerogative and authority to ask further questions, seek additional information, require further modifications, or monitor the conduct of your research and the consent process.

After Ethical Review

Please note you can submit your progress report through the online ethics application process, available at: Links Application Form Direct Link and the application should be submitted to the HREC before the year has expired. Please see *Forms and Instructions* on our HREC website (www.sun.ac.za/healthresearchethics) for guidance on how to submit a progress report.

The HREC will then consider the continuation of the project for a further year (if necessary). Annually a number of projects may be selected randomly for an external audit.

Provincial and City of Cape Town Approval

Please note that for research at a primary or secondary healthcare facility, permission must still be obtained from the relevant authorities (Western Cape Departement of Health and/or City Health) to conduct the research as stated in the protocol. Please consult the Western Cape Government website for access to the online Health Research Approval Process, see: https://www.westerncape.gov.za/general-publication/health-research-approval-process. Research that will be conducted at any tertiary academic institution requires approval from the relevant hospital manager. Ethics approval is required BEFORE approval can be obtained from these health authorities.

We wish you the best as you conduct your research.

For standard HREC forms and instructions, please visit: Forms and Instructions on our HREC website https://applyethics.sun.ac.za/ProjectView/Index/6709

If you have any questions or need further assistance, please contact the HREC office at 021 938 9677.

Yours sincerely,

HREC Coordinator,

Health Research Ethics Committee 2 (HREC2).

National Health Research Ethics Council (NHREC) Registration Number:

REC-130408-012 (HREC1)·REC-230208-010 (HREC2)

Federal Wide Assurance Number: 00001372

Page 1 of 2

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*Office of Human Research Protections (OHRP) Institutional Review Board (IRB) Number:
IRB0005240 (HREC1)·IRB0005239 (HREC2)*

The Health Research Ethics Committee (HREC) complies with the SA National Health Act No. 61 of 2003 as it pertains to health research. The HREC abides by the ethical norms and principles for research, established by the World Medical Association (2013). Declaration of Helsinki: Ethical Principles for Medical Research Involving Human Subjects;the South African Department of Health (2006). Guidelines for Good Practice in the Conduct of Clinical Trials with Human Participants in South Africa (2nd edition); as well as the Department of Health (2015). Ethics in Health Research: Principles, Processes and Structures (2nd edition).

The Health Research Ethics Committee reviews research involving human subjects conducted or supported by the Department of Health and Human Services, or other federal departments or agencies that apply the Federal Policy for the Protection of Human Subjects to such research (United States Code of Federal Regulations Title 45 Part 46); and/or clinical investigations regulated by the Food and Drug Administration (FDA) of the Department of Health and Human Services.

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Appendix B: Ethics approval certificate from the University of Witwatersrand

R14/49 Aviwe Mgobozi

HUMAN RESEARCH ETHICS COMMITTEE (MEDICAL)

CLEARANCE CERTIFICATE NO. M180514

NAME: **(Principal Investigator)**	Aviwe Mgobozi
DEPARTMENT:	Family Medicine and Primary Health Care Health Sciences Campus
PROJECT TITLE:	Clinical Associates Student's perceptions of their developing professional Identity
DATE CONSIDERED:	25/05/2018
DECISION:	Approved Unconditionally
CONDITIONS:	
SUPERVISOR:	Prof I Couper
APPROVED BY:	Professor [redacted] Chairperson, HREC (Medical)
DATE OF APPROVAL:	24/08/2018

This clearance certificate is valid for 5 years from date of approval. Extension may be applied for.

DECLARATION OF INVESTIGATORS

To be completed in duplicate and **ONE COPY** returned to the Research Office Secretary on the Third Floor, Faculty of Health Sciences, Phillip Tobias Building, 29 Princess of Wales Terrace, Parktown, 2193, University of the Witwatersrand. I/we fully understand the conditions under which I am/we are authorized to carry out the above-mentioned research and I/we undertake to ensure compliance with these conditions. Should any departure be contemplated, from the research protocol as approved, I/we undertake to resubmit the application to the Committee. **I agree to submit a yearly progress report**. The date for annual re-certification will be one year after the date of convened meeting where the study was initially reviewed. In this case, the study was initially reviewed in **May** and will therefore be due in the month of **May** each year. Unreported changes to the application may invalidate the clearance given by the HREC (Medical).

Principal Investigator Signature   Date 26/05/2018

PLEASE QUOTE THE PROTOCOL NUMBER IN ALL ENQUIRIES

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Appendix C: Approval from the university deputy registrar

12 July 2018

Aviwe Palesa Mgobozi
Staff number
Masters Candidate
Department of Family Medicine
Faculty of Health Sciences

TO WHOM IT MAY CONCERN

"Clinical Associate Students' perceptions of their developing professional identity"

This letter serves to confirm that the above project has received permission to be conducted on University premises, and/or involving staff and/or students of the University as research participants. In undertaking this research, you agree to abide by all University regulations for conducting research on campus and to respect participants' rights to withdraw from participation at any time.

If you are conducting research on certain student cohorts, year groups or courses within specific Schools and within the teaching term, permission must be sought from Heads of School or individual academics.

Ethical clearance has been obtained. (Protocol Number HREC S18/04/085)

University Deputy Registrar

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Appendix D: Participant information leaflet

TITLE OF THE RESEARCH PROJECT:

Clinical Associate Students' perceptions of their developing professional Identity

REFERENCE NUMBER:

PRINCIPAL INVESTIGATOR: Aviwe Palesa Mgobozi

ADDRESS: University of Witwatersrand, Medical campus.

CONTACT NUMBER:

You are being invited to take part in a research project. Please take some time to read the information presented here, which will explain the details of this project. Please ask the study staff or researcher any questions about any part of this project that you do not fully understand. It is very important that you are fully satisfied that you clearly understand what this research entails and how you could be involved. Your participation is **entirely voluntary** and you are free to decline to participate. If you say no, this will not affect you negatively in any way whatsoever. You are also free to withdraw from the study at any point, even if you do agree to take part.

This study has been approved by the **Health Research Ethics Committee at both Stellenbosch University** and **University of Witwatersrand**. The study will be conducted according to the ethical guidelines and principles of the international Declaration of Helsinki, South African Guidelines for Good Clinical Practice and the Medical Research Council (MRC) Ethical Guidelines for Research.

What is this research study all about?

The research study aims to explore Clinical Associate student's perception of factors which influence their developing professional identity. The researcher aims to determine whether students relate to the Clinical Associate profession and as a result seek gaps in the development of the students' professional identity so as to formalize the training to include educational strategies to support the students' professional identity formation.

Why have you been invited to participate?

You are invited to participate in the study as you are currently enrolled in the Clinical Associate programme. By participating in the study, you will provide the study with valuable information which will pre-empt the department to be aware of students understanding of professional identity and professional identity formation so that new educational methods are introduced to improve the curriculum.

What will your responsibilities be?

If you accept participating in the study. You will be required to share your opinions and experiences to the researcher as a Clinical Associate student.

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Will you benefit from taking part in this research?

The study may not directly benefit you but it will assist in curricula development.

Are there in risks involved in your taking part in this research?

The research study is not of an experimental method therefore there are no risks involved. If at any point, you feel discomfort or unease, you ae free to withdraw or request referral to a counsellor.

If you do not agree to take part, what alternatives do you have?

The study is a voluntary study. If you do not agree to participate, that is acceptable and there will be no consequences.

Who will have access to your records?

The researcher will have access to the records. The responses will be stored anonymously and the researcher will maintain confidentiality. Following this the study will be finalized for a master's degree. In the event that the work is published or presented at conferences, the names will remain anonymous and confidential.

What will happen in the unlikely event of some form of injury occurring as a direct result of your taking part in this research study?

For this particular study, it is highly unlikely an injury will occur during the research study. If it does, researcher will ensure the participant is referred to the appropriate medical facilities immediately.

Will you be paid to take part in this study and are there any costs involved?

No you will not be paid to take part in the study but your food and refreshment costs will be covered. There will be no costs involved for you, if you do take part.

Is there anything else that you should know or do?

- You can contact Miss **Aviwe Palesa Mgobozi** at if you have any further queries or encounter any problems.
- You can contact the Health Research Ethics Committee at 021-938 9207 if you have any concerns or complaints that have not been adequately addressed by your study researcher.
- You will receive a copy of this information and consent form for your own records.

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Appendix E: Consent form

Declaration by participant

By signing below, I ……………………………………..………… agree to take part in a research study entitled ***Clinical Associate Students' perceptions of their developing professional Identity***

I declare that:

- I have read or had read to me this information and consent form and it is written in a language with which I am fluent and comfortable.
- I have had a chance to ask questions and all my questions have been adequately answered.
- I understand that taking part in this study is **voluntary** and I have not been pressurised to take part.
- I may choose to leave the study at any time and will not be penalised or prejudiced in any way.

Signed at (*place*) ....…........…………….. On (*date*) …………....……….. 2018

....

Signature of participant   **Signature of witness**

Declaration by investigator

I *(name)* ……………………………………………..……… declare that:

- I explained the information in this document to …………………………………..
- I encouraged him/her to ask questions and took adequate time to answer them.
- I am satisfied that he/she adequately understands all aspects of the research, as discussed above
- I did/did not use an interpreter. (*If an interpreter is used then the interpreter must sign the declaration below.*

Signed at (*place*) ....…........…………….. On (*date*) …………....……….. 2018

....

Signature of investigator   **Signature of witness**

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Appendix F: Semi-structured interview guides

Semi Structured Interview guide for the first years

1. How did you feel when you found out you were accepted into the Clinical Associate programme?

2. Do you see yourself as a practicing Clinical Associate? What does this mean to you?

    - Probing Question : Tell me more about your reason

3. How do you relate to the Clinical Associate profession?

4. What has helped you understand what it means to be a Clinical Associate?
    - Probing Question: Tell me more about the negative and positive factors

5. What do you think you need personally to improve your understanding of the profession? What will be most helpful to you?

Semi Structured Interview guide for the Third years

1. How did you feel when you found out you were accepted into the Clinical Associate programme?

2. Do you see yourself as a practicing Clinical Associate? What does this mean to you?

3. How do you feel your understanding of being a clinical associate has changed since first year

4. What does the process of becoming a Clinical Associate mean to you?
    - Probing Question: Do you see yourself as a Clinical Associate?
    - Probing Question: How do you relate to the Clinical Associate profession?

5. Have you identified any factors which helped you better understand yourself as a Clinical Associate?

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- Probing Question: Participants can comment on positive influences and negative influences which have challenged their understanding of themselves as a Clinical associate student.

Ensuring Interaction

The researcher will allow the focus group discussion to continue naturally and use the following stimulants to encourage discussion.

a. Probing questions have been indented under the main interview questions. They will be used to further gain deeper understanding into participant responses.
b. The researcher will recap participant answers to gain confirmation and to reflect on what has been. Participants may remember to provide additional missed points.
c. The researcher will try balance the conversation and chance the power dynamics in the group from encouraging introverted participants to have their chance to speak.