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An investigation into the development of cultural responsiveness in Australian physiotherapy students and new graduates' capability to work with culturally and linguistically diverse communities

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"You cannot transmit wisdom and insight to another person. The seed is already there. A good teacher touches the seed, allowing it to wake up, to sprout, and to grow."

Thích Nhất Hạnh

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Statement of Authentication

I, Maxine Te, hereby declare that the work presented in this thesis is, to the best of my knowledge and belief, original except as acknowledged in the text. I hereby declare that I have not submitted material, either in full or in part, for a degree at this or any other institution.

Signed: ________ ____________ Date: 7/8/2020

Maxine Te

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Publications and Presentations

Parts of the work presented in this thesis have been published in peer reviewed journals and/or presented at conferences as follows.

Peer reviewed publications

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Abbreviations

ABS	Australian Bureau of Statistics
AIHW	Australian Institute of Health and Wellbeing
CALD	Culturally and linguistically diverse
CAS	Cultural Awareness Scale
CASQ	Cultural Awareness and Sensitivity Questionnaire
CCA	Cultural Competence Assessment
CCATool	Cultural Competence Assessment Tool
CCCHS	Caffrey Cultural Competence in Healthcare Scale
CCCQ	Clinical Cultural Competency Questionnaire
CCCS	Cross-cultural Care Survey
CCS	Cultural Capacity Scale
CINAHL	Cumulative Index to Nursing and Allied Health Literature
CSES	Cultural Self-efficacy Scale
DIMA	Department of Immigration and Multicultural Affairs
ERIC	Educational Resources Information Centre
GWCCS	Global worldview cultural competency survey
IAPCC	Inventory for assessing the process of cultural competence among health professionals
IAT	Implicit association test
ICC	Intraclass correlation coefficient
ICF	International Classification of Functioning, Disability and Health
ISS	Intercultural Sensitivity Scale
MAQ	Multicultural Assessment Questionnaire

MEDLINE	Medical Literature Analysis and Retrieval System
MSS	Multicultural Sensitivity Scale
NESB	Non-English speaking background
NHMRC	National Health and Medical Research Council
NZ	Aotearoa New Zealand
QDI	Quick Discrimination Index
SAPLCC	Self-Assessment of Perceived Level of Cultural Competence
SD	Standard deviation
SEE	The scale of ethnocultural empathy
T-CSHCI	Tucker-Culturally Sensitive Health Care Inventory Provider form
TSET	Transcultural Self-efficacy Tool
UK	United Kingdom
USA	United States of America

Operational Definitions

There are variations in the concepts and terminology related to cultural diversity and ethnicity in the literature. Concepts and terminology have evolved over the past couple of decades and are influenced by the views of the researcher, or the geographical location of where the research was conducted (Afshari & Bhopal, 2010; Kanakamedala & Haga, 2012; Ma et al., 2007). To facilitate clarity in reading this thesis, operational definitions for the terms related to culture, cultural diversity, and ethnicity used in this thesis are provided below.

Culturally and linguistically diverse (CALD)

This term is used in Australia to encompass the range of cultures and language groups represented in the population who identify as having particular cultural and linguistic affiliations that are different from the majority Anglo-Australian culture (Department of Health, 2009). The term CALD replaced 'Non-English speaking background' (NESB) in 1996 as NESB was thought to oversimplify the identification of many cultural and linguistic groups by the assumption that English was the norm, placing other languages in a secondary position (Department of Immigration and Multicultural Affairs, 2001). Since the end of the 20th century, the term CALD has been used consistently in Australia among academics, policymakers, and community practitioners.

Culture

Culture is commonly understood as a concept that provides individuals with a framework or perspective through which they understand themselves, their

environment, and their experiences (Hunt, 2007; Keesing, 1998). It is a dynamic and continuously evolving process of beliefs, values, systems, meanings, and customs. These are shared and/or learned in the interactions between individuals, communities, and institutions of the larger society (Keesing, 1998; Kirmayer, 2012; Lynam et al., 2007). From this perspective, culture is a socially constructed phenomenon, and individuals are agents that influence and are influenced by the broad social and political environment (Kleinman & Benson, 2006; Lynam et al., 2007). An individual may identify with more than one cultural group, which includes, but is not limited to, ethnicity, age, gender, sexual orientation, socioeconomic status, and religion.

Ethnicity

Ethnicity is a socially constructed and self-defined concept that characterises people into social groupings based on shared cultural heritage (language, traditions, and religion) as well as physical characteristics reflective of geographical and ancestral origins (Bhopal, 2004; Sheldon & Parker, 1992). In the health literature, ethnicity is commonly used interchangeably with the term 'race', which are two distinct, yet overlapping concepts (Afshari & Bhopal, 2010). The main difference being that race specifically categorises individuals into homogenous groups based on biological inheritance (Bhopal, 2004; Bhopal & Rankin, 1999). However, the scientific basis of race reflecting genetically different populations is weak (Afshari & Bhopal, 2010; Witzig, 1996). The term ethnicity is preferred as it goes beyond identifying people based on physical features and acknowledges shared languages, sociocultural beliefs, and practices, which may change over time (Bhopal, 2004).

Ethnoculture

Conceptualised from the terms ‘ethnicity’ and ‘culture’, ethnoculture is a socially constructed and self-defined concept that focuses on characterising people based on the many sociocultural (social and cultural) components that influence peoples’ lives (Quinn et al., 2014). These components may include migration status, religion, language, cultural practices, and political ideologies. Similar to ethnicity, ethnocultural identity may change over time and subsequent generations (Quinn et al., 2014).

Thesis Summary

With the increasing cultural diversity in Australia, health professionals, including physiotherapists, must be prepared to care for people from culturally and linguistically diverse communities. Entry-level physiotherapy educational programs are entrusted to assure the development of all competencies required of practicing new graduate physiotherapists. This therefore needs to include the capability to practice in a culturally responsive manner. The broad goal of the research program presented in this thesis was to investigate how entry-level physiotherapy programs deliver learning and teaching to support the development of cultural responsiveness in students, and to identify if gaps exist in the preparation of new graduates for working with people from CALD communities. To achieve this, four separate studies were conducted. The four studies examined different components and/or perspectives related to curricula and the development of cultural responsiveness in physiotherapy students (Figure 1.0).

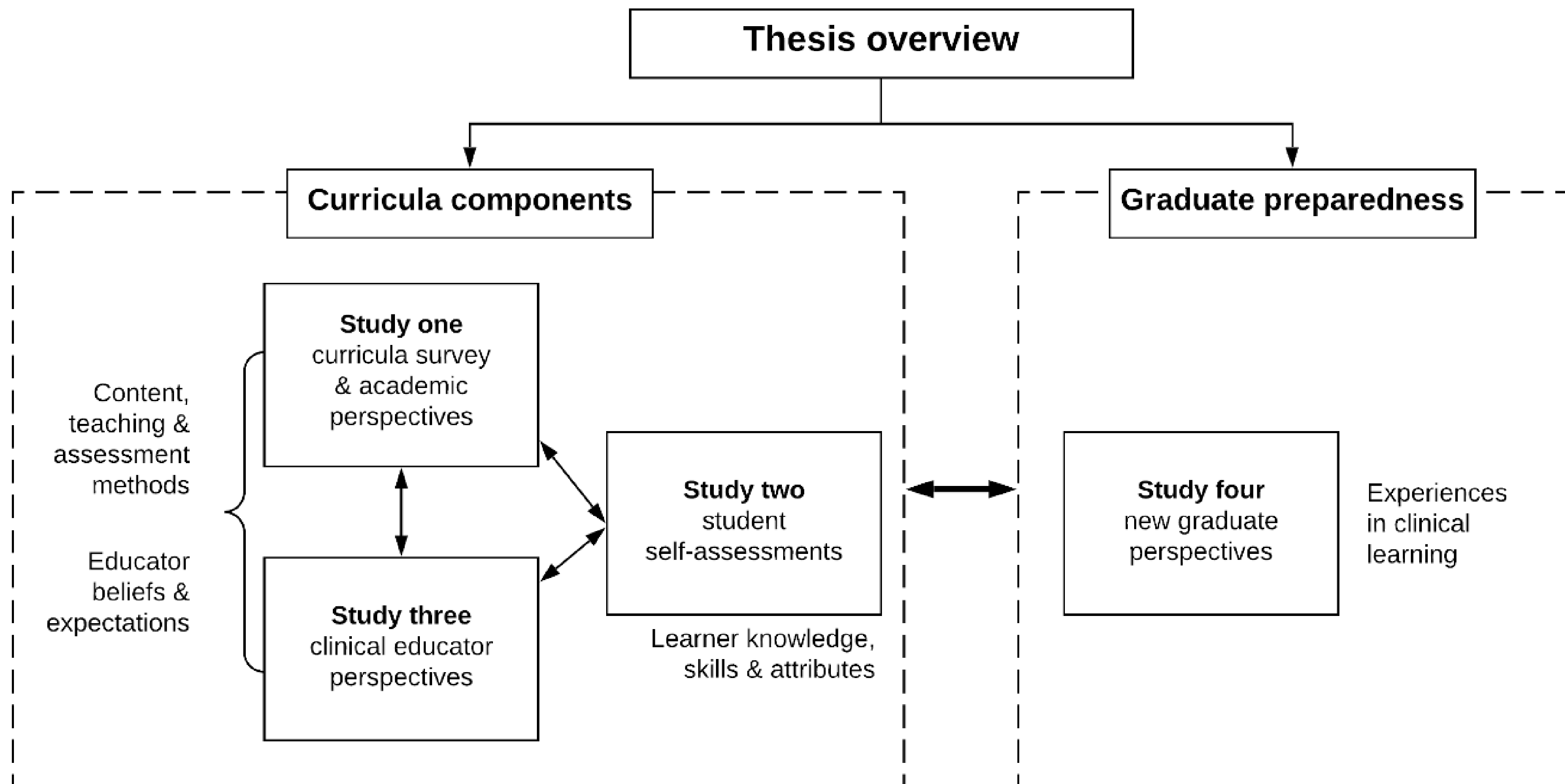


Figure 1.0 Overview of the four studies and their relationship to curriculum and graduate preparedness

Study one aimed to determine how content and educational approaches were embedded in Australia and Aotearoa New Zealand (NZ) entry-level physiotherapy programs. This study used a descriptive, cross-sectional, exploratory design. Semi-structured telephone interviews with closed and open-ended questions were used for data collection. Eighteen universities agreed to participate in the study (86% response rate), and data were collected for 24 entry-level physiotherapy programs across Australia and NZ. Interviews were conducted with the discipline lead or a nominated academic staff.

The results demonstrated that all programs integrated content and educational approaches related to culture, cultural diversity, or cultural responsiveness in curricula. However, there was variability in the structure, the type of content, and teaching and assessment methods used. The majority of the programs relied on didactic teaching approaches, along with knowledge-based and implicit assessment methods. Participants also reported challenges integrating culture-related material in the curriculum. The main challenges reported were that cultural responsiveness was perceived as of lower importance by academics, that the curriculum was overcrowded, and that there was difficulty finding resources for teaching. This study provides a snapshot of the current educational content and approaches in entry-level physiotherapy curricula in Australia and NZ, highlighting potential areas for further investigation and improvement. Specifically, the results suggest that there needs to be a broad range of learning experiences using multifaceted teaching and assessment approaches that explicitly focus on facilitating the cognitive, affective, and practical dimensions of cultural responsiveness. Furthermore, awareness about and support in facilitating cultural responsiveness for educators is required.

Study two aimed to evaluate the level of self-perceived cultural responsiveness of entry-level physiotherapy students during their training and explore the factors that might predict these levels. This study was a cross-sectional study of physiotherapy students from nine universities across Australia and NZ. Factors explored included age, gender, self-identified ethnoculture, number of weeks of clinical placements attended, prior education related to culture or cultural responsiveness, speaking another language other than English, religious affiliation, living in a culturally diverse area, dogmatism score, and social desirability score. Data were collected using the following valid and reliable online self-administered questionnaires: The Cultural Competence Assessment (CCA) tool, Altemeyer's Dogmatism scale, and the Marlowe-Crowne social desirability scale-short form.

A total of 817 (19% response rate) students participated in this study. Physiotherapy students perceived they had moderate levels of cultural responsiveness with a mean (standard deviation) on the CCA tool of 5.15 (0.67). Using multiple regression analyses, fewer weeks of clinical placement attended, lower levels of dogmatism, and higher social desirability were significant predictors of greater self-perceived cultural responsiveness. Additionally, fourth-year undergraduate students had significantly lower self-perceived cultural responsiveness scores (CCA score: 4.94 (0.60)) than first-year (CCA score: 5.24 (0.67)) and second-year (CCA score: 5.25 (0.70)) students, respectively ($p < 0.05$). Overall, the findings provide educators with insights into the level of self-perceived cultural responsiveness in physiotherapy students in Australia and NZ. The results suggest that students begin to realise their limitations in their knowledge, attitudes, and behaviours related to cultural responsiveness in the later years of their degree. In this sense, curricula could be

structured to support the development of culturally responsive practice in the later years, when students have insights into their culturally responsive practice development needs and are perhaps ready to learn. The results also indicate that factors such as dogmatism and social desirability should be considered when supporting the development of culturally responsive practice in students.

Study three explored the perceptions and experiences of physiotherapy clinical educators when facilitating the development of cultural responsiveness in physiotherapy students during clinical learning. This was a qualitative study guided by a phenomenological framework. Fourteen physiotherapy clinical educators participated in semi-structured in-depth interviews, which were audio-recorded, transcribed, and then thematically analysed. The results indicated that clinical educators' perceived approach to facilitating cultural responsiveness was a reactive process. Specifically, cultural responsiveness was not prioritised as an expected learning outcome, was addressed unintentionally in certain circumstances, and viewed as an added layer of complexity for learning and teaching. When cultural responsiveness was addressed, this often focused on facilitating generic communication skills. The results provide insight into how clinical educators support students to work effectively with people from CALD communities. The findings indicate a missed opportunity to facilitate the development of cultural responsiveness during clinical learning, and that clinical educators require guidance and support on how to integrate cultural aspects in their learning activities.

Study four explored new graduate physiotherapists' perceptions and experiences of working with people from CALD communities through a qualitative study guided by a

phenomenological framework. Seventeen new graduate physiotherapists participated in semi-structured in-depth interviews, which were audio-recorded, transcribed, and thematically analysed. The findings suggest that new graduate physiotherapists felt challenged when they encountered people from CALD communities. While there were pockets of patient-centred care, and they had good intentions, their approach to care was limited as there was minimal integration of their patients' cultural perspectives into their physiotherapy management approaches. Their perceived approach was unidirectional and anchored in a western healthcare framework, with superficial strategies for cultural adaptation used. Perceptions that people from CALD communities were passive recipients to healthcare also underpinned their practices. The results suggested that new graduates need ongoing support and training to effectively integrate cultural perspectives into their care and adapt practice for people from CALD communities.

Overall, this is the first cohesive body of work investigating entry-level physiotherapy curricula and the development of cultural responsiveness. Viewed together, the findings indicate limitations in how physiotherapy students are supported in their development of cultural responsiveness and new graduates' capability to work effectively with people from CALD communities. Based on the findings, this thesis argues that there needs to be a broader shift in how healthcare and physiotherapy are perceived to facilitate culturally responsive practice and education. Additionally, a number of opportunities for curricula transformation to ensure that cultural responsiveness is fostered in students have been identified. Finally, recommendations to guide the development of cultural responsiveness through

education and practice are provided for the profession, entry-level physiotherapy programs, and future research.

Chapter One

Cultural diversity and health

This first chapter provides an overview of the sociocultural environment and demographics in Australia. In particular, this chapter presents the history of migration and associated governmental policies that have shaped Australia's multicultural population. This chapter then highlights the challenges arising from Australia's culturally diverse society with a focus on the health of people from culturally and linguistically diverse (CALD) communities. Overall, the objective of this chapter is to contextualise the current issues related to the health and healthcare delivery for people from CALD communities in Australia.

1.1 Cultural diversity in Australia

Australia is a country rich in cultural heritage and diversity. Aboriginal people are the first peoples who have lived on the land for at least 50,000 years (Dudgeon et al., 2010). Prior to British colonisation, the Aboriginal population was thought to have been between 300,000 and 1.5 million, consisting of approximately 600 different tribes, and speaking more than 260 distinct languages with 500 dialects (Australian Bureau of Statistics [ABS], 2008; Dudgeon et al., 2010; Jalata, 2013). Following colonisation in 1788, the Aboriginal population declined dramatically due to violence and disease, and as a consequence of government legislation, they were dispossessed from their land, family, language, and culture (Jalata, 2013). While the decline of the Aboriginal population continued well into the 20th century, at the same time, the population of Australia grew as a result of successive waves of migration (ABS, 2008; Mence et al., 2015).

The past 230 years of migration have led to considerable changes in the ethnocultural composition of the Australian population. Historical and socio-political factors and changes in government priorities through immigration policies and programs have influenced the patterns of migration (Jupp, 2007; Mence et al., 2015). From the start of British colonisation in 1788 and throughout the early-mid 19th century, the majority of migrants were from Britain and Ireland. This was due to the British convict settlement, which occurred from 1788 to 1868, and also from British authorities introducing assisted migration schemes that deliberately aimed to encourage voluntary migration from Britain and Ireland (Jupp, 2007).

The discovery of gold in the 1850s brought an influx of large numbers of arrivals into Australia, which significantly changed the nature of migration (Mence et al., 2015). A substantial number of non-European migrants, especially from China, arrived in Australia searching for gold and seeking labour (Jupp, 2007). During this period, negative societal attitudes towards non-European migrants, and the favouring of a homogenous 'white' Australia led to the implementation of immigration policies restricting permanent settlement and entry of non-European migrants into Australia (Jupp, 2007). The reform of immigration policies occurred following the federation of the Commonwealth of Australia in 1901. The government implemented a framework of legislation that eventually became known as the 'White Australia Policy' (Table 1.1) (Cooper, 2012; Kendall, 2007). Under this policy, immigration remained selective and based on a firmly established racial hierarchy (Langfield, 1999).

Table 1.1 Legislative framework of the White Australia Policy

Legislation	Description
Immigration Restriction Act 1901	Prohibited entry to people who failed to pass a 'dictation test' of 50 words in a European language. The dictation test was used to exclude non-Europeans and 'undesirable' applicants.
Pacific Island Labourers Act 1901	Prohibited people from South Sea Islanders from entering Australia. The act sought to reduce the number of South Sea Islanders working in sugar industries in Queensland and New South Wales. Under this act, forcible repatriation was enacted.
Naturalization Act 1903	Introduced conditions by which migrants could be granted naturalisation and attain the rights and privileges of British people. The act excluded non-Europeans from bringing their family to Australia.

Data source: Cooper (2012); Immigration Restriction Act 1901 (Cth); Naturalization Act 1903 (Cth); Pacific Island Labourers Act 1901 (Cth)

Under the 'White Australia Policy', European migrants were not prohibited from settling in Australia. However, an increase in European arrivals after the First World War resulted in the limitation of specific European nationalities considered to be less desirable than the British such as those from Greece, Malta, Yugoslavia, and Italy (Langfield, 1999).

The 'White Australia Policy' remained unchanged until after the Second World War. Aims to stimulate economic growth through the expansion of the workforce, and concerns about Australia's vulnerability to invasion prompted an agenda to increase the population (Jupp, 2007; Ongley & Pearson, 1995). At the time, the Australian government introduced a large-scale immigration program to encourage and assist immigration (Mence et al., 2015). Assisted immigration schemes prioritised migrants

from Britain, and then Northern Europe when recruitment from Britain became difficult (Ongley & Pearson, 1995).

In 1947, Australia signed an agreement with the International Refugee Organisation to settle people under the Displaced Persons Scheme, which saw an increase in the number of arrivals from other European countries (Jupp, 2007; Mence et al., 2015). By 1954 more than 170,000 displaced persons arrived in Australia from countries across Eastern and Southern Europe (Ongley & Pearson, 1995; Price, 1986). Migrants were encouraged to 'assimilate' into Australian society and adopt existing cultural norms and become indistinguishable from the Australian-born population (Jupp, 2007; Koleth, 2010). While dominant British societal attitudes persisted, the increase in migration from European countries made room for community acceptance of a more diverse population. By 1961, nine per cent of the Australian population were non-British and predominantly from Italy, Germany, Netherlands, Greece, and Poland (ABS, 1961). Throughout the 1960s, the administrative and policy framework that supported the 'White Australia Policy' approach to immigration was slowly dismantled (Wilson & Raymer, 2017).

A new government in the early 1970s led to dramatic changes to the pattern of migration. These changes were influenced by the government's commitment to take a non-racially based immigration approach (Jupp, 2007). By 1973 a series of amendments to immigration policies saw the legal end to the 'White Australia Policy' (Mence et al., 2015; Ongley & Pearson, 1995). Reforms to the immigration policies led to the diversification of immigration from countries beyond Europe. As such, the geographical scope of refugee protection was broadened, which led to a large

number of new arrivals from Indo-China, the Middle East, and Latin America (Hugo, 2002; Price, 1986). These changes broke the longstanding pattern of restricting migration largely to Anglo-Celtic people (Hugo, 2002). Additionally, government policy also changed from a notion of 'assimilation' towards a policy of 'integration' (Koleth, 2010; Mence et al., 2015). This change in policy reflected a greater awareness of the difficulties experienced by new migrants and an acceptance that they could integrate into Australian society without losing their national identities (Ho, 2013; Koleth, 2010). Overall, throughout the 1970s to 1990s, waves of migration shifted from predominantly Europeans to include greater numbers from South-East Asia, Aotearoa New Zealand (NZ), Africa, the Middle East, and the Americas (Wilson & Raymer, 2017). Figure 1.1 demonstrates the changes in the country or region of birth of migrants throughout the 20th century.

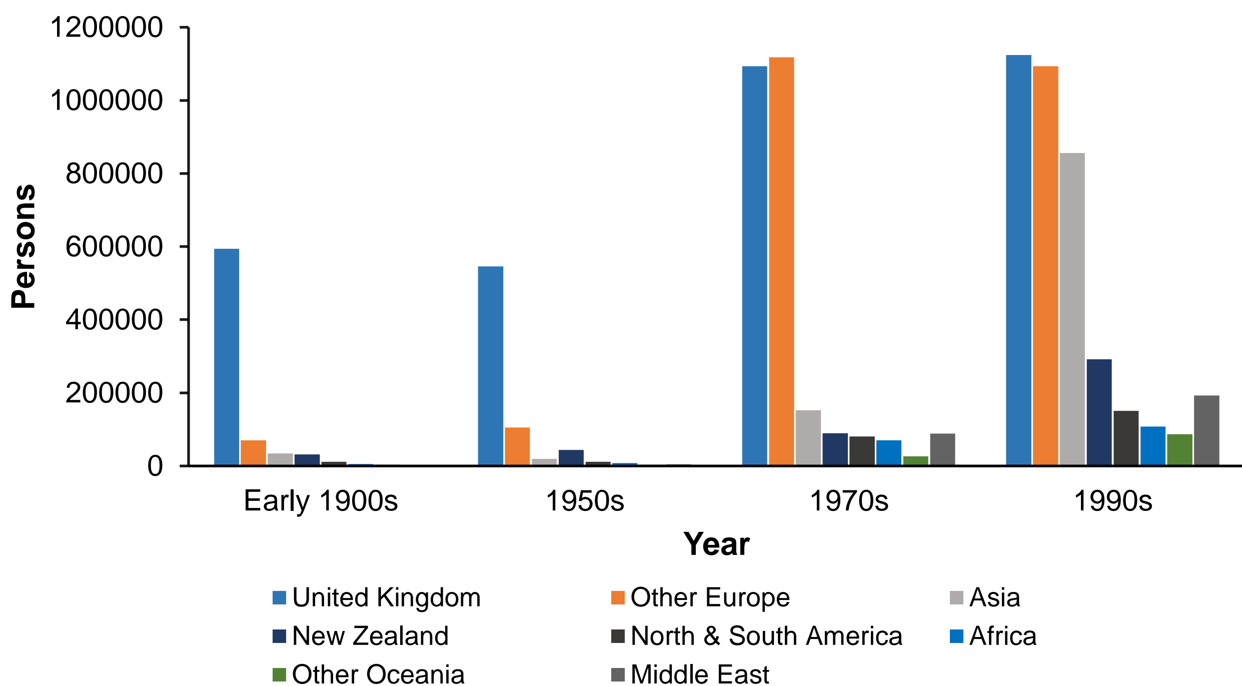


Figure 1.1 Country and region of overseas-born population in Australia throughout the 20th century. *Data source: ABS (1911, 1947, 1971, 1996).*

By the end of the 20th century, policy frameworks around immigration were focused primarily on building a multicultural society (Mence et al., 2015). Multiculturalism was used to describe the existence of many cultures in Australian society and adopted as a public policy to respond to migrant settlement and the increasing ethnocultural diversity (Koleth, 2010). Underpinning multiculturalism policies is the commitment to the right of all Australians to maintain and develop their cultural identities and receive social justice (Ho, 2013). For example, the Access and Equity Strategy introduced in the late 1980s aimed to improve access to government services and programs for culturally diverse communities who were non-English speaking (Ho, 2013). Nevertheless, the concept of multiculturalism has remained a topic of public and political debate since its inception (Koleth, 2010). These debates have been influenced domestically by public fears about the threat to social cohesion from the increasing ethnocultural diversity, and internationally, such as the threat of terrorism (Koleth, 2010). Consequently, views about multiculturalism continue to shape the political agenda and policies around immigration (Ho, 2013).

1.2 Contemporary multicultural Australia

Australia's rich migration history has significantly transformed Australia's population. Today, Australia is one of the most culturally diverse nations in the world (ABS, 2017). Since 2001, migration has accounted for more than half the increase in population growth compared to natural increase (a measure of excess births over deaths) (ABS, 2019). According to the Australian Census of Population and Housing completed in 2016, over 300 ancestries and 300 languages were identified (ABS, 2017). More than 26 per cent of the population were born overseas, and 21 per cent of the population spoke a language other than English at home (ABS, 2017). While

the United Kingdom (UK) remains the top country of birth for migrants, the proportion of arrivals from non-European countries have continued to increase significantly over the past decade (ABS, 2017).

Table 1.2 outlines the top ten countries of birth for Australia's overseas-born population in 2006 and 2016. The coloured lines link the leading countries of birth in 2006 with those in 2016. The blue line indicates that the ranking for the country of birth remained the same in 2016 compared to 2006. The green line indicates that the ranking in 2016 increased compared to 2006. The red line indicates that the ranking in 2016 decreased compared to 2006. Overall, there was a greater number of migrants from South and South-East Asia and a decrease in the number of migrants from European countries in 2016 compared to 2006.

Table 1.2 Top ten countries of birth for the overseas-born population in 2006 and 2016

Rank	%*	2006	2016	%*
1	23.5	United Kingdom	United Kingdom	14.7
2	8.8	New Zealand	New Zealand	8.4
3	4.7	China	China	8.3
4	4.5	Italy	India	7.4
5	3.6	Vietnam	Philippines	3.8
6	3.3	India	Vietnam	3.3
7	2.7	Philippines	Italy	2.8
8	2.5	Greece	South Africa	2.6
9	2.4	Germany	Malaysia	2.2
10	2.4	South Africa	Sri Lanka	1.8
	22.2	% of overseas-born population	% of overseas-born population	26.3

%: Percentage
** percentage based on the proportion of the overseas-born population*
Data source: ABS (2017)

While over a quarter of Australia’s population were born overseas, the geographic dispersion across Australia is variable, with specific areas more culturally diverse than others (ABS, 2017). In 2016, 61 per cent of the people born overseas lived in the states of New South Wales (33.6%) and Victoria (27.3%) (ABS, 2017). Eighty-three per cent lived in a capital city, with Sydney having the largest population of all capital cities, followed by Melbourne (ABS, 2017). Sydney and Melbourne are also the two major metropolitan regions where past and recent refugees have been settled (Refugee Council of Australia, 2014).

Today, Australia is described as culturally and linguistically diverse (Sawrikar & Katz, 2008). Although Aboriginal and Torres Strait Islander peoples are part of Australia's culturally diverse population, they are not included in the CALD descriptor (Sawrikar & Katz, 2009). Their experiences, perspectives, requirements, and needs as the First Peoples are unique and significantly different from the CALD population. Thus, they should be considered and discussed separately, rather than under the framework of CALD (Cultural and Indigenous Research Centre Australia, 2017; Sawrikar & Katz, 2009). As this thesis focuses on Australia's CALD population, the information discussed henceforth does not include references regarding Aboriginal and Torres Strait Islander peoples.

1.3 Health challenges arising from Australia's transition to a culturally diverse nation

One of the major challenges that Australia faces is providing healthcare to a culturally and linguistically diverse nation. Cultural and linguistic factors create a range of influences that have an ongoing impact on physical and mental health status and needs throughout the life course. The health issues associated with people from CALD communities have been a longstanding concern in Australia (Rao et al., 2006; Renzaho, 2016). This section outlines the health profile and the factors that influence the health of people from CALD communities in Australia. Additionally, as the health statistics and research related to people from CALD communities are generally reported in terms of 'migrant populations' based on country of birth (Australian Institute of Health and Welfare [AIHW], 2018), this section focuses on the data for CALD migrant groups.

1.3.1 The health profile of Australia's CALD migrant population

The rigorous pre-migration health screening policy along with immigration policies favouring tertiary education, occupational skills and wealth, since the late 1900s, are thought to explain the phenomenon known as the 'healthy migrant effect' (Akresh & Frank, 2008; Antecol & Bedard, 2006; Renzaho, 2016). This phenomenon suggested that migrants had a lower incidence of cancer and chronic diseases and lower cardiovascular disease mortality and hospitalisation rates compared to the Australian-born population (Biddle et al., 2007). However, research suggests that the healthy migrant effect diminishes with the length of residence, approximating and, among some migrant groups, overtaking the health profile of the Australian-born population (Biddle et al., 2007; Jatrana et al., 2014; Jatrana et al., 2018). One reason

for this deterioration in health is explained by the acculturation hypothesis, where migrants with protective health practices adopt the host countries' cultural practices (Lassetter & Callister, 2009).

While many studies demonstrate the health advantage of migrants (Lassetter & Callister, 2009), the relevance of the healthy migrant effect has been criticised for several reasons (Renzaho, 2016). First, methodological flaws related to data collection potentially underplay the magnitude of health issues for migrants (Renzaho, 2016). Migrants' participation in research is often low, resulting in them being under-represented in the health datasets and research (Renzaho et al., 2016). Second, mortality and morbidity data do not include migrants returning home due to illness to convalesce or possibly, to die (Renzaho, 2016). Third, studies analysing the 'healthy migrant effect' often do not adjust for the influence of socio-demographic and cultural and linguistic factors (Renzaho, 2016). Finally, the 'healthy migrant effect' may not apply to refugee and humanitarian migrants who often have been exposed to trauma (Renzaho, 2016).

When health statistics of migrants are viewed as a collective, there tends to be no difference in health outcomes compared to their Australian-born counterparts (Jatrana et al., 2018; Sarich et al., 2015). However, when examined according to specific subgroups, variable health issues emerge. In general, migrants from countries where English is not the primary language were found to be disadvantaged compared to the Australian-born population in terms of physical, mental, and self-assessed health (Jatrana et al., 2018). When migrant groups were subcategorised further, variable health profiles were reported. For example, when viewed by region

or country of birth, migrants from the Middle East had higher risks of physical inactivity and chronic disease compared to the Australian-born population (Sarich et al., 2015; Shamshirgaran et al., 2015). On the contrary, migrants from North-East Asia had a lower risk of cardiovascular disease compared to the Australian-born population and migrants from other Asian regions (Guo et al., 2015).

A snapshot of the health profile of migrant groups by region or country of birth compared to the Australian-born population is presented in Table 1.3. The results in Table 1.3 are a summary of population-based studies that investigated the incidence and prevalence of health outcomes in CALD migrant groups (Abouzeid et al., 2013; Brijnath et al., 2020; Dassanayake et al., 2009, 2011; Guo et al., 2015; Gupta et al., 2015; Hardy et al., 2019; Hodge et al., 2004; Jatrana et al., 2018; Joshi et al., 2017; Sarich et al., 2015; Shamshirgaran et al., 2015). The results are presented as the risk of having a health outcome compared to the Australian-born population. The risk is either higher (↑), lower (↓) or comparable (=). As can be seen from the table, CALD migrant communities in Australia generally have a higher risk of physical inactivity, diabetes type 2, cardiovascular disease risk, and psychological distress. However, health profiles are variable across ethnocultural groups.

Table 1.3 Health profile of CALD migrant groups by region or country of birth

Region or country	Health outcomes				
	Physical inactivity	**Overweight and Obesity**	**Diabetes type 2**	**CVD risk**	**Psychological distress**
Middle East	↑	↑	↑		↑
North-East Asia	↑	↓		↓	
South-East Asia	↑	↓	↑	↑	
Southern & Central Asia	↑		↑	↑	↑
Africa (North & other)			↑		↑
South-East Europe	↑		↑	↑	↑
North-West Europe	=	=	=	=	=

CVD: cardiovascular disease; (↑): higher risk; (↓): lower risk; (=): comparable to Australian-born population. Data source: Abouzeid et al. (2013); Brijnath et al. (2020); Dassanayake et al. (2009, 2011); Guo et al. (2015); Gupta et al. (2015); Hardy et al. (2019); Hodge et al. (2004); Jatrana et al. (2018); Joshi et al. (2017); Sarich et al. (2015); Shamshirgaran et al. (2015).

Further, refugees and asylum seekers, a subsection of the CALD population, are particularly vulnerable (AIHW, 2018). People from refugee backgrounds are likely to have experienced poor living conditions, poverty, food insecurity, disruption of basic services, and possibly significant human rights violations, trauma, or torture (Kisely et al., 2002; Taylor & Lamaro Haintz, 2018). These circumstances place them at an increased risk of complex physical and mental health conditions. Indeed, refugees have been found to have significantly higher rates of mental health problems such as anxiety, depression, and post-traumatic stress disorder compared to the Australian-born population (Schweitzer et al., 2011; Shawyer et al., 2017). Further, higher rates of physical morbidity and chronic pain are reported and often associated with psychological distress, torture or trauma (Momartin et al., 2004; Schweitzer et al., 2011; Tiong et al., 2006).

Overall, the data suggests that Australia's CALD migrant population have poorer health outcomes than the Australian-born population. Health outcomes also differ among CALD migrant groups, with certain groups having more disadvantages compared to others. The differences in health outcomes among people from CALD communities may be explained by the different cultural and linguistical factors, socio-demographic characteristics (age, gender, socioeconomic status, employment, education), and the environment that together influences lifestyles, practices, and health-seeking behaviours (Bastos et al., 2018; Taylor & Lamaro Haintz, 2018). The common factors reported to influence healthcare service engagement among people from CALD communities will also have an impact on health outcomes (McGibbon et al., 2008).

1.3.2 Factors influencing healthcare service engagement of people from CALD communities

Access to healthcare services is an important determinant of health (McGibbon et al., 2008). Access to healthcare is defined as the opportunity to reach and obtain appropriate services to have healthcare needs fulfilled (Levesque et al., 2013). Factors that influence healthcare service access are related to the individual, social and physical environments, and the characteristics of the healthcare system, organisations, and health professionals (Levesque et al., 2013). People from CALD communities are known to underutilise preventative and rehabilitation health services, or delay seeking help (Parajuli & Horey, 2019; Taylor & Lamaro Haintz, 2018; Zhou, 2016). For example, research has demonstrated reduced participation in breast and bowel cancer screening services (Phillipson et al., 2019), cardiac rehabilitation (Haghshenas et al., 2011), physical activity (Caperchione et al., 2009),

and in the uptake of specialist disability services (Zhou, 2016) by people from CALD communities.

People from CALD communities are known to experience numerous challenges accessing, utilising and receiving adequate healthcare, which places their health at further risk. Commonly reported and identified challenges relate to language or communication barriers, cultural differences, and health professional attitudes, bias, and prejudice (Alzubaidi et al., 2015; Henderson & Kendall, 2011; Sheikh-Mohammed et al., 2006; Taylor & Lamaro Haintz, 2018).

1.3.2.1 Language and communication barriers

Verbal and written language issues may arise before individuals from CALD communities engage with the healthcare system. Limited translated material about healthcare services and health-related information may make it difficult for individuals from CALD communities to understand and navigate the healthcare system (Alzubaidi et al., 2015; Butow et al., 2010; Harrison et al., 2019). With limited information, this may mean that individuals delay seeking appropriate healthcare when required. For example, Harrison et al., (2019), in their study of experiences of individuals from four major language groups (Arabic, Mandarin, Turkish and Dari) in Western Sydney, reported that participants experienced difficulties, as they were confused and uncertain regarding when and how to access services with the lack of language-specific guidance. Similarly, Alzubaidi et al. (2015), found that Arabic-speaking individuals in Melbourne reported difficulties navigating and accessing Anglo-centric healthcare systems due to their limited reading skills in English as well as in the Arabic language.

During the healthcare encounter, not being able to communicate in a common language may lead to anxiety, distress, and frustration for people from CALD communities (Butow et al., 2010; Harrison et al., 2019; Silva & Dawson, 2004; Taylor & Lamaro Haintz, 2018; White et al., 2019). Not being able to effectively explain health concerns with health professionals, and misunderstandings of diagnosis and management have been identified in a number of studies (Alzubaidi et al., 2015; Butow et al., 2010; Cyril et al., 2017; Harrison et al., 2019; Sheikh-Mohammed et al., 2006; Silva & Dawson, 2004; Taylor & Lamaro Haintz, 2018; White et al., 2019). Also, people from CALD communities with low English language proficiency were found to be at risk of being less informed by care processes, or overloaded with information in a short period of time when interpreters were present (White et al., 2018). Overall, the factors identified above may result in non-adherence, delay, or avoidance in seeking help or accessing healthcare services.

Accurate and timely language interpretation is central to facilitating engagement between patients and health professionals (Karliner et al., 2007). While the public healthcare system in Australia provides professionally accredited interpreter services, these services are reported to be underutilised by health professionals (Taylor & Lamaro Haintz, 2018; White et al., 2018; White et al., 2019). Perceptions that interpreters cause miscommunications and feelings of mistrust towards interpreters have been reported by health professionals and may be why professional interpreters are underutilised (Lee et al., 2005; Minnican & O'Toole, 2020). Instead, prioritising and relying on family members is common (White et al., 2019). However, relying on family members may lead to suboptimal care and

engagement in services due to miscommunication (Karliner et al., 2007). While family members have good intentions, their unfamiliarity with the medical context and vocabulary may lead to the misinterpretation of key concepts, messages, or instructions (Ho, 2008; Karliner et al., 2007).

On the other hand, negative experiences with interpreters have also been reported by people from CALD communities, influencing the quality of care (Butow et al., 2010; Harrison et al., 2019; Henderson & Kendall, 2011; Komaric et al., 2012). For example, Harrison et al (2019) found that requesting interpreters delayed access to care due to difficulties with bookings. Additionally, participants in the same study noted that when interpreters did not attend the full length of the consultation session, there arose confusion about the content and implications of the consultation (Harrison et al., 2019).

1.3.2.2 Cultural differences

Cultural differences have been identified by patients and health professionals as barriers to accessing and engaging in the Australian healthcare system (Alzaye et al., 2019; Alzubaidi et al., 2015; Grandpierre et al., 2018; Komaric et al., 2012; Maneze et al., 2018). The Australian healthcare system is situated in a western healthcare framework, with a strong emphasis on scientific knowledge and reasoning, and evidence-based practice (Nicholls & Gibson, 2010; Norris & Allotey, 2008; Salamonsen & Ahlzén, 2017). Health professionals are also trained to practice within this healthcare framework, which would benefit individuals who identify with the dominant western healthcare framework, but may fail to engage people from CALD communities who have different expectations and underlying cultural norms

that do not align (Johnstone & Kanitsaki, 2008b; Norris & Allotey, 2008; Sawrikar & Katz, 2008).

Different cultural beliefs and understanding about health and illness, health-seeking behaviours, family roles, religion, and lifestyle have been identified as barriers (Abouzeid et al., 2013; Butow et al., 2010; Caperchione et al., 2011; Choi et al., 2017; Gupta et al., 2017; Renzaho et al., 2017; Yoshikawa et al., 2019). For example, the explanatory model of pain or illness among Vietnamese (am and duong) migrants, which is based on the imbalance of hot and cold energies in the body, contrasts with traditional western-based pain interventions (Brady et al., 2017). Further, Choi et al. (2017) observed that Chinese migrants experienced multiple barriers to accessing the Australian diabetes care services, which was complicated by the mismatch in expectations about the services. That is, Chinese migrants were observed to be collectivist-oriented, relying on their family and community, compared to the entrenched western practice of taking an individualistic approach to diabetes management (Choi et al., 2017). Overall, the differences in cultural perspectives about health and illness may lead to misunderstandings between patients and health professionals and disengagement in therapy.

1.3.2.4 Health professional attitudes, bias, and prejudice

Perceived experiences of racism, prejudice or stereotyping are associated with poor health outcomes and quality of care (Bastos et al., 2018; Benkert et al., 2006; Lorie et al., 2017; Paradies, 2006; Paradies et al., 2015; Renzaho et al., 2013). For example, greater self-reported experiences of racism were associated with poor mental health outcomes and health behaviours (Paradies, 2006). The perceived

experience of racial and linguistic discrimination has also been found to be associated with poorer ratings of patient care (Lorie et al., 2017), greater barriers to accessing healthcare (Bastos et al., 2018), and mistrust in health professionals (Benkert et al., 2006; Renzaho et al., 2013).

Studies exploring the lived experiences and perception of people from CALD communities have also found that at times, patients feel discriminated against or treated unfairly by health professionals due to their ethnoculture (Harrison et al., 2019; Henderson & Kendall, 2011; Komaric et al., 2012; Taylor & Lamaro Haintz, 2018). These negative experiences with healthcare services likely deter patients from accessing and engaging with the mainstream health system in Australia (Henderson & Kendall, 2011).

On the other hand, health professional attitudes, bias, or prejudice against people from CALD communities have been found to influence health professional interactions, decision making, and clinical judgement (Drewniak et al., 2017; Fitzgerald & Hurst, 2017; Green et al., 2003; Hagiwara et al., 2017; Hall et al., 2015; Johnstone & Kanitsaki, 2008a; Kennel et al., 2019; Lee et al., 2019; Lorie et al., 2017). For example, in a qualitative study involving 145 Australian healthcare workers, Johnstone and Kanitsaki (2008a) found that English language proficiency was used as a social marker to classify, categorise, and negatively evaluate people from CALD communities. These negative evaluations were used to justify the exclusion of patients from healthcare services and resources (Johnstone & Kanitsaki, 2008a). Additionally, several studies have found that health professionals who demonstrated implicit preferences for Caucasian, white or lighter skin

individuals were found to be less patient-centred and more verbally dominant in their communication during cultural discordant encounters (Hagiwara et al., 2017; Lorie et al., 2017).

While there seems to be substantial evidence to suggest that the interactions, diagnosis, and treatment of people from CALD communities are implicitly biased, there are also limitations. Firstly, although the majority of studies support these results, a number of opposing findings have also been identified in all systematic reviews. The different findings suggest that aside from implicit bias, other contextual factors may influence how people from CALD communities are treated. Secondly, the heterogeneity in the conceptualisation or definition of terms such as race and ethnicity across individual studies creates challenges in comparing and interpreting results. Additionally, implicit attitudes or biases cannot be overtly observed or explicitly measured, making it difficult to assess. Although the implicit association test (IAT) is the most widely used and accepted measure of implicit bias, it is also the most controversial. That is, major psychometric problems have been identified for the IAT (Carlsson & Agerström, 2016; Fiedler et al., 2006). Finally, the measurements of implicit bias across the studies generally had a narrow focus on attitudes towards black/white and dark/fair-skinned people. Therefore, results may only be relevant for ethnocultural groups with specific physical characteristics.

1.4 Chapter summary

With a diverse cultural environment, being able to meet the health needs of a heterogeneous group of individuals poses a constant challenge for healthcare services in Australia. This chapter has provided a historical context for the culturally diverse population in Australia. In this environment, research suggests that Australia's CALD populations have different health needs and health risks compared to the Australian-born population. These differences are likely due to the challenges of accessing, utilising and engaging with the healthcare system. To ensure that people from CALD communities receive equitable and effective healthcare, cultural responsiveness is one strategy to address the health disparities experienced by people from culturally diverse backgrounds.

Chapter Two

Cultural responsiveness

This chapter provides an overview of the concept and definition of cultural responsiveness. Important components and characteristics of cultural responsiveness are identified to provide an understanding of how culturally responsive healthcare can be facilitated. This is drawn from the literature across multiple healthcare disciplines. The chapter then concludes with an overview of how cultural responsiveness is incorporated into policies in the Australian healthcare context, with a specific focus on physiotherapy.

2.1 Terminology

A number of related terms and concepts, often used synonymously, have been used to describe the ability to provide culturally appropriate and sensitive health care (Grant et al., 2013; Harrison & Turner, 2011). The most common of these in the healthcare literature include cultural competence, cultural safety, and cultural responsiveness. These will each be described and discussed below.

2.1.1 Cultural competence

The term ‘cultural competence’ emerged in the late 1980s. To date, there is no consensus for a single definition for cultural competence. The most commonly cited definition describes cultural competence as *“a set of congruent behaviours, attitudes, and policies that come together in a system, agency or amongst professionals and enables that system, agency, or those professionals to work effectively in cross-cultural situations”* (Cross et al., 1989, p. 4). Another common definition by

Betancourt et al. (2003) describes cultural competence as *"the ability of systems to provide care to patients with diverse values, beliefs, and behaviours, including tailoring delivery to meet patients' social, cultural, and linguistic needs"* (p. 5).

Multiple models that conceptualise cultural competency have also been developed in health. In general, these models centre on the development of knowledge, awareness, attributes and skills (Campinha-Bacote, 2002; Papadopoulos et al., 1998; Purnell, 2019). Knowledge includes learning about other cultures. Awareness includes developing insight into one's own cultural beliefs, values, and biases as well as of patients through self-reflection. Skills described in the literature often include effective communication, rapport building, respect, active listening, advocacy, and the ability to adapt practices, assessments and interventions. Additionally, cross-cultural encounters are identified as fundamental for improving knowledge and skills (Campinha-Bacote, 2002).

Cultural competence remains the most commonly used term in healthcare literature. Despite the popularity of this concept, shortcomings have been identified by many authors across different healthcare disciplines (Beagan, 2015; Carpenter-Song et al., 2007; Kirmayer, 2012; Kumagai & Lypson, 2009; Kumas-Tan et al., 2007; Pon, 2009). While some authors argue that cultural competence is an ongoing learning process, the very notion of 'competence' implies fixed outcomes or that one can reach a testable end point (Beagan, 2015). Although this notion aligns with competency-based education, this perspective assumes that culture is static and homogenous, and risks reducing cultural competence to a 'laundry list' of attributes that pertain to specific ethnocultural groups (Beagan, 2015). Authors have also

argued that cultural competence promotes 'othering', where the therapist and the profession is depicted to be culturally neutral (Pon, 2009). This assumes that health professionals are from the dominant culture, and there is a risk that they will see people from CALD backgrounds as problematic, or that culture is a problem.

Commonly used models of cultural competence also assume that greater contact with culturally diverse populations enhances cultural competence. Evidence supports that contact alone does not lead to the development of cultural competence (Cumming-McCann & Accordino, 2005; Greer et al., 2007). Additionally, social power relations are ignored, and the multiple dimensions (social, cultural, economic and political) that influence health outcomes and experiences are not accounted for in the models or definitions (Beagan, 2015; Pon, 2009). For these reasons combined, cultural competence is not used in this thesis despite common usage.

2.1.2 Cultural safety

Cultural safety was originally conceptualised by Maori nurses in NZ in response to the poor health status of Maori people (Papps & Ramsden, 1996). Cultural safety is promoted primarily for use in the context of indigenous health (Anderson et al., 2003; Johnstone & Kanitsaki, 2007; Jull & Giles, 2012). The definition of cultural safety depends on the person or group experiencing the care (Nursing Council of New Zealand, 2011; Ramsden, 1993). As such, cultural safety *"is felt or experienced by a client when a healthcare provider communicates with the client in a respectful, inclusive way, empowers the client in decision making, and builds a healthcare relationship in which the client and provider work together as a team to ensure effectiveness of care."* (Jull & Giles, 2012, p. 72).

The concept of cultural safety overlaps with patient-centred care but has a central focus on power imbalances and discrimination, and the ongoing effects of European colonisation of lands with indigenous peoples (Beagan, 2015; Gerlach, 2012). Cultural safety necessitates a partnership between people of different cultures and requires individuals to critically reflect on professional assumptions and social power relations (Johnstone & Kanitsaki, 2007; Papps & Ramsden, 1996; Ramsden, 1993; Williamson & Harrison, 2010). Overall, rather than attending only to cultural practices, cultural safety emphasises the social, economic, and political contexts that shape individual experiences and outcomes (Gerlach, 2012; Papps & Ramsden, 1996).

One of the main criticisms of cultural safety is the applicability of the concept outside NZ (Gerlach, 2012; Johnstone & Kanitsaki, 2007; Williamson & Harrison, 2010). This is because cultural safety is situated in the bicultural context of the Maori and Pakeha (non-Maori) of NZ. A biocultural society is where two distinct cultures co-exist and are formally recognised as the dominant cultures (Hayward, 2012). The bicultural policy adopted by NZ influences the social practices, structures, and decisions of governments to ensure equity between the two cultural groups (Katherine, 2010). This policy framework is different for countries like Australia, where a multicultural policy is adopted. Australia's multicultural policy involves advocating for people's right to express their cultural identities and the acceptance of cultural differences (Koleth, 2010). Further, the discourse around cultural safety is predominately situated in a critical postcolonial context and focused on indigenous populations (Johnstone & Kanitsaki, 2007). Thus, there is uncertainty about how this approach would apply to the broader culturally diverse society or ethnocultural

communities that do not share a history of European colonisation (Gerlach, 2012; Williamson & Harrison, 2010).

2.1.3 Cultural humility

Coined by Melanie Tervalon and Jann Murray-Garcia (1998), cultural humility was developed after recognising the limitations of 'cultural competence' (Tervalon & Murray-Garcia, 1998). It was developed as a tool for training physicians in the delivery of culturally appropriate medical care (Danso, 2018). Cultural humility *"is a process of openness, self-awareness, being egoless, and incorporating self-reflection and critique after willingly interacting with diverse individuals. The results of achieving cultural humility are mutual empowerment, respect, partnerships, optimal care, and lifelong learning"* (Foronda et al., 2016, p. 213).

The key aspect of cultural humility is being committed to a life-long learning of culture, as an individual's cultural identity and worldviews are ever-changing (Tervalon & Murray-Garcia, 1998; Yeager & Bauer-Wu, 2013). Cultural humility places the health professional in a learning mode as opposed to maintaining power and knowledge about a patient's cultural experiences. In this sense, cultural humility encourages clinicians to explore and learn from patients (Danso, 2018). The other important emphasis of cultural humility is engaging in honest self-evaluation and self-critique about personal assumptions, beliefs, values and biases, and addressing the power imbalance inherent in the therapist-patient relationship (Hammell, 2013).

Compared to cultural competency and safety, the uptake of cultural humility has not been extensive. While the term 'humility' seems more appealing than 'competency',

the term humility has not been clearly defined in a cross-cultural context (Danso, 2018). Further, the term ‘cultural humility’ is not commonly used in Australian policy and legislation.

2.1.4 Cultural responsiveness

Cultural responsiveness is defined as the capacity of healthcare services and professionals to respond situationally to the needs of people within sociocultural contexts (Babacan & Gill, 2012; William, 2007). The concept of cultural responsiveness has the same goal and shares many vital components with cultural competence, cultural safety, and cultural humility. Despite the overlap and similar intentions across the different concepts, the term cultural responsiveness is used throughout this thesis for the following reasons. First, the word 'responsiveness' emphasises relationships and conveys a dynamic and active process that occurs between health professionals and patients. Muñoz (2007) states that:

> *“Responsiveness conveys the give and take and the adjustments and reactions that occur when exploring and reacting to cultural aspects of care. Responsiveness also communicates a state of being open to the process of building mutuality with a client and to accepting that the cultural specific knowledge one has about a group may or may not apply to the person you are treating” (p. 274).*

This definition assumes that culture is situated within the interactions and relationships between individuals, their families, or communities. This aligns with the notion of culture being socially constructed and is shared through social interactions

(Kleinman & Benson, 2006; Lynam et al., 2007). Rather than being ‘competent’ or proficient in an unfamiliar culture, the term responsiveness implies the ability to accommodate to the cultural needs of individuals than being able to function without error (Muñoz, 2007). Furthermore, cultural responsiveness is not limited to a postcolonial perspective, nor focused predominately on indigenous populations like cultural safety. Finally, the term cultural responsiveness is consistent with government and departmental language in policy and legislative frameworks and other documents in Australia. Table 2.2 presents a broad array of government policies and documents that have adopted the term cultural responsiveness.

Table 2.1 Government policies and documents in Australia adopting the term cultural responsiveness

Government body or organisation	Government policies or documents
Australian Government	Charter of Public Service in a Culturally Diverse Society (1998) Aboriginal and Torres Strait Islander Health curriculum framework (2014) The multicultural access and equity policy guide (2018)
Indigenous Allied Health Australia	Cultural responsiveness in Action: An IAHA framework (2015)
New South Wales Government, Agency for Clinical Innovation	Consumer enablement guide: Culturally responsive practice
Queensland Government, Department of Local Government, Racing and Multicultural Affairs	Queensland multicultural policy: Our story, our future (2018)
Australian Commission on Safety and Quality in Health Care	Patient-centred care: Improving quality and safety through partnerships with patients and consumers (2011)
Victoria Government, Department of Health	Cultural responsiveness framework: Guidelines for Victoria health services (2011)
Government of South Australia, Department of Health and Ageing.	A framework for Active partnership with consumers and the community (2013)
Migrant and Refugee Health Partnership (Migration Council Australia)	Culturally Responsive Clinical Practice: Working with People from Migrant and Refugee Backgrounds Competency Standards Framework (2019)

The concept of cultural responsiveness has four different levels, and this includes the individual, professional, organisational, and systemic level (Figure 2.1) (Babacan & Gill, 2012; National Health and Medical Research Council (NHMRC), 2005). While addressing health disparities requires attention to cultural responsiveness at all levels, this thesis focuses on cultural responsiveness at the individual level.

Figure 2.1 The multi-levels and key aspects of cultural responsiveness.
Data source: NHMRC (2005)

At the individual level, cultural responsiveness involves the ability of health professionals to interact, communicate and empathise with how people from culturally diverse communities might perceive, think, behave and make judgements about their health (Babacan & Gill, 2012; Muñoz, 2007). Cultural responsiveness also involves being able to adjust or adapt practice to provide effective management (Muñoz, 2007). Overall, the development of cultural responsiveness in individuals requires long-term commitment, as it is a cyclical, ongoing learning process that involves continuous self-reflection (Babacan & Gill, 2012; Blanchet Garneau &

Pepin, 2015a; Muñoz, 2007; Werkmeister-Rozas & Klein, 2009). The learning process involves different stages and generally requires that individuals develop an awareness of the gap and limitations in their practice, before learning to modify or adapt their practice (Blanchet Garneau & Pepin, 2015a). Overall, the concept of cultural responsiveness used in this thesis is mainly based on the definition by Muñoz (2007), and on the literature that positions cultural responsiveness as a process grounded in reflection, action, and learning (Babacan & Gill, 2012; Blanchet Garneau & Pepin, 2015b; Henderson et al., 2018; Muñoz, 2007; Werkmeister-Rozas & Klein, 2009).

2.2 Components of cultural responsiveness

Four essential components of culturally responsive practice were identified for this thesis (Babacan & Gill, 2012; Blanchet Garneau & Pepin, 2015b; Henderson et al., 2018; Muñoz, 2007; Werkmeister-Rozas & Klein, 2009). These components are important skills or attributes required for culturally responsive practice to occur. The components include open-mindedness, generating cultural knowledge, critical self-reflection, and cultural adaptation. Understanding these components are important for facilitating the development of cultural responsiveness.

2.2.1 Open-mindedness

Open-mindedness is an important attribute and commonly identified as a pre-requisite for culturally responsive practice (Blanchet Garneau & Pepin, 2015b; Henderson et al., 2018; Muñoz, 2007). Open-mindedness involves being receptive to learning about new ideas and different perspectives that may conflict with personal opinions and beliefs (Price et al., 2015). Further, it also involves appreciating and

valuing that people have different knowledge, views, and beliefs and requires that health professionals maintain an open stance to different interpretations and recognise that the patient is the expert of their own experience (Muñoz, 2007).

2.2.2 Generating cultural knowledge

Cultural responsiveness is a process-oriented approach that goes beyond the notion of knowing culture-specific information about various groups (Muñoz, 2007). Instead, being responsive requires a conscious effort to explore cultural-specific information from individual patients and reflect in action about whether prior knowledge about a cultural group applies to the patient (Blanchet Garneau & Pepin, 2015b; Muñoz, 2007). This requires gaining skills in establishing trust, relationship building, and effective intercultural communication (Werkmeister-Rozas & Klein, 2009). In particular, communication in a manner that privileges patients' sociocultural context is important to elicit patients' cultural narratives (Gudykunst, 2003; Muñoz, 2007).

2.2.3 Critical self-reflection

Self-reflection is a crucial component of culturally responsive practice (Blanchet Garneau & Pepin, 2015b; Werkmeister-Rozas & Klein, 2009). Health professionals need to *"continuously examine themselves and their behaviour to determine how their attitudes and feelings influence their decision making"* (William, 2007, p. 11). Self-reflection goes beyond being aware of and understanding one's cultural background, stereotypes, and prejudice. Health professionals also need to reflect on the sociocultural factors that influence patients' experiences and healthcare encounters and critically reflect on the limitations of the profession, institutions, and existing social power relations (Werkmeister-Rozas & Klein, 2009).

2.2.4 *Cultural adaptation*

Adapting assessments and interventions are part of responding situationally to the information and reactions provided by the patient (Muñoz, 2007). Cultural adaptation involves establishing partnerships with patients and adjusting and changing interventions so that they hold cultural meaning for patients (Blanchet Garneau & Pepin, 2015a; Muñoz, 2007). In other words, the modification of evidence-based interventions to incorporate the patient's cultural perspectives, values and norms (Bernal et al., 2009). This approach has been suggested as an effective strategy to enhance patient engagement and reduce health disparities.

2.3 Cultural responsiveness in the Australian context

In Australia, there is a growing demand for cultural responsiveness as a result of policy and compliance requirements. Policy at all levels of government reflects a need to develop culturally responsive public services and provide appropriate services to a culturally diverse patient population. For example, the *Charter of Public Service in a Culturally Diverse Society* supports the government's commitment to ensure a nationally consistent approach to delivering culturally responsive public services (Department of Immigration and Multicultural Affairs [DIMA], 1998). The principles core to delivering culturally responsive services outlined in the charter include equity, access, and communication. These principles also align with the federal government policy entitled *Multicultural Access and Equity policy* (Commonwealth of Australia, 2018). This policy stipulates the obligation for Australian government departments and agencies to ensure services are accessible by all individuals, are responsive to their needs, and deliver equitable outcomes for

all individuals regardless of cultural and linguistic background (Commonwealth of Australia, 2018).

Health professional bodies and associations in Australia have also recognised cultural responsiveness as an important competency in practice. As such, competencies related to cultural responsiveness are included in the documents that outline the required knowledge, skills, and professional attributes for practice in the workforce. While not specific to any health profession, an example would be the newly developed C*ulturally Responsive Clinical Practice: Working with People and Migrant and Refugee backgrounds Competency standards framework* (Migrant and Refugee Health Partnership, 2019). This competency standards framework has been endorsed by a number of health professional bodies in Australia and provides a detailed and explicit list of practice outcomes specifically for working with CALD populations. This framework helps to inform the development of clinical education, professional development curricula, competency standards for health professionals, and embodies a benchmark to which all health professionals in Australia should aspire in their education and practice.

2.4 Cultural responsiveness and physiotherapy practice in Australia

Physiotherapy is not an exception when it comes to delivering culturally responsive healthcare services. Culture permeates every clinical encounter in physiotherapy. The physiotherapist and the person seeking care bring their own culture, and the context where care is provided adds another layer of culture. To register as a practicing physiotherapist in Australia, physiotherapists need to meet the competencies outlined in the *Physiotherapy Practice Thresholds in Australia and*

Aotearoa New Zealand (Physiotherapy Practice Thresholds) (Physiotherapy Board of Australia & Physiotherapy Board of New Zealand, 2015). These threshold competencies include professional behaviours, practices, and abilities required for initial and continuing registration as a physiotherapist in Australia and NZ.

The *Physiotherapy Practice Thresholds* also outlines the 'essential components' of practice that apply to the threshold competencies in the document. Specific to culturally responsive practice, physiotherapists should always *"consider each client as a whole, adopt client-centred and family/whānau focused (where relevant) approaches and prioritise cultural safety and cultural respect"* (Physiotherapy Board of Australia & Physiotherapy Board of New Zealand, 2015, p. 7). Additionally, sections in the *Physiotherapy Practice Thresholds* that explicitly identify components related to cultural responsiveness are presented in Table 2.2. Given these requirements, Australian universities also need to ensure that graduates meet the registration standards set out by the Physiotherapy Board of Australia before confirming the completion of their physiotherapy degree.

Table 2.2 Threshold competencies that relate to cultural responsiveness in the Physiotherapy Practice Thresholds

Role	**Key Competencies** *Registered physiotherapists in Australia and NZ are able to*:
1. Physiotherapy practitioner	1.1 Plan and implement an efficient, effective, **culturally responsive** and client-centred physiotherapy assessment
5. Collaborative practitioner	5.1 Engage in an inclusive, collaborative, consultative, **culturally responsive** and client-centred model of practice

Data source: Physiotherapy Board of Australia and Physiotherapy Board of New Zealand (2015)

2.4.1 Cultural responsiveness and entry-level physiotherapy programs in Australia

Entry-level physiotherapy programs in Australia are regulated to ensure that courses are appropriately structured to prepare graduates with the knowledge, clinical skills and professional attributes to practice as a physiotherapist in the Australian workforce. The Australian Physiotherapy Council is the accreditation authority responsible for ensuring that all entry-level programs meet the *Accreditation Standard for Physiotherapy Practitioner Programs (2016), (the Accreditation Standards)* (Australian Physiotherapy Council, 2016). The *Accreditation Standards* set out a list of criteria (minimum requirements) to be addressed by universities, including quality assurance, physical and financial resources, delivery of education/process of education, and performance of graduates (Australian Physiotherapy Council, 2016).

Similar to the *Physiotherapy Practice Thresholds*, the *Accreditation Standards* outline the broad criteria or components related to education and the development of cultural responsiveness. For example, under criteria 3.11, programs of study need to ensure that *"cultural responsiveness is integrated within the program and clearly articulated as required disciplinary learning outcomes, this includes Aboriginal and Torres Strait Islander peoples"* (Australian Physiotherapy Council, 2016, p. 5). Therefore, entry-level physiotherapy programs are required to design curricula to ensure that students and graduates are facilitated in their development of cultural responsiveness throughout their learning experience.

2.5 Chapter summary

Cultural responsiveness is a strategy for reducing the health disparities presented in people from CALD communities. Health professionals, including physiotherapists, are required to demonstrate cultural responsiveness in their practice. To ensure that physiotherapists do so upon entering the workforce, entry-level physiotherapy programs in Australia are obligated to ensure that curricula support the development of cultural responsiveness in students. Entry-level education is a critical time for supporting the development of the future workforce, to in turn positively impact on health disparities for people from CALD communities through culturally responsive practitioners. Thus, insight into the current design and delivery of learning experiences and student outcomes, and knowledge about new graduate capabilities in working with people from CALD communities is needed to understand whether the development of cultural responsiveness is adequately addressed during entry-level education.

Chapter Three

Literature review

This chapter presents a literature review relating to physiotherapy education, with a focus on cultural responsiveness. The literature review is divided into three sections. Each section reviews the literature related to different components of entry-level physiotherapy curricula. The first section (3.1) reviews the literature related to the delivery of learning and teaching in academic and clinical learning environments. The second section (3.2) reviews the literature related to student assessment of cultural responsiveness, and finally, the third section (3.3) presents a review of the literature related to new graduate physiotherapists' capabilities when working with people from CALD communities.

3.1 Learning and teaching in entry-level physiotherapy curricula and the development of cultural responsiveness

This section presents a review of studies assessing and exploring the physiotherapy curricula, focusing on learning and teaching related to the development of cultural responsiveness in physiotherapy students. Learning and teaching in the physiotherapy curriculum occurs in academic and clinical environments. These two components of the curriculum have fundamentally different learning and educational approaches. Therefore, the first part of this section provides a review of the literature related to curricula content and educational approaches in entry-level physiotherapy programs predominately in an academic learning environment. The second part presents a review of the literature of studies exploring learning and teaching, specifically in the clinical learning environment.

3.1.1 Curricula content and educational approaches in entry-level physiotherapy programs

An understanding of what is meant by 'curriculum' is needed when research is exploring current and proposed curriculum models. Many different perspectives and ways of conceptualising curriculum have been adopted by academics (Fraser & Bosanquet, 2006). The curriculum is typically understood as a formal plan of study that enables student learning and capability development and involves the process of making decisions about educational goals and how best to achieve them (Fraser & Bosanquet, 2006; Lovat, 2003). The curriculum includes the structure of content combined with educational approaches (teaching and assessment methods) that make up the program and student learning experiences. Ideally, the content of the

curriculum and educational approaches should be congruent with the goals or learning outcomes of the curriculum.

The inclusion of content and educational approaches in health education curricula is considered a crucial strategy to address the health disparities among people from CALD communities (Betancourt, 2003; Hamilton, 2009; McMahon et al., 2016; Seeleman et al., 2009). The type of content and educational approaches recommended for facilitating the development of culturally responsive practice has been an area of interest in the past two decades, particularly in medicine and nursing. Recommendations have been developed based on expert opinions, which have been used to assess the integration of content and educational approaches in curricula (Dolhun et al., 2003). In particular, content and educational approaches should be longitudinally integrated into curricula using multifaceted teaching methods, which includes a combination of didactic and practical approaches (Betancourt, 2003; Calvillo et al., 2009; Hamilton, 2009; Kumagai & Lypson, 2009; O'Connell et al., 2013; Rapp, 2006).

Using a cross-sectional design, studies have assessed how content and educational approaches related to developing cultural responsiveness in students have been integrated into medicine and nursing curricula (Azad et al., 2002; Dogra et al., 2005; Flores et al., 2000; Jernigan et al., 2016; Loudon et al., 1999; Lum & Korenman, 1994; Martin-Holland et al., 2003; Pinikahana et al., 2003). While the results vary between studies, most authors conclude that there is a need for a greater focus on cultural responsiveness within nursing and medical education. Although these results are valuable, learning is contextual and assumptions around culturally responsive

practice development in nursing and medical curricula should not be made for physiotherapy (Patton et al., 2013; Taylor & Hamdy, 2013). Thus, a review with a focus on physiotherapy education was deemed important as a base for the research in this thesis.

Insights into how content and educational approaches related to culture, cultural diversity, and cultural responsiveness are embedded in entry-level physiotherapy curricula would help determine whether education on culturally responsive practice is adequately addressed. The initial search, which was restricted to entry-level physiotherapy programs, and culture, cultural diversity, and cultural responsiveness, returned a limited yield of studies. Therefore, the search was expanded to include studies that had assessed physiotherapy curricula broadly. Expanding the search was conducted to capture studies that may have implicitly included learning material related to cultural responsiveness in other curricula areas and provide information about the research foci in physiotherapy education. Thus, the following section presents a review of studies that have investigated curricula content and educational approaches in entry-level physiotherapy programs. In particular, this review aimed to determine how curricula content and educational approaches related to fostering cultural responsiveness have been embedded in entry-level physiotherapy programs.

3.1.1.1 Search strategy and terms

A systematic search process was undertaken to ensure all relevant articles that evaluated or explored curricula content and educational approaches in entry-level physiotherapy programs anywhere across the world were captured. A global

perspective would allow an extensive and thorough understanding about the integration of curricula content and educational approaches related to cultural responsiveness. The literature search was conducted across five major electronic databases which targeted journals related to education and health science research (Table 3.1). The search terms applied to each of the databases are also presented in Table 3.1. Truncations, Boolean operators, and medical subject headings were used as appropriate for each database. Hand searching of the reference list of the articles included in the review was also performed by the primary researcher (MT) to identify additional applicable publications.

Table 3.1 Databases searched and search terms

Electronic databases	Cumulative Index to Nursing and Allied Health Literature (CINAHL) Educational Resources Information Centre (ERIC) Medical Literature Analysis and Retrieval System (MEDLINE) PsycINFO Scopus Google Scholar
Search terms	Physical therap* OR physiotherapy* (MeSH and non-MeSH) AND Curricul* OR program* OR educatio* OR course OR training OR undergraduate OR entry-level OR evaluat* OR assess* OR workshop OR instruct* OR teach* OR experience OR supervis* (MeSH and non-MeSH)

MeSH: Medical subject headings

3.1.1.2 Inclusion and exclusion criteria

Studies had to meet the following criteria to be included in the review:

- Be an empirical study that investigated curricula content and educational approaches integrated into entry-level physiotherapy programs. Entry-level

programs were defined as academic degrees that prepare learners to meet the minimum requirements for licensure or accreditation to practice in a profession such as physiotherapy (Higgs, Refshauge, & Elizabeth, 2001; Moffat, 2012). Entry-level programs may be undergraduate or graduate degrees and classified as bachelor's, master's or doctoral (extended master's) degrees (McMeeken, 2007; Moffat, 2012).

- Published in a peer reviewed journal. Peer reviewed journals were prioritised because they provided a standard of quality control checks on the information presented (Bornmann, 2011; Kelly et al., 2014). As such, the peer review process aims to ensure that the research is rigorous, coherent, uses past research, original, and adds to the existing literature (Kelly et al., 2014).
- Published between January 1980 and December 2019. The date was limited to 1980 as it was this time that physiotherapy education in developed countries transitioned into the university sector (McMeeken, 2007; Moffat, 2012).
- Full-text articles and written in English, as no funds were available for the translation of papers.

Studies were excluded from the review if they were one of the following:

- Experimental studies that evaluated education and training interventions for fostering cultural responsiveness
- Opinion pieces, discussion paper, narrative literature reviews, editorials, published abstracts from conferences, books, chapters, unpublished manuscripts, reports produced by governments, lecturers, and letters to the

editor. These were excluded as they have not been evaluated for quality control.

3.1.1.3 Results

A total of 62 studies were eligible for inclusion in the review. These studies examined a range of curricula areas in entry-level physiotherapy programs (Table 3.2), which were classified into four main categories:

I. Studies that evaluated curricula of a specific intervention or clinical skill (e.g., Joint manipulation),
II. Studies that evaluated a clinical specialty area (e.g., paediatrics),
III. Studies that evaluated professional issues (e.g., ethics and communication),
IV. Studies that evaluated a general health science related area (e.g., human anatomy).

Thirty-two of the 62 studies were conducted in the United States of America (USA), seven in Canada, six in the United Kingdom (UK), and five assessed curricula across several countries (international) (Table 3.2). Only three studies investigated curricula in Australian entry-level physiotherapy programs (Adam et al., 2013; Chipchase et al., 2005; Mistry et al., 2019). These studies investigated curricula content and educational approaches related to paediatrics (Mistry et al., 2019), work-related practice and occupational health and safety (Adam et al., 2013), and electrophysical agents (Chipchase et al., 2005). The most commonly investigated areas of curricula were education related to pain (n = 9), ethical and/or legal issues (n = 5), paediatrics (n= 4), and health promotion (n =3). Overall, a greater proportion of studies

examined curricula related to interventions or clinical skills, or a clinical specialty area.

Three studies used qualitative methodologies, and the remaining 59 studies were observational studies using cross-sectional surveys. The majority of the studies assessed the content or topics covered in programs, how learning and teaching were integrated, how the curriculum was structured, hours allocated to the curricula area, and the types of teaching and assessment methods used. However, not all of these outcomes were included in all studies. Additionally, several studies explored academic perceptions, including facilitators and barriers to including curricula areas.

Table 3.2 Studies evaluating curricula in entry-level physiotherapy education

References	Country	Curricula area investigated
Intervention or Clinical skill		
Ben-Sorek & Davis (1988)	USA	Joint mobilisation
Best et al. (2015)	Canada	Manual wheelchair skills training
Bodner et al. (2013)	International	Health promotion
Boissonnault & Bryan (2005)	USA	Joint manipulation
Boissonnault et al. (2014)	USA	Diagnostic and procedural imaging
Brady et al. (2007)	USA	Assistive technology and telehealth practice
Bramley et al. (2018)	Canada	Motor learning practice
Bryan et al. (1997)	USA	Spinal mobilisation
Chipchase et al. (2005)	Australia & NZ	Electrophysical agents
Christensen et al. (2017)	USA	Clinical reasoning
Domenech (1996)	USA	Massage
Ehrett (1988)	USA	Craniosacral therapy and myofascial release
Geigle & Galantino (2009)	USA	Complementary and alternative medicine
Koeda et al. (2011)	Japan	Accident prevention/safety and risk management
Lawson et al. (2019)	USA	Wound care and integumentary system
Mokwena & Phetlhe (2015)	South Africa	Health promotion
Noteboom et al. (2015)	USA	Joint manipulation
O'Donoghue et al. (2012)	Ireland	Physical activity and exercise promotion and prescription
Pignataro et al. (2014)	USA	Health promotion – smoking
Sato (2011)	Japan	Proprioceptive neuromuscular facilitation
Clinical specialty area		
Almeida et al. (2006)	USA	Rheumatology
Augustine et al. (1998)	USA	Lymphedema
Bement & Sluka (2015)	USA	Pain
Boissonnault (2016)	USA	Women’s health
Briggs et al. (2011)	UK	Pain
Brooks (1996)	USA	Cardiopulmonary
Cherry & Knutson (1993)	USA	Paediatric
Cochrane et al. (1990)	USA	Paediatrics and disability
Ehrström et al. (2018)	Finland	Pain
Granick et al. (1987)	USA	Gerontology
Hoeger Bement & Sluka (2015)	USA	Pain
Hulme et al. (1989)	USA	Obstetrics – gynaecology

Johnson & Trotter (1988)	USA	Burns
Leegaard et al. (2014)	Norway	Pain
McClurg et al. (2013)	UK	Continence
Mistry et al. (2019)	Australia	Paediatric
Mulligan & DeVahl (2017)	USA	Sports physiotherapy
Prodoehl et al. (2019)	USA	Temporomandibular disorder
Schreiber et al. (2011)	USA	Paediatrics
Scudds et al. (2001)	USA	Pain
Venturine et al. (2018)	Brazil	Pain
Walker (1998)	International	Urinary incontinence
Watt-Watson et al. (2009	Canada	Pain
Wideman et al. (2020)	Canada	Pain
Wong et al. (2001)	USA	Gerontology
Professional Issues		
Abaxaogu et al. (2019)	Nigeria	Communication skills
Adam et al. (2013)	Australia & NZ	Work-related practice and occupational health and safety
Babyar et al. (1996)	USA	Cultural and gender issues
Ekelman et al. (2000)	USA	Medical legal issues
Finley & Goldstein (1991	USA	Ethical and Legal instruction
Gorgon et al. (2013)	Philippines	Evidence-based practice
Hudon et al. (2014)	Canada	Ethics
Laliberté et al. (2015)	Canada	Ethics
Murphy et al. (2018)	Canada	Professionalism
Panhale et al. (2017)	India	Evidence-based practice
Parry & Brown (2009)	UK	Communication skills
Roskell (2013)	UK	Professionalism
Scott (1990)	International	Malpractice issues
General health science		
Baddeley & Bithell (1989)	UK	Psychology
Heaney et al. (2012)	UK	Psychology
Mattingly & Barnes (1994)	USA	Human Anatomy
Shead et al. (2018)	South Africa	Human Anatomy

USA: United States of America; UK: United Kingdom

Findings related to culture, cultural diversity, and cultural responsiveness in physiotherapy curricula

Only three studies investigated content and teaching related to culture, cultural diversity, and cultural responsiveness in entry-level physiotherapy programs (Table 3.3). All three of these studies were conducted in North America. One study focused explicitly on culture (Babyar et al., 1996), while the two other studies explored content related to cultural responsiveness implicitly and/or integrated into another curricula area (Murphy et al., 2018; Wideman et al., 2020).

Table 3.3 Studies evaluating content and educational processes related to culture, cultural diversity, and cultural responsiveness

Reference	Country	Curricula area investigated	Sample	Sampling frame	Response rate (%)
Babyar et al. (1996)	USA	Cultural and gender issues	34 academics	State	25
Murphy et al. (2018)	Canada	Professionalism	12 universities	National	92.3
Wideman et al. (2020)	Canada	Pain	14 programs	National	100

USA: United States of America

Curriculum content related to cultural responsiveness

Due to the heterogeneity of the study methodologies and how results were reported, findings across the three studies could not be combined and are discussed descriptively. Table 3.4 describes how curricula content was assessed in each of the studies.

Table 3.4 Method for assessing curricula content

Reference	How content was assessed
Babyar et al. (1996)	Frequency of in-class references to cultural and gender issues in subjects taught by academics and type of reference made
Murphy et al. (2018)	Percentage of universities that taught topics related to professionalism*
Wideman et al. (2020)	Percentage of programs that addressed curriculum themes related to pain, and the extent of coverage in curriculum*

**results provide little information to appropriately determine the extent to which culture related content is embedded.*

The study by Babyar et al. (1996) was the only study identified that focused on evaluating content related to culture in entry-level physiotherapy curricula. The authors found that all academics surveyed made at least one reference to each of the culture related topic areas in their subjects and that they primarily drew on personal lived experiences to relay information to students compared to using research citations. However, academics also indicated that references were not made in class for many topic areas. Additionally, the types of references and situations to which academics made references to the topic areas were variable across different types of subjects (cognitive, affective, or psychomotor domain subjects). While the authors conclude that academics at New York State physiotherapy programs have integrated cultural and gender issues into several subjects throughout the curriculum, they suggest a need for improving multicultural education in physiotherapy to ensure that all important topic areas are integrated using appropriate references.

The two other studies investigated the curricula areas of pain and professionalism (Murphy et al., 2018; Wideman et al., 2020). In each study, topics related to culture,

cultural diversity, and cultural responsiveness were considered in relation to the overall curricula area. Murphy et al. (2018) surveyed entry-level programs in Canada on content relating to professionalism. The topic area ‘Diversity/cultural competence’ was identified as one of 36 topics or elements of professionalism in physiotherapy. Unfortunately, no specific data on this topic was reported as results were aggregated for the 36 topics.

Wideman et al. (2020) surveyed entry-level physiotherapy programs in Canada relating to pain education, with content areas based on the International Association of the Study of Pain curriculum themes. One out of the 11 curriculum themes in the survey was related to culturally responsive practice. This theme was ‘modifying pain assessment strategies to match inherent variability associated with the patient’s clinical presentation (individual factors, sociocultural influences, clinical characteristics of pain, pain type and state, vulnerable populations)’. Results show that this theme was not covered in sufficient depth (64.3 per cent of physiotherapy programs) or not covered at all (7.1 per cent). These results suggest that the integration of content related culture in areas of physiotherapy such as pain management may be inadequate. However, cultural responsiveness was not the focus of the study, and conclusions were not made about this topic.

Educational approaches (teaching and assessment methods)

Only Murphy et al. (2018) assessed the types of teaching and assessment methods used to deliver curricula content. However, results were presented as an aggregate for all topic areas related to professionalism, and no specific data for cultural responsiveness was reported.

3.1.1.4 Discussion

The review of empirical studies investigating curricula content and educational approaches in entry-level physiotherapy programs identified 62 studies. Many different curricula areas were covered but most were focused on clinical skills or clinical speciality areas related to certain pathologies. There is a lack of published studies investigating how culture, cultural diversity, and cultural responsiveness is integrated into entry-level physiotherapy curricula, not only in an Australian context but also internationally.

Three studies were identified that evaluated curricula related to culture, however only one study specifically focused on the evaluation on culture. This study found that the content related to culture was referenced by academic staff at least once in the subjects they taught, but the integration was limited because not all topic areas were covered, and references were based on personal experiences (Babyar et al., 1996). While the two other studies explored content related to culture as a component of professionalism and pain education, the results provided little information to determine the extent to which the content was embedded.

The findings from Babyar et al. (1996) is the only published research that explicitly explored the content and educational approaches related to culture, cultural diversity, or cultural responsiveness in entry-level physiotherapy education. While the information provides insight into this area, some limitations need to be considered. Firstly, there are methodological limitations that reduce the validity of the results. The response rate was very low (25%) (Table 3.3), which may have led to bias in the results. As such, there is a possibility that only faculty members who included topic areas related to cultural or gender issues, elected to respond to the

survey. Further, the study was limited to one state in the USA and may not be generalisable to the rest of the USA. While there may be similar learning outcomes, physiotherapy curricula may differ between countries meaning that the findings may not be relevant to the Australian context. That is, there are potential variations in the scope of practice or competency requirements by professional bodies.

There were limited or no findings of other components of the curricula, such as the teaching and assessment methods that were related to culture, cultural diversity, or cultural responsiveness. Although content is one important aspect of the curriculum, how the content is delivered and assessed are also crucial components to student learning (Anderson & Rogan, 2011; Fraser & Bosanquet, 2006; Keating, 2010). This information would inform researchers about the educational approaches used to achieve learning outcomes and allow researchers to evaluate whether the approaches used are based on sound educational theory and the educational and scientific literature.

The studies included in this review investigated entry-level physiotherapy curricula with a focus on the academic learning environment. The clinical learning environment is another aspect of the curriculum with different learning and teaching methodologies to the academic environment. Also, different social, contextual and economic factors influence the learning and teaching in both environments (Nordquist et al., 2019; Patton et al., 2013). Thus, additional review of the literature is needed to understand how cultural responsiveness is facilitated during clinical learning in entry-level physiotherapy education before the entire learning journey can be fully described and evaluated.

3.1.2 Clinical learning experiences and the development of cultural responsiveness in entry-level physiotherapy education

Learning in a clinical context or the workplace is a form of experiential learning (Yardley et al., 2012). Based on experiential learning theories, this form of learning promotes deeper learning through a transformative process that is based on five assumptions: 1) Learning is 'situated' in place and time; 2) Interactions are fundamental to the learning process, 3) learning is triggered by novel, authentic, and challenging experiences, 4) learning is purposeful and involves solving real-world problems, and 4) critical reflection is a mediator for meaningful learning (Morris, 2019). Experiential learning is considered essential for learning skills, attributes, or professional behaviours, such as those related to cultural responsiveness.

Learning in environments that allow real-life encounters with people from CALD communities, under guidance for feedback and reflection, is considered an important element in developing awareness and appreciation of the cultural aspects in healthcare encounters (Blanchet Garneau & Pepin, 2015a). The process of developing cultural responsiveness is often triggered by challenges in clinical situations, involves reflection and awareness about the limitations of usual practice frameworks, and then taking action by bringing different cultural perspectives together to reinvent practice (Blanchet Garneau & Pepin, 2015a). Thus, providing students with clinical learning experiences that facilitate experiential learning is recommended to facilitate the development of cultural responsiveness (Calvillo et al., 2009; Rapp, 2006).

In physiotherapy, clinical learning is central to students' education and preparation for professional practice (Patton et al., 2013). Clinical learning provides opportunities for students to apply and integrate theoretical knowledge into practical situations, socialise in a practice community, and understand the complexities of delivering healthcare (Patton et al., 2013; Spencer, 2003). As part of the learning process, clinical educators play a vital role in facilitating skills, behaviours, and attributes by providing feedback on performance and assessing student capabilities (Bearman et al., 2018; Laitinen-Väänänen et al., 2007).

As encounters with people from CALD communities alone do not guarantee the development of cultural responsiveness, clinical educators have an important role in supporting students to work effectively with individuals from these communities. (Greer et al., 2007; Kumas-Tan et al., 2007). Thus, clinical educators need to understand how to foster cultural responsiveness during clinical learning, using appropriate learning and teaching approaches. Insights into how clinical educators facilitate the development of cultural responsiveness in students during clinical learning could be used to inform future research and practice to support physiotherapy clinical educators in this area.

An initial literature search focusing on studies that specifically explored how clinical educators facilitated the development of cultural responsiveness in students or how they supported students to work with people from CALD communities during clinical learning, returned no results. Therefore, the search was expanded to include studies that explored how clinical educators facilitated learning broadly in physiotherapy clinical learning environments to see whether aspects of culture, cultural diversity,

and cultural responsiveness were included in these studies. The following section presents a review of research that explored how physiotherapy clinical educators facilitate students' learning during clinical experiences. In particular, this review aimed to explore the learning and teaching approaches used by physiotherapy clinical educators to facilitate the development of cultural responsiveness in students during clinical learning.

3.1.2.1 Search strategy and terms

A systematic search process was undertaken to ensure all relevant articles that explored how clinical educators facilitated students' learning in physiotherapy clinical learning environments were captured. The literature search was conducted across five major electronic databases which targeted journals related to education and health science research (Table 3.5). The search terms that were applied to each of the databases are also presented in Table 3.5. Truncations, Boolean operators, and medical subject headings were used as appropriate for each database. Hand searching of the reference list of the articles included in the review was also performed by the primary researcher (MT), to identify additional applicable publications.

Table 3.5 Databases searched and search terms

Electronic data bases	CINAHL ERIC MEDLINE PsycINFO Scopus Google Scholar
Search terms	Physical therap* OR physiotherap* (MeSH and non-MeSH) AND clinical learning OR clinical educat* OR clinical supervis* OR clinical instruct* OR clinical precept* OR clinical placement OR clinical internship OR clinical teach* OR clinical train* OR workplace-based learning OR workplace-integrated learning OR teach* OR learn* (MeSH and non-MeSH) AND Undergrad* OR graduate OR entry-level (MeSH and non-MeSH)

MeSH: Medical subject headings

3.1.2.2 Inclusion and exclusion Criteria

Studies had to meet the following criteria to be included in the review:

- Be an empirical study that explored the learning and teaching processes, or approaches used by physiotherapy clinical educators to facilitate entry-level physiotherapy students' learning during clinical experiences. Studies employing qualitative methods to understand the learning and teaching process were prioritised for this literature review. Qualitative studies provide a means to capture data on the nuances of practices that are complex and poorly understood (Bunniss & Kelly, 2010; Turner et al., 2013). Clinical learning occurs in a complex and socio-cultural environment, where multiple workplace and personal factors influence how clinical educators support

students’ learning experiences (Patton et al., 2018). Therefore, data from qualitative studies would allow an in-depth, comprehensive understanding of clinical educators' views, motives, and the processes involved in how they facilitate the development of cultural responsiveness in their students.

- Explored clinical learning related to entry-level physiotherapy education. Clinical learning was defined as the supervised acquisition of professional skills and attributes to provide appropriate patient care, using clinical settings as teaching forums (Lekkas et al., 2007). Entry-level programs were defined as academic degrees that prepare learners to meet the minimum requirements for licensure or accreditation to practice in a profession such as physiotherapy (Higgs et al., 2001; Moffat, 2012). Entry-level programs may be undergraduate or graduate degrees and classified as bachelor’s, master’s or doctoral (extended master’s) degrees (McMeeken, 2007; Moffat, 2012).
- Be published in a peer reviewed journal. The peer review process allows for quality control checks on the information provided, and the authors need to provide enough methodological detail for readers to evaluate the quality (trustworthiness) of the findings reported (Kelly et al., 2014).
- Full-text articles and written in English as no funds were available for the translation of papers.

Studies were excluded from the review if they were one of the following:

- Evaluated educational interventions in clinical learning environments.
- Explored learning and teaching during international service-learning (ISL). These studies were excluded because the model and focus of learning during

ISL are different from clinical learning that is part of the compulsory entry-level physiotherapy program (Pechak & Black, 2014).

- Opinion pieces, discussion paper, narrative literature reviews, editorials, published abstracts from conferences, books, chapters, unpublished manuscripts, reports produced by governments, lectures, and letters to the editor. These were excluded as they have not been evaluated for quality control.

3.1.2.3 Results

The search strategy yielded a total of 799 articles. After the removal of duplicates and screening of titles and abstracts, 36 articles were available for consideration. Following a full-text review of the 36 articles, 14 articles met the inclusion criteria and were included in this review. Three studies were conducted in Australia and the USA, two in Canada, and one in Ireland, Italy, South Africa, and the UK. These articles were based on understanding clinical educators' perceptions or experiences when facilitating physiotherapy student learning in clinical learning environments. The learning and teaching area of focus was different among the studies. These are identified in Table 3.6.

Table 3.6 Studies exploring learning and teaching processes in clinical learning environments

Reference	Country	Area of Focus
Bearman et al. (2013)	Australia	Underperforming students
Clouder & Adefila (2017)	UK	Autonomy in practice
Covington & Barcinas (2017)	USA	Integration of movement in practice
Delany & Bragge (2009)	Australia	General learning/teaching approach
Ernstzen et al. (2010)	South Africa	General learning/teaching approach
Greenfield et al. (2012)	USA	General learning/teaching approach
Greenfield et al. (2014)	USA	General learning/teaching approach
O'Connor et al. (2019)	Ireland	Assessments
Peters-Brinkerhoff (2016)	USA	Integration of ICF for patient-centred care.
Scully & Shepard (1983)	USA	General learning/teaching approach
So et al. (2019)	Canada	Underperforming students
Trede et al. (2015)	Italy	Assessments
Trede & Smith (2014)	Australia	Assessments
Yeldon et al. (2018)	Canada	Assessments

UK: United Kingdom; USA: United States of America; ICF: International classification of functioning

Studies either explored general learning and teaching approaches (n=5) or focused on a specific area (n= 9). Of these 14 studies, one study by Peters-Brinkerhoff (2016) explored how clinical educators integrated the International Classification of Functioning (ICF) model to facilitate patient-centred care. The ICF and the concept of patient-centred care are practice models or frameworks that are supposed to guide a holistic perspective to healthcare, which involves considering cultural perspectives. Additionally, patient-centred care shares some core features with cultural responsiveness (Saha et al., 2008). The study by Peters-Brinkerhoff (2016) found that the use of the ICF model was limited and that clinical educators had limited knowledge and support for incorporating the ICF into their teaching. However, the study focused broadly on the ICF model, and there was no focus on specific

aspects such as culture. Overall, aspects of culture, cultural diversity and cultural responsiveness were not explored explicitly by any studies.

3.1.2.4 Discussion

This literature review found 14 articles that explored how clinical educators facilitated learning in physiotherapy students during clinical learning. Aspects of culture, cultural diversity and cultural responsiveness were not explored within the area of focus of the 14 articles identified. While the study by Peters-Brinkerhoff (2016) explored how clinical educators integrated the ICF in their clinical learning to facilitate patient-centred care, cultural aspects were not explored. Further, although information from studies exploring the general learning and teaching approaches provides insight into the nuances and processes involved during clinical learning, facilitating the development of cultural responsiveness may involve different learning and teaching approaches and challenges that may not be captured with a general focus. The lack of studies explicitly exploring how cultural responsiveness is facilitated during clinical learning in physiotherapy could be due to the limited focus in this area, as demonstrated in the literature review on physiotherapy curricula in section 3.1.

One study identified, excluded from this review, explicitly evaluated teaching methods to facilitate cultural responsiveness in physiotherapy students during clinical learning (Jackson, 2011). This study was excluded because it was a quantitative study focused on students' perceptions of teaching methods. While the results demonstrated that most students found the teaching methods (reflective journals, conducting interviews using intercultural communication frameworks, engaging in

seminars/discussions, and providing staff-in-services) to be effective in facilitating the development of cultural responsiveness, this study provides little information about how these methods were used by clinical educators to facilitate the development of cultural responsiveness.

While this review was limited to the physiotherapy curricula, there also appears to be limited studies that explore how clinical educators facilitate cultural responsiveness during clinical learning in the broader health professional literature. Only two studies in medicine have explicitly explored how clinical educators perceive and facilitate the development of cultural responsiveness in clinical settings using qualitative methods (Berger et al., 2014; Watt et al., 2015). However, these studies were based on the clinical supervision of practicing junior doctors, not students. Differences in learning stages (pre versus post-professional) may influence the different teaching approaches by educators.

3.1.3 Section summary

Entry-level physiotherapy programs in Australia are required to demonstrate that their curriculum is designed to meet learning outcomes related to developing cultural responsiveness. Information about current learning and teaching practices are important to guide curricula design and execution. The findings from the two reviews demonstrate there is little empirical evidence investigating and exploring how learning and teaching is delivered to facilitate the development of cultural responsiveness in physiotherapy curricula in Australia.

The two reviews focused on different aspects of the physiotherapy curriculum. The first review was based on studies investigating the content and educational approaches, primarily in the academic learning environment. The second review focused on studies exploring how clinical educators facilitate learning in the clinical learning environment. Overall, no published data describe the curricula content included and educational approaches used to facilitate cultural responsiveness in entry-level physiotherapy programs in Australia. The only study that explicitly investigated how culture-related content was integrated was conducted over 20 years ago in one state in the USA and had a low response rate.

Similarly, this review found no existing published study that qualitatively explored the learning and teaching methods used to facilitate cultural responsiveness in physiotherapy students during clinical learning. Studies exploring the perceptions and approaches of clinical educators have focused on general learning and teaching processes related to overall clinical competence, on specific educational approaches, or based on factors such as underperforming students.
Aside from understanding the learning and educational approaches integrated in curricula, knowing whether students are culturally responsive is also important. Knowledge about students' level of cultural responsiveness informs educators whether the curricula, both in the academic and clinical learning environment, has been effective in facilitating the development of cultural responsiveness. This knowledge can be used to determine student learning needs and what areas to address to achieve learning outcomes. The next chapter provides a review of the literature on studies that have evaluated the level of health professional students' cultural responsiveness.

3.2 Assessment of cultural responsiveness

Knowledge of students' learning through assessment or evaluation is vital to inform whether learning outcomes have been achieved. This information would also help determine whether curricula content and educational approaches have been effectively integrated to facilitate knowledge, skills, and attributes such as cultural responsiveness. Therefore, this section reviews studies that have evaluated students' level of cultural responsiveness. In particular, the review identifies and evaluates the assessments used to assess cultural responsiveness and the factors that influence the level of cultural responsiveness. While the focus of this thesis is on physiotherapists, the review in this section encompassed other health professionals due to the limited research in physiotherapy specifically.

3.2.1 Assessment of cultural responsiveness in physiotherapy students

Given the requirements to meet the *Accreditation Standards* and the *Physiotherapy Practice Thresholds*, physiotherapy programs in Australia and NZ must ensure that new graduates are equipped with the foundational knowledge, skills, and attributes to work safely and effectively with people from CALD communities. To determine whether educational programs are meeting these learning outcomes, assessing students' level of cultural responsiveness provides information regarding how well students are prepared over time to manage patients from culturally diverse communities.

Cultural responsiveness has been assessed using a variety of methods. Most researchers recommend a multifaceted and multi-perspective approach using a combination of qualitative and quantitative methods (Betancourt, 2003; Calvillo et al.,

2009; Deardorff, 2011; Dogra & Wass, 2006; Rapp, 2006). These recommendations are based on the fact that cultural responsiveness is a multidimensional concept consisting of a cognitive, affective, and practical component (Calvillo et al., 2009; Deardorff, 2011). Additionally, evaluating cultural responsiveness at the individual level requires an assessment of personal development, practical skills, and methods to measure patient outcomes (Deardorff, 2011; Purnell, 2016).

Commonly used assessment methods in the literature generally measure students' perceptions of their learning, attitudes, and behaviours. While practical-based assessments are recommended, the literature in this area is limited (Purnell, 2016). Qualitative methods that explore students learning and thinking through reflective journals and interviews are considered to provide the best form of data on students' learning experience and their personal development of cultural responsiveness (Calvillo et al., 2009). However, these approaches are time-consuming, and as a result, have been used to assess small groups of students. A more practical approach to assessing students, used extensively in the literature, is self-administered questionnaires.

A self-administered questionnaire is designed to be completed by a respondent without the intervention of the researchers (e.g., an interviewer) (Lavrakas, 2008). A review by Gozu et al. (2007) identified 45 self-administered questionnaires that assessed cultural responsiveness in health care. Generally, self-administered questionnaires measure respondents' self-rating of their knowledge, attitudes, skill, and abilities related to culturally responsive practice (Matsumoto & Hwang, 2013). Despite being commonly used, self-administered questionnaires may not provide an

accurate evaluation of cultural responsiveness for several reasons (Kumas-Tan et al., 2007; Purnell, 2016). First, self-administered questionnaires rely on honest and accurate self-reports and perceptions. Responses to issues such as cultural responsiveness are susceptible to social desirability bias (Larson & Bradshaw, 2017). That is, participants may respond positively to culturally acceptable statements and deny culturally unacceptable traits (Marlowe & Crowne, 1961). Therefore, assessing social desirability bias as a confounding factor is essential when using self-administered questionnaires (Larson & Bradshaw, 2017). Additionally, self-administered questionnaires are limited in assessing performance. Studies have demonstrated the limited association between scores on self-administered questionnaires and observed performance (Davis et al., 2006). Finally, some self-administered questionnaires have been suggested to convey underlying assumptions or inaccurate messages about the concept of culture and cultural responsiveness (Beagan, 2015; Kumas-Tan et al., 2007). For example, questionnaires that measure self-reported 'comfort' and 'self-confidence' when working across different cultures assume that cultural responsiveness is an end-state that can be achieved. Other common assumptions include conceptualising culture as an attribute of the racialised 'other', or that incompetence is presumed to arise from a lack of exposure to, and knowledge of the 'other' (Kumas-Tan et al., 2007).

While they have limitations, self-administered questionnaires provide a means to assess cultural responsiveness in large groups of students. Indeed, results can be compared between groups of students at different stages of their learning, as well as providing the opportunity to investigate patterns or associated factors with levels of

cultural responsiveness. These findings may have implications on curricula offerings and sequence of learning activities. Differences in scores can reinforce the concept that the development of cultural responsiveness is a process that is influenced by many contextual factors such as the individual, environment, or interactions. Additionally, while self-assessments are limited in evaluating actual performance, results from self-assessments may be useful in determining students' self-awareness of their limitations, which is essential for the development of cultural responsiveness.

An original literature search for studies assessing cultural responsiveness using self-administered questionnaires in physiotherapy students identified a limited amount of studies. Thus, a decision was made to broaden the search to health professional students in nursing, medicine, and occupational therapy (OT) globally. In addition, understanding the literature in a broader health professional context provides insight for future research and practice in physiotherapy education in Australia. Therefore, this literature review aimed to determine the self-perceived level of cultural responsiveness in physiotherapy, nursing, medical, and OT students. A secondary aim was to identify the factors associated with self-perceived levels of cultural responsiveness in physiotherapy, nursing, medical, and OT students.

3.2.1.1 Search strategy and terms

A systematic search process was undertaken to ensure all relevant articles that assessed physiotherapy, nursing, medical, and OT students' level of cultural responsiveness using self-administered questionnaires were captured (Salvador-Oliván et al., 2019). Medicine and nursing were chosen as most of the literature on cultural responsiveness is situated in these two health professions. Occupational

therapy was also chosen as physiotherapists, and OTs work closely together in clinical settings to maximise patients' physical function (Brown & Greenwood, 1999; Richardson & Edwards, 1997). Studies conducted globally or outside Australia were included to capture a vast pool of literature, which would allow an extensive and thorough understanding of student learning outcomes and assessments around cultural responsiveness.

The literature search was conducted across five major electronic databases which targeted journals related to education and health science research (Table 3.7). The search terms applied to each of the databases are also presented in Table 3.7. Truncations, Boolean operators, and medical subject headings were used as appropriate for each database. Hand searching of the reference list of the articles included in the review was also performed by the primary researcher (MT) to identify additional applicable publications.

Table 3.7 Databases searched and search terms

Electronic data bases	CINAHL ERIC MEDLINE PsycINFO Scopus Google Scholar
Search terms	Physical therap* OR physiotherap* OR nurs* OR medic* OR occupational therap* (MeSH and non-MeSH) AND Undergrad* OR entry-level OR studen*(MeSH and non-MeSH) AND cultural respons* OR cultural compet* OR cultural safet OR cultural humility OR cultural sensit* OR cultural awareness OR cultural adaptability OR transcultural OR multicultur* OR cross-cultur* (MeSH and non-MeSH) AND assess* OR self-assess* OR measur* OR evaluat* OR questionnaire (MeSH and non-MeSH)

MeSH: Medical subject headings

3.2.1.2 Inclusion and exclusion criteria

Studies were included in the literature review if they were:

- An empirical study that assessed entry-level health professional students' (physiotherapy, medicine, nursing, and OT) level of cultural responsiveness using self-administered questionnaires. Entry-level programs were defined as academic degrees that prepare learners to meet the minimum requirements for licensure or accreditation to practice in a profession such as physiotherapy (Higgs et al., 2001; Moffat, 2012). Entry-level programs may be

undergraduate or graduate degrees and classified as bachelor's, master's or doctoral (extended master's) degrees (McMeeken, 2007; Moffat, 2012).

- Published in a peer-reviewed journal. The peer-review process allows for quality control checks on the information provided, and the authors need to provide enough methodological detail for readers to evaluate the quality (trustworthiness) of the findings reported (Kelly et al., 2014).
- Published between January 2000 and December 2019. Studies were limited to 2000 as it was around this time when the concept of cultural responsiveness started to emerge and be assessed in health professional education (Thackrah & Thompson, 2013).
- Full-text articles and written in English as no funds were available for the translation of papers.

Studies were excluded from the review if they were one of the following:

- Experimental studies that evaluated educational interventions aimed at facilitating the development of cultural responsiveness.
- Evaluated students' perceptions of the curriculum's effectiveness in facilitating cultural responsiveness using self-administered questionnaires.
- Opinion pieces, discussion paper, narrative literature reviews, editorials, published abstracts from conferences, books, chapters, unpublished manuscripts, reports produced by governments, lectures, and letters to the editor. These were excluded as they have not been evaluated for quality control.

3.2.1.3 Results

The search strategy identified 5,468 articles. After removing duplicates and screening titles, abstracts, and full-texts, 43 studies met the inclusion criteria and were included in this review (Table 3.8). Of these 43 studies, two studies evaluated physiotherapy students, 25 evaluated nursing students, 8 evaluated medical students, three evaluated OT students, and five evaluated a combination of nursing, medicine and/or OT students. As highlighted in Table 3.8, the sample sizes ranged from 40 to 2163 students across all disciplines, and when combined, cultural responsiveness was assessed in a total of 12883 students. The total sample size for the two physiotherapy studies was 194 students.

As seen in Table 3.8, just over half of the studies (n = 25) were conducted in the USA. The other studies were conducted across a range of countries, including Australia, Canada, China, Finland, Greece, Korea, Saudi Arabia, Switzerland, South Africa, and Sweden. One was an international study, including nine different countries.

Table 3.8 Studies assessing cultural responsiveness and related concepts in physiotherapy, nursing, medicine, and occupational therapy students

Reference	Country	Sample size
Physiotherapy		
Doherty et al. (2017)	USA	94
Oluwole-Sangoseni & Jenkins-Unterberg (2017)	USA	100
	Total sample size	**194**
Nursing		
Chan & Sy (2016)	China	126
Chen et al. (2018)	USA	106
Choi & Kim (2018)	Korea	236
Cruz et al. (2018)	Chile, India, Iraq, Oman, Philippines, Saudi Arabia, South Africa, Sudan and Turkey	2163
Cruz et al. (2017)	Saudi Arabia	272
Dunagan et al. (2014)	USA	129
Flood & Commendador (2016)	USA	56
Göl & Erkin (2019)	Turkey	336
Halabi & de Beer (2018)	Saudi Arabia	205
Jeffreys & Dogan (2012)	USA	147
Kardong-Edgren et al. (2010)	USA	515
Kardong-Edgren & Campinha-Bacote (2008)	USA	218
Kılıç & Sevinç (2018)	Turkey	444
Krainovich-Miller et al. (2008)	USA	226
Lim et al. (2004)	Australia	196
Liu et al. (2008)	USA	48
Mesler (2014)	USA	759
Miskin et al. (2015)	USA	117
Repo et al. (2017)	Finland	295
Rew et al. (2014)	USA	150
Reyes et al. (2013)	USA	99
Sarafis & Malliarou (2013)	Greece	136
Sargent et al. (2005)	USA	209
Von Ah & Cassara (2013)	USA	150
Wang et al. (2018)	China	677
	Total sample size	**8015**
Medicine		
Echeverri & Dise (2017)	USA	254

Green et al. (2017)	USA	1561
Lee and Coulehan (2006)	USA	167
Matthews & Van Wyk (2018	South Africa	142
Mirsu-Paun et al. (2012)	USA	216
Rodriguez et al. (2011)	USA	416
Seeleman et al. (2014)	Netherlands	86
Thompson et al. (2010)	USA	358
	Total sample size	**3200**
Occupational therapy		
Cheung et al. (2002)	UK	51
Murden et al. (2008)	USA	72
Rasmussen et al. (2005)	Australia	293
	Total sample size	**416**
Multi-professional studies – nursing, medicine, OT		
Jones & Pinto-Zipp (2017)	USA	40 (nursing/OT)
Meydanlioglu et al. (2015)	Turkey	275 (medicine/nursing)
Rasoal et al. (2009)	Sweden	1669 (medicine/nursing)
Sekerci and Bicer (2019)	Turkey	433 (medicine/nursing)
White-Means et al. (2009)	USA	144 (medicine/nursing)
	Total sample size	**1061**
	Grand total sample size	**12883**

UK: United Kingdom; USA: United States of America; OT: Occupational therapy

The methodological designs of the studies were descriptive and cross-sectional. Studies were either conducted at a single university or across two or more universities. All studies used self-administered questionnaires with Likert type responses to assess the level of cultural responsiveness. The majority of the questionnaires used a 5-point Likert response scale.

Questionnaires used to assess cultural responsiveness

Twenty-four different self-administered questionnaires were identified from the studies. Table 3.9 lists the 24 self-administered questionnaires. The most frequently used questionnaire was the Inventory for assessing the process of cultural competence among health professionals (IAPCC; Campinha-Bacote, 2002), followed by the Transcultural self-efficacy tool (TSET; Jeffreys & Smodlaka, 1996), the Intercultural sensitivity scale (ISS; Chen & Starosta, 2000), the Cultural self-efficacy scale (CSES; Bernal & Froman, 1993), and the Cross-cultural care survey (CCCS; Park et al., 2009).

Different concepts related to cultural responsiveness were measured across the instruments. Questionnaires either assessed cultural competence (n = 13), cultural self-efficacy (n = 3), cultural awareness and/or sensitivity (n = 5), attitudes (n = 2), and ethnocultural empathy (n = 1). Differences are likely due to the different cultural responsiveness models and frameworks that exist, and the changes in understanding over time.

Table 3.9 List of self-administered questionnaires

Self-administered questionnaire	Number of studies
Cultural competence	
Inventory for assessing the process of cultural competence among health professionals (IAPCC)	6
Cross-cultural Care Survey (CCCS)	3
Cultural Capacity Scale (CCS)	2
Clinical Cultural Competency Questionnaire (CCCQ)	1
Caffrey Cultural Competence in Healthcare Scale (CCCHS)	1
Cultural competence self-assessment by Goode (2002)	1
Cultural Competence Assessment (CCA) Tool	1
Cultural Competence Assessment Tool – student version (CCATool)	1
Cultural competence scale by Han & Cho (2015)	1
Global worldview cultural competency survey (GWCCS)	1
Self-assessment of cultural competence by Gozu et al. (2007)	1
Self-Assessment of Perceived Level of Cultural Competence (SAPLCC)	1
Questionnaire developed by Seeleman et al. (2010)	1
Cultural self-efficacy	
Transcultural Self-efficacy Tool (TSET)	4
Cultural Self-efficacy Scale (CSES)	3
Cultural competency tool by Assemi & Collander (2003)	1
Cultural awareness/sensitivity	
Intercultural Sensitivity Scale (ISS)	4
Cultural Awareness and Sensitivity Questionnaire (CASQ)	3
Cultural Awareness Scale (CAS)	3
Multicultural Sensitivity Scale (MSS)	1
Tucker-Culturally Sensitive Health Care Inventory Provider form (T-CSHCI)	1
Cultural attitudes	
Multicultural Assessment Questionnaire (MAQ)	1
Quick Discrimination Index (QDI)	1
Ethnocultural empathy	
The scale of ethnocultural empathy (SEE)	1

Validity and reliability of questionnaires

Questionnaires used to assess the impact of the curriculum or evaluate students' level of cultural responsiveness need to be valid and reliable. Questionnaires need to measure what they intend to measure (valid), and results should be consistent (reliable), or else the results obtained may be difficult to interpret or inaccurate (Bolarinwa, 2015). Validity and reliability were reported for 18 questionnaires, with two studies only reporting reliability. Validity and reliability for three of the 24 questionnaires were not assessed or reported (Table 3.10).

Table 3.10 Self-administered questionnaires and their psychometric properties

Questionnaire	Reported validity	Reported reliability
Cultural competence		
IAPCC	✓	✓
CCCS	✓	✓
CCS	✓	✓
CCCQ	✓	✓
CCCHS	✓	✓
Cultural competence self-assessment by Goode (2002)	X	X
CCA	✓	✓
CCATool	✓	✓
Cultural competence scale by Han & Cho (2015)	✓	✓
GWCCS	✓	✓
Self-assessment of cultural competence by Gozu et al. (2007)	X	X
SAPLCC	✓	✓
Questionnaire developed by Seeleman et al. (2010)	✓	X
Cultural self-efficacy		
TSET	✓	✓
CSES	✓	✓
Cultural competency tool by Assemi & Collander (2003)	X	✓
Cultural awareness and/or sensitivity		
ISS	✓	✓
CASQ	X	✓
CAS	✓	✓
MSS	✓	✓
T-CSHCI	✓	✓
Cultural attitudes		
MAQ	X	X
QDI	✓	✓
Ethnocultural empathy		
SEE	✓	✓

CCCHS: Caffrey Cultural Competence in healthcare Scale; CCCQ: Clinical Cultural Competency Questionnaire; CCCS: Cross-cultural Care Survey; CCS: Cultural Capacity Scale; CAS: Cultural awareness scale; CASQ: Cultural Awareness and Sensitivity Questionnaire; CCA: Cultural Competence Assessment; CCATool: Cultural Competence Assessment Tool; CSES: Cultural self-efficacy scale; GWCCS: Global worldview cultural competency survey; IAPCC: Inventory for assessing the process of cultural competence among health professionals; ISS: Intercultural Sensitivity Scale; MAQ: Multicultural Assessment Questionnaire; MSS: Multicultural Sensitivity Scale; QDI: Quick Discrimination Index; SAPLCC: Self-Assessment of Perceived Level of Cultural Competence; SEE: The scale of ethnocultural empathy; TSET: Transcultural Self-efficacy Tool; T-CSHCI: Tucker-Culturally Sensitive Health Care Inventory Provider form

The quality of each questionnaire based on the validity and reliability properties was assessed using a rating system adapted from Terwee et al. (2007). Aspects of validity included content and construct validity, while aspects of reliability included internal consistency, and test-retest (Table 3.11). The categories for the ratings were positive (+), negative (-), and no information available/not reported (?). Only the questionnaires which had reported validity and reliability were included.

Table 3.11 Quality criteria for measurement properties

	Validity		**Reliability**	
	Content	**Construct**	**Internal consistency**	**Test-retest**
Positive rating (+)	Very clear description	Factors should explain at least 75% of the variance	Cronbach's alpha between 0.70 and 0.95	ICC >/= 0.70 or Pearson's r >/= 0.8
Negative rating (-)	Unclear description	Factors explain <75% of the variance	Cronbach's alpha of <0.70 or >0.95	ICC < 0.70 or Pearson's r <0.80
Not reported (?)	Not reported	Explained variance not mentioned	Not reported	Not reported

ICC: Intraclass correlation coefficient; r: Pearson correlation coefficient

Validity

Validity is determined by analysing whether the questionnaire measures what it intends to measure (De Vaus, 2013; Tsang et al., 2017). The common types of validity that are assessed include face and content validity and construct validity. Face validity refers to the extent to which a questionnaire appears to measure the concept under study. Content validity is the extent to which all factors relevant to the concept or purpose of the questionnaire's measurement are addressed (Bolarinwa, 2015; Portney & Watkins, 2009). Content expert feedback is used to establish face

and content validity. For example, through the use of interviews, focus groups, or a panel of experts. The questionnaires used in the studies identified were mainly assessed for content validity by a panel of experts.

Construct validity refers to the extent to which a questionnaire adequately assesses the trait or theoretical construct it claims to measure (Bolarinwa, 2015; De Vaus, 2013; Matsumoto & Hwang, 2013; Westen & Rosenthal, 2003). Construct validity can be established in several ways using statistical tests. The most commonly used method used to establish construct validity in the questionnaires identified was through structural equation modelling using factor analysis. Factor analysis can be used to test whether the relationship (variance) between items in a questionnaire can be explained by an underlying hypothesised factor structure (construct or theory) (Brown, 2015; DiStefano & Hess, 2005; Matsumoto & Hwang, 2013). A questionnaire has established construct validity if at least 75% of the results are in correspondence with the hypotheses (Terwee et al., 2007). In other words, the factors hypothesised should explain at least 75% of the variance. Additionally, construct validity can also be established by testing correlations between a measure of a construct and several other validated measures that should theoretically be associated with the construct (Westen & Rosenthal, 2003). Table 3.12 lists the questionnaires and their quality ratings for the content and construct validity of the questionnaires based on the ratings provided in Table 3.11. Four questionnaires (IAPCC, CCA, QDI, and SEE) had positive ratings for content and construct validity.

Table 3.12 Validity of self-administered questionnaires

Questionnaire	Content	Construct
Cultural competence		
IAPCC	+	+
CCCS	-	+
CCS	+	-
CCCQ	-	+/-
CCCHS	?	-
CCA	+	+
CCATool	+	?
Cultural competence scale by Han & Cho (2015)	+	-
GWCCS	+	?
SAPLCC	?	+
Cultural self-efficacy		
TSET	+	-
CSES	+	+/-
Cultural awareness and/or sensitivity		
ISS	-	?
CAS	-	-
MSS	-	?
T-CSHCI	+	-
Cultural attitudes		
QDI	+	+
Ethnocultural empathy		
SEE	+	+

(+): positive rating; (-): negative rating; (?): no information; (+/-): conflicting results
CCCHS: Caffrey Cultural Competence in healthcare Scale; CCCQ: Clinical Cultural Competency Questionnaire; CCCS: Cross-cultural Care Survey; CCS: Cultural Capacity Scale; CAS: Cultural awareness scale; CCA: Cultural Competence Assessment; CCATool: Cultural Competence Assessment Tool; CSES: Cultural self-efficacy scale; GWCCS: Global worldview cultural competency survey; IAPCC: Inventory for assessing the process of cultural competence among health professionals; ISS: Intercultural Sensitivity Scale; MSS: Multicultural Sensitivity Scale; QDI: Quick Discrimination Index; SAPLCC: Self-Assessment of Perceived Level of Cultural Competence; SEE: The scale of ethnocultural empathy; TSET: Transcultural Self-efficacy Tool; T-CSHCI: Tucker-Culturally Sensitive Health Care Inventory Provider form

Reliability

Reliability is concerned with the consistency of results and whether or not those results are valid (Bannigan & Watson, 2009; Bolarinwa, 2015). The consistency of a measure can be evaluated by testing for internal consistency (inter-item reliability) and test-retest reliability (stability) (Bannigan & Watson, 2009). Internal consistency reflects the extent to which the questionnaire items are intercorrelated or that the items on the questionnaire measure various aspects of the same thing and nothing else (Bolarinwa, 2015). Internal consistency for the questionnaires identified in the review was measured using Cronbach's alpha (α). Cronbach's alpha ranges from 0 to 1, with higher values indicating greater reliability or internal consistency. A Cronbach's alpha of at least 0.70 is suggested to indicate adequate internal consistency (De Vaus, 2013). According to Portney and Watkins (2009), low alpha scores means that items are not homogenous and measure different constructs. Conversely, too high alpha scores may indicate a high risk of redundancy with the items.

Test-retest reliability determines the stability of the questionnaire (Bolarinwa, 2015). That is, the extent that questions are answered in the same way on repeated occasions, or that the same results would be obtained on repeated administrations (Bannigan & Watson, 2009). Stability is important for researchers to be confident that the questionnaire has minimal measurement variation to allow for greater precision in the results such that it can be used to measure change over time (De Vaus, 2013). Test-retest reliability for the questionnaires was assessed using statistical tests to calculate correlations. The statistical tests include the intraclass correlation coefficient (ICC) or Pearson correlation coefficient (Pearson's r). For ICC, often, 0.70

is recommended as a minimum standard for reliability (Terwee et al., 2007). For Pearson's r, above 0.80 is considered to be acceptable and reliable (De Vaus, 2013).

Table 3.13 lists the questionnaires and their quality ratings for reliability based on Table 3.11. Three questionnaires had all positive ratings for reliability measures (IAPCC, CCA, and MSS). Several questionnaires had conflicting results.

Table 3.13 Reliability of self-administered questionnaires

Questionnaire	Internal consistency	Test-retest
Cultural competence		
IAPCC	+	+
CCCS	+	?
CCS	+	+
CCCQ	+	?
CCCHS	+	?
CCA	+	+
CCATool	+	?
Cultural competence scale by Han & Cho (2015)	+	?
GWCCS	+	?
SAPLCC	+	?
Cultural self-efficacy		
TSET	+/-	-
CSES	+/-	?
Cultural awareness and/or sensitivity		
ISS	+	?
CAS	+	-
MSS	+	+
T-CSHCI	+/-	+
Cultural attitudes		
QDI	+/-	+
Ethnocultural empathy		
SEE	+/-	+/-

(+): positive rating; (-): negative rating; (?): no information; (+/-): conflicting results

CCCHS: Caffrey Cultural Competence in healthcare Scale; CCCQ: Clinical Cultural Competency Questionnaire; CCCS: Cross-cultural Care Survey; CCS: Cultural Capacity Scale; CAS: Cultural awareness scale; CCA: Cultural Competence Assessment; CCATool: Cultural Competence Assessment Tool; CSES: Cultural self-efficacy scale; GWCCS: Global worldview cultural competency survey; IAPCC: Inventory for assessing the process of cultural competence among health professionals; ISS: Intercultural Sensitivity Scale; MSS: Multicultural Sensitivity Scale; QDI: Quick Discrimination Index; SAPLCC: Self-Assessment of Perceived Level of Cultural Competence; SEE: The scale of ethnocultural empathy; TSET: Transcultural Self-efficacy Tool; T-CSHCI: Tucker-Culturally Sensitive Health Care Inventory Provider form

When results for validity and reliability are combined together, only five questionnaires have established acceptable validity and reliability (Table 3.14). These findings must be accounted for when analysing the results of the studies using questionnaires that were not valid, reliable, or had insufficient psychometric results.

Table 3.14 Questionnaires with positive ratings/acceptable psychometric properties for validity and reliability

Questionnaire	Validity		Reliability	
	Content	Construct	Internal consistency	Test-retest
IAPCC	+	+	+	+
CSES	+	+/-	+/-	?
CCA	+	+	+	+
QDI	+	+	+/-	+
SEE	+	+	+/-	+/-

(+): positive rating; (-): negative rating; (?): no information; (+/-): conflicting results
CCA: Cultural Competence Assessment; CSES: Cultural self-efficacy scale; IAPCC: Inventory for assessing the process of cultural competence among health professional; QDI: Quick Discrimination Index; SEE: The scale of ethnocultural empathy

Levels of self-perceived cultural responsiveness of health professional students

The level of self-perceived cultural responsiveness in students was generally reported as an overall total score (mean SD) with lower scores suggesting lower levels of cultural responsiveness and vice versa. Some studies reported results as the percentage of students who chose specific responses on the Likert scale with responses either representing that students had higher or lower levels of cultural responsiveness.

The results for the levels of self-perceived cultural responsiveness of health professional students are presented below and grouped according to discipline. Where possible, the mean (SD) were pooled across studies that used the same questionnaire. Additionally, the pooled mean scores for the questionnaires measuring the same concept were compared on a scale ranging from one to five. While the heterogeneity of each questionnaire is apparent, comparing the questionnaires on the same scale was done for easy comparison. Questionnaires with different scoring ranges were also transformed to a standardised scale ranging from one to five for easy comparison. This range was chosen as the majority of questionnaires used this score range. Questionnaires that did not report outcomes as total mean scores were described separately.

Physiotherapy

The questionnaires used to assess physiotherapy students' self-perceived cultural responsiveness were the MSS and the Self-assessment of cultural competence by Gozu et al. (2007) (Doherty et al., 2017; Oluwole-Sangoseni & Jenkins-Unterberg, 2017). The results across the two studies appear to be substantially different, likely due to the different concepts related to cultural responsiveness measured. Average self-perceived scores for cultural sensitivity were low, while scores for cultural competence were considered moderately high (Figure 3.1).

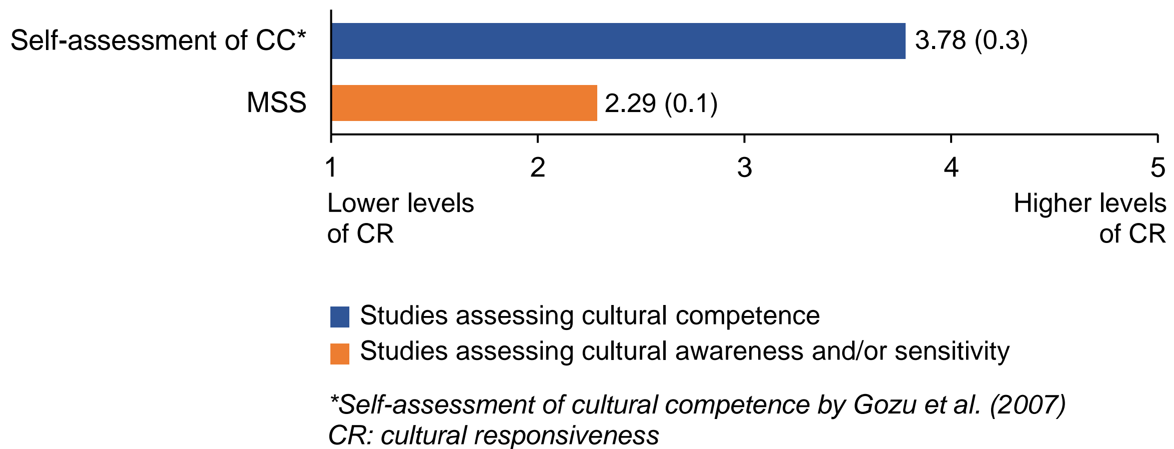


Figure 3.1 Self-perceived cultural responsiveness scores of physiotherapy students

Nursing

Across the studies that assessed nursing students, there were 12 questionnaires identified. Of these, the results for nine questionnaires were reported as total mean (SD) scores (Figure 3.2). Eight questionnaires assessed cultural competence, and one assessed cultural awareness and/or sensitivity. On average, nursing students perceived they had moderate levels of cultural competence and cultural sensitivity (Chan & Sy, 2016; Chen et al., 2018; Cruz et al., 2018; Cruz et al., 2017; Flood & Commendador, 2016; Göl & Erkin, 2019; Halabi & de Beer, 2018; Kardong-Edgren & Campinha-Bacote, 2008; Kardong-Edgren et al., 2010; Kılıç & Sevinç, 2018; Liu et al., 2008; Mesler, 2014; Reyes et al., 2013; Sargent et al., 2005; Von Ah & Cassara, 2013). However, lower levels of self-perceived cultural competence were reported on the Cultural competence scale by Han & Cho (2015) (Choi & Kim, 2018) and higher levels for the CCATool (Repo et al., 2017).

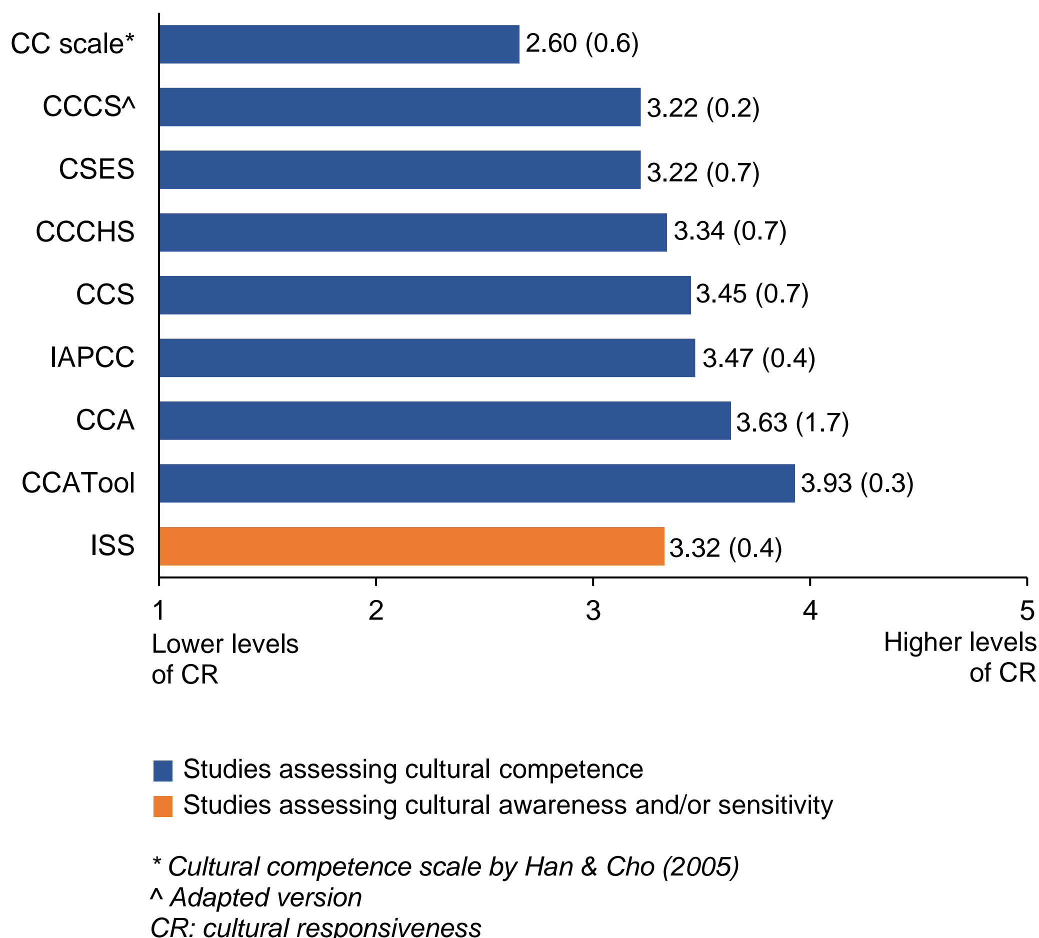


Figure 3.2 **Overall self-perceived level of cultural responsiveness of nursing students**

For the studies using the CCCQ, CAS, and TSET, results were reported as mean (SD) scores for each subscale or domain in the questionnaires (Figure 3.3). Nursing students perceived they had moderately high levels of cultural awareness and sensitivity on the CAS (Dunagan et al., 2014; Krainovich-Miller et al., 2008; Rew et al., 2014). The results for the CCCQ and the TSET were less consistent than the CAS across the subscales. For both questionnaires, students scored higher on the domains measuring self-perceived awareness compared to knowledge, behaviours,

or skills related to cultural competence and cultural self-efficacy (Lim et al., 2004; Sarafis & Malliarou, 2013; Wang et al., 2018).

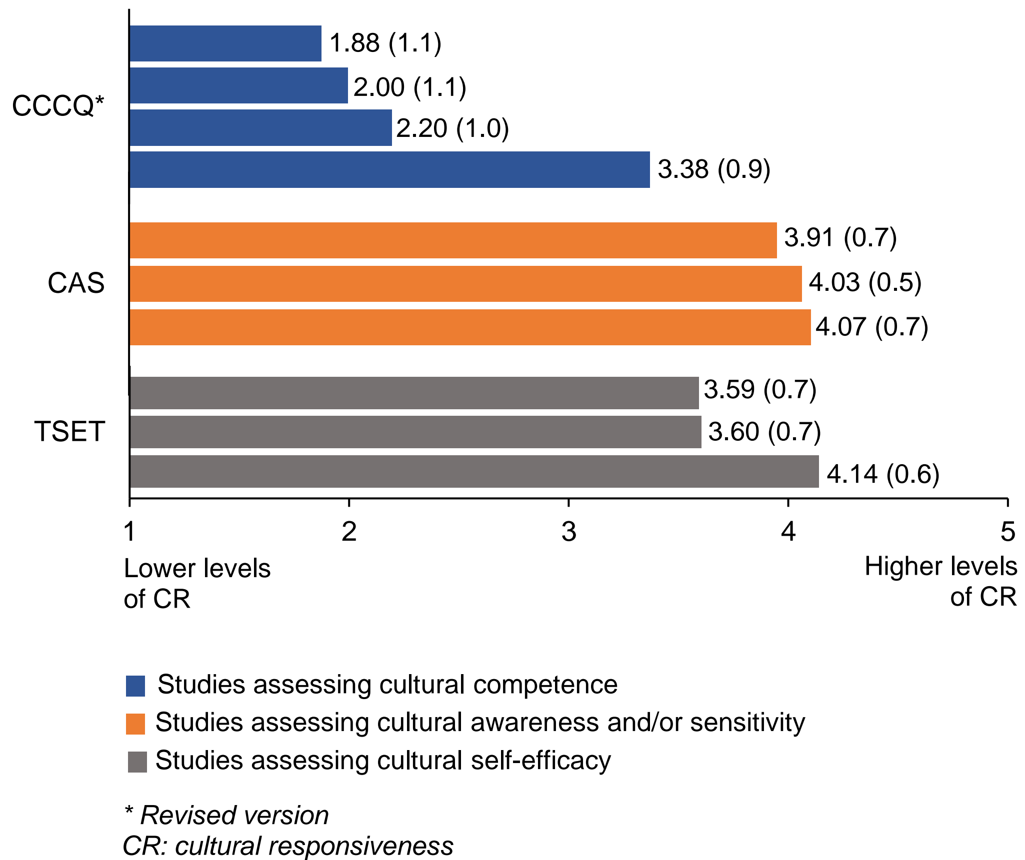
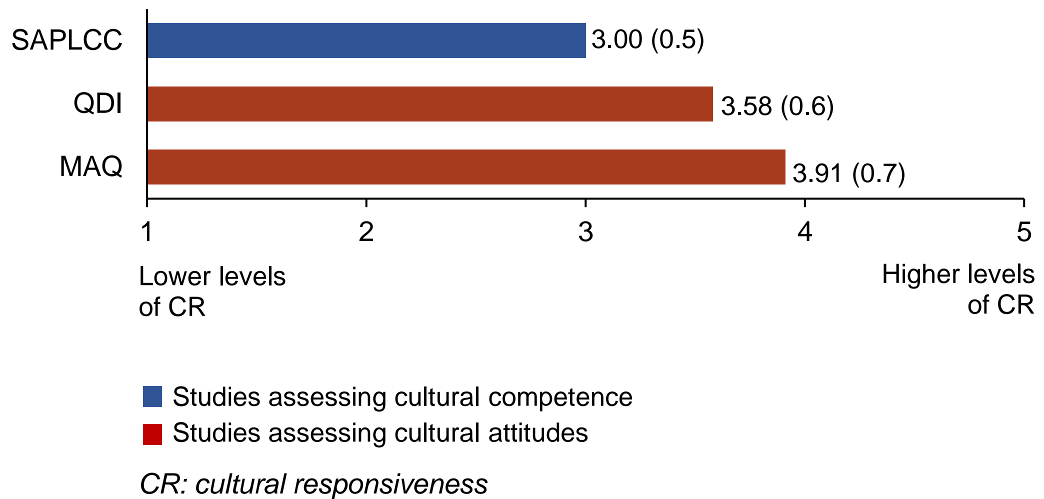


Figure 3.3 Self-perceived cultural responsiveness of nursing students

Medicine

Seven questionnaires identified were used to assess self-perceived cultural responsiveness of medical students. Three questionnaires had results reported as total mean scores (Figure 3.4). Specifically, two questionnaires assessed cultural attitudes (QDI and MAQ) (Lee & Coulehan, 2006; Thompson et al., 2010) and one assessed cultural competence (SAPLCC) (Echeverri & Dise, 2017). As shown in Figure 3.4, medical students perceived they had moderately high levels of cultural

attitudes (positive attitudes towards cultural diversity/ethnocultures) and moderate levels of cultural competence.



CR: cultural responsiveness

Figure 3.4 Self-perceived cultural responsiveness of medical students

For the studies that used the T-CSHCI and the Cultural competence questionnaire developed by Seeleman et al. (2010), the results were reported as the mean (SD) for each subscale or domain (Figure 3.5). Overall, medical students appear to have high levels of self-perceived cultural awareness and sensitivity based on the T-CSHCI (Mirsu-Paun et al., 2012). Results on the questionnaire measuring self-perceived cultural competence were variable for the different domains measured. Students scored higher on the domains measuring knowledge compared to behaviours related to cultural competence (Seeleman et al., 2014).

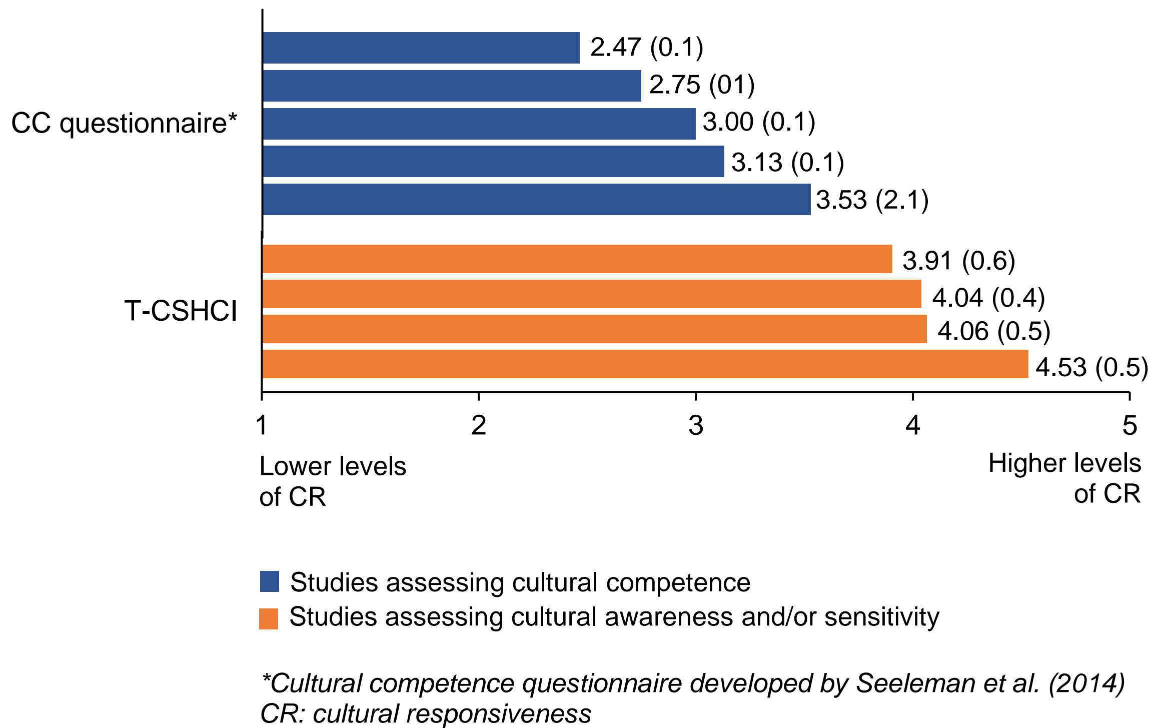


Figure 3.5 Self-perceived cultural responsiveness of medical students

For the studies that used the CCCS and the Cultural competence self-assessment checklist by Goode (2002) to assess medical students, results were reported as the percentage of students who answered certain responses on a Likert scale. The results for the CCCS were based on the percentage of students who answered *prepared* for the questionnaire items (Figure 3.6). As seen in Figure 3.6, less than half of medical students felt prepared to deliver culturally competent practice (Green et al., 2017; Rodriguez et al., 2011). The results for the self-assessment checklist questionnaire by Goode (2002) were based on the percentage of students who *agreed* to the questionnaire items. Eighty-four per cent of students expressed high levels of agreement with the questionnaire items, which indicated higher levels of cultural competence (Matthews & Van Wyk, 2018).

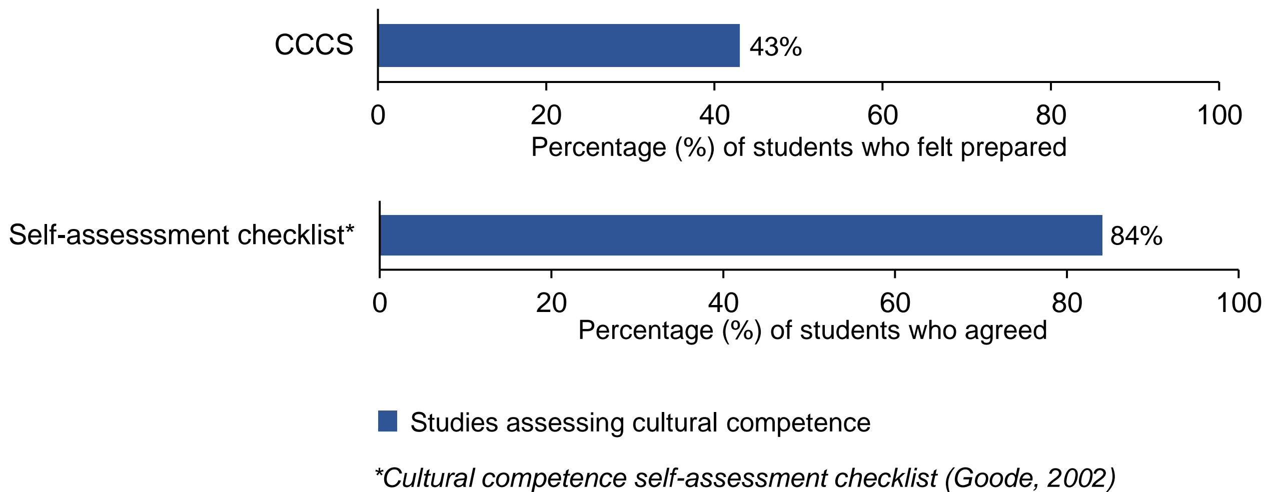


Figure 3.6 Self-perceived cultural responsiveness of medical students

Occupational Therapy

The CASQ was the only questionnaire used to assess OT students' level of self-perceived cultural responsiveness (Cheung et al., 2002; Murden et al., 2008; Rasmussen et al., 2005). Results for the CASQ are reported based on the percentage of students who answered certain items on a Likert scale, and divided into two sections. On average, 82 per cent of OT students *agreed or strongly agreed* to questionnaire items relating to their perceptions of cultural awareness (i.e., importance of cultural knowledge and education for cultural competence). In contrast, only 55 per cent of students rated themselves as *highly culturally aware or competent* to questionnaire items relating to culturally responsive practice (Figure 3.7). In total, the results demonstrate that while OT students understand the importance of culture, only about half the students perceived they had higher levels of cultural responsiveness.

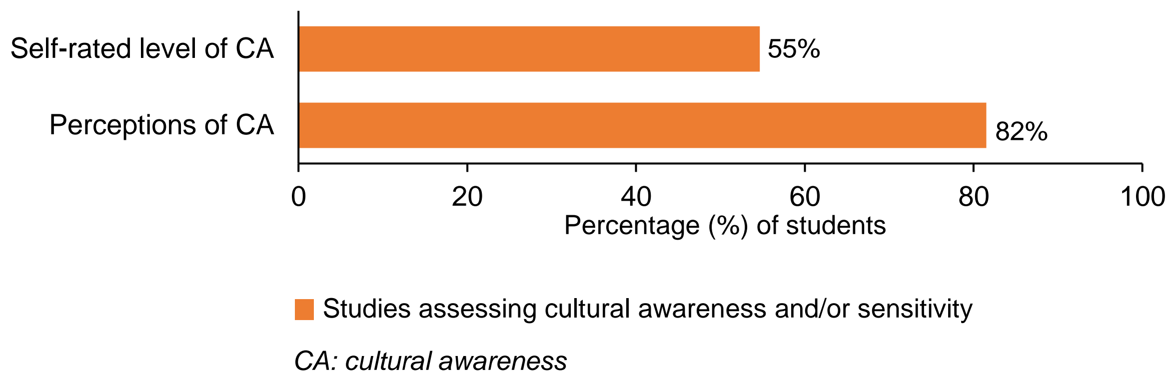


Figure 3.7 Self-perceived levels of cultural responsiveness of OT students

Multi-professional studies

Four different questionnaires were identified from the five studies reporting total mean (SD) scores for self-perceived cultural responsiveness in a combined sample of nursing and medicine (Meydanlioglu et al., 2015; Rasoal et al., 2009; Sekerci & Bicer, 2019; White-Means et al., 2009) and nursing and OT (Jones & Pinto-Zipp, 2017) students (Figure 3.8). The results demonstrate that nursing, medicine, and OT students had moderately high levels of self-perceived cultural competence, sensitivity, and ethnocultural empathy (Figure 3.8).

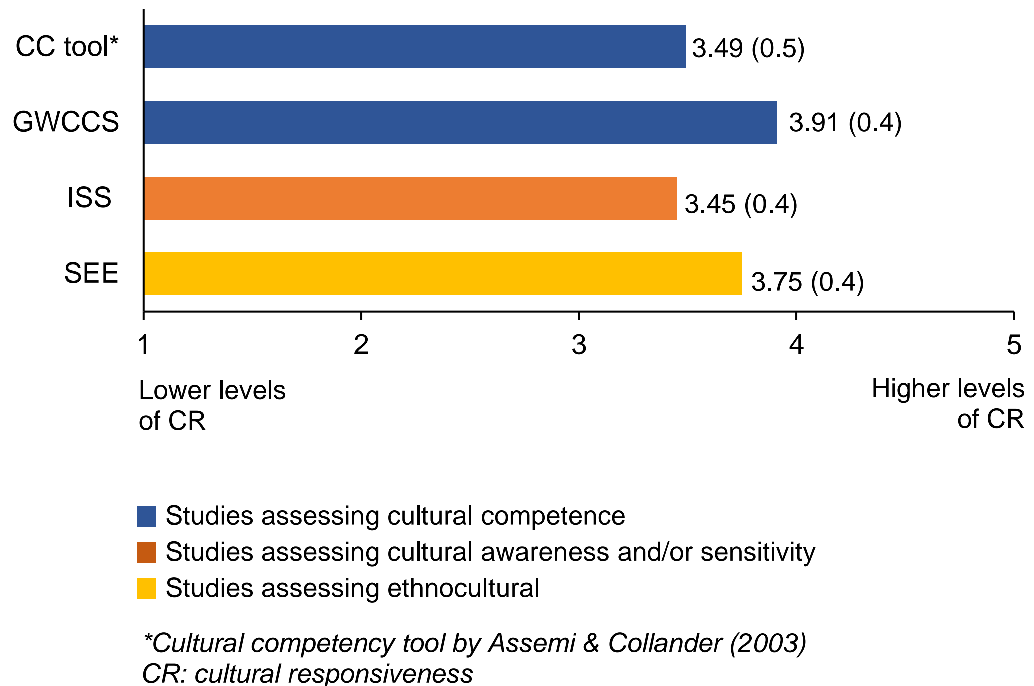


Figure 3.8 Self-perceived cultural responsiveness of health professional students (multi-professional studies)

Summary of health professional students' level of self-perceived cultural responsiveness

In summary, there are limited studies that have assessed the level of self-perceived cultural responsiveness in physiotherapy students. A range of studies across nursing, medicine, and OT exist that use different questionnaires. Overall, health professional students appear to perceive themselves to be moderately culturally responsive. However, results were different when viewed separately for each profession. In general, nursing students appeared to perceive themselves as moderately culturally responsive. While a large majority of OT students perceived the importance of culture, almost half perceived they were limited in their awareness related to culturally responsive practice. Similarly, in the questionnaires that reported

results for the separate subscales or domains in nursing students (CCCQ and TSET), scores appeared to be higher for domains measuring awareness compared to behaviours or skills related to culturally responsive practice. The results for physiotherapy and medicine appeared to be variable depending on the type of questionnaire and the concept related to cultural responsiveness that was assessed. Overall, while these studies provide an average score across student populations, individual scores may be influenced by factors such as year level, age, gender, or having prior encounters with people from CALD communities.

Factors associated with self-perceived cultural responsiveness

Differences between year levels

Differences in self-perceived cultural responsiveness scores across year levels were evaluated by 14 studies in nursing, four in medicine, and two in physiotherapy. These findings were used to determine whether scores were higher or lower throughout the continuum of an educational program. Results were compared between students studying in their earlier years and later years of the program using inferential statistics that analyse the difference among the means between two or more groups (independent t-test or analysis of variance (ANOVA)).

The results for each study are presented in Table 3.15 and separated into each profession. For this review, results are presented based on whether a significant difference was found between year levels (✓) or not (X), and whether students in later years had higher (an increase ↑) or lower (a decrease ↓) average scores for

self-perceived levels of cultural responsiveness compared to students in earlier years.

Table 3.15 Differences between year levels among physiotherapy, nursing and medical students

Reference	Year levels	Difference between year levels	Increase or decrease in self-perceived CR
Physiotherapy			
Doherty et al. (2017)	Y1, Y2, Y3	✓	(Y1 = Y3 > Y2)
Oluwole-Sangoseni & Jenkins-Unterberg (2017)	Y1, Y3, Y6	✓	↑
Nursing			
Chan & Sy (2016)	Y1, Y3	X	X
Cruz et al. (2018)	Y2, Y3, Y4	✓	↑
Cruz et al. (2017)	Y2, Y3, Y4	✓	↑
Halabi & de Beer (2018)	Y1, Y4	X	X
Kılıç & Sevinç (2018)	Y2, Y3, Y4	X	X
Krainovich-Miller et al. (2008)	Y1, Y4	X	X
Lim et al. (2004)	Y1, Y4	✓	↑
Mesler (2014)	Freshman, junior, senior	✓	↑
Rew et al. (2014)	Junior, Senior	✓	↓
Reyes et al. (2013)	Y1, Y4	✓	↑
Sarafis & Malliarou (2013)	Y1, Y4	✓	↑
Sargent et al. (2005)	Y1, Y4	✓	↑
Von Ah & Cassara (2013)	Freshman, junior, senior	X	X
Wang et al. (2018)	Y1, Y2, Y3, Y4	✓	↑
Medicine			
Echeverri & Dise (2017)	Y1, Y2	X	X
Green et al. (2017)	Y1, Y2, Y3, Y4	✓	↑
Mirsu-Paun et al. (2012)	Y3, Y4	X	X
Rodriguez et al. (2011)	Y1, Y2, Y3, Y4	X	X

Y1: year one; Y2: year two; Y3: year three; Y4, year four; CR: cultural responsiveness; <: less than; =: no difference; (✓): yes; (X): no difference; (↑): higher/increase; (↓): lower/decrease

Overall, most studies (n = 12) found there were differences in scores between the year levels. Ten studies reported higher levels of self-perceived cultural responsiveness in students studying in later years compared to those in earlier years (Cruz et al., 2018; Cruz et al., 2017; Green et al., 2017; Lim et al., 2004; Mesler, 2014; Oluwole-Sangoseni & Jenkins-Unterberg, 2017; Reyes et al., 2013; Sarafis & Malliarou, 2013; Sargent et al., 2005; Wang et al., 2018). In contrast, one study found lower levels of self-perceived cultural responsiveness in later year students than in earlier years (Rew et al., 2014). Additionally, Doherty et al. (2017) found that students in their first and third years of physiotherapy had higher scores than students in their second year. These different trends in scores may reflect the curriculum or possibly differences in the student cohorts. Additionally, higher self-perceived cultural responsiveness scores in earlier years of studies may be that students overestimate what they know.

Individual factors associated with self-perceived cultural responsiveness

Thirteen studies investigated factors associated with the level of cultural responsiveness in students. Nine studies were conducted in nursing students, two in medicine, one in physiotherapy, and one in a combination of nursing and medicine students. Most studies used multiple regression analyses, and two used correlation analyses (see Table 3.16). Both types of statistical analyses investigate the relationship between variables (factors). However, a correlation analysis only describes the direction and strength of an association between two variables (De Vaus, 2013). Multiple regression analyses provide more information and explain the association between an outcome variable (dependent) and two or more variables (independent) (Cohen et al., 2013). Specifically, multiple regression analyses explain

how much the outcome variable changes with any given change of the independent variable while controlling for the association between two or more other variables on the outcome variable (Cohen et al., 2013; Petrocelli, 2003).

The main factors assessed across the studies are presented in Table 3.16. Factors were either found to be significantly positively associated (+), negatively associated (-), or not associated (x) with levels of self-perceived cultural responsiveness. Overall, having encounters with people from CALD communities, identifying with a race/ethnicity other than 'white/Caucasian', and having prior education and training were positively associated with higher levels of self-perceived cultural responsiveness. Speaking a second/foreign language was also positively associated with higher levels of self-perceived cultural responsiveness, but only two studies assessed this factor. While six studies assessed gender, there were inconsistent findings. Four of the five studies that assessed age as a factor found that age was not significantly associated with levels of self-perceived cultural responsiveness. Finally, only one study assessed social desirability bias and found that higher social desirability scores were positively associated with higher self-perceived levels of cultural responsiveness.

Table 3.16 Factors associated with self-perceived cultural responsiveness

			Associated factors							
Reference	**Discipline**	**Analyses**	**Social desirability bias**	**Encounters with CALD people**	**Ethno-culture (race or ethnicity)**	**Speaking a foreign language**	**Age**	**Gender**	**Prior education or training***	**Other (significant positive associations)**
Chan & Sy (2016)	Nursing	Correlations								Big 5 personalities
Choi & Kim (2018)	Nursing	Hierarchical regression		+					+	
Cruz et al. (2017)	Nursing	Stepwise regression		+				-	+	Clinical placement
Cruz et al. (2018)	Nursing	Simultaneous multiple regression		+	+		+	-	+	Living in a diverse area; academic year
Doherty et al. (2017)	Physiotherapy	Linear regression					x			
Dunagan et al. (2014)	Nursing	Hierarchical regression	+	+	-		x	x		
Kılıç & Sevinç (2018)	Nursing	Simultaneous multiple regression		x				+		Assertiveness, desire to work overseas
Rasoal et al. (2009)	Nursing and medicine	Correlations			x		x	+		
Repo et al. (2017)	Nursing	Multivariate linear models		+	+	+				
Rodriguez et al. (2011)	Medicine	Multivariate logistics regression			+			x		
Sargent et al. (2005)	Nursing	Correlations								Overseas travel
Sekerci and Bicer (2019)	Nursing and medicine	Correlations			+	+	x	x	+	Clinical placement
Wang et al. (2018)	Nursing	Simultaneous multiple regression		+	+					

*(+) positive association; (-), negative association; (x) no association; *education and training related to cultural responsiveness*

3.2.1.4 Discussion

The present literature review of empirical studies evaluating health professional students' level of cultural responsiveness identified 44 studies. Twenty-four different self-administered questionnaires were identified across all the studies. However, of these questionnaires, only five were found to have established acceptable validity (face and construct) and reliability (internal consistency and test-retest), and thus results of studies using the other questionnaires should be interpreted with caution.

While heterogeneity in the questionnaires makes it challenging to compare results between studies, health professional students appear to have moderate levels of self-perceived cultural responsiveness. However, this overall interpretation is biased towards nursing students, with half of the studies conducted in nursing and predominantly in the USA. The dominance of nursing studies is not surprising as the majority of the literature and the conceptualisation of cultural responsiveness are situated in nursing, which is also the largest discipline in the healthcare workforce. When broken down by profession, almost half of OT students perceived they were limited in their awareness related to culturally responsive practice. Results for physiotherapy and medical students were inconsistent compared to nursing and OT. The inconsistent results may be due to the greater variety in the questionnaires and concepts measured among physiotherapy and medical students. Additionally, differences in the results may have been influenced by many contextual and individual factors.

Contextual factors such as the university curriculum and student factors may vary considerably between universities and countries, which may have influenced the

different levels of cultural responsiveness. As seen in the results, there were differences in the results between academic year levels across most studies, with students in later years reporting higher levels of self-perceived cultural responsiveness compared to earlier year students. Further, having lived experiences with people from CALD communities appears to be associated with high levels of self-perceived cultural responsiveness. When evaluating students' level of cultural responsiveness, these factors must be taken into account to understand the varying results, as these have implications for education and training.

Only two studies were conducted in physiotherapy, with none of these being in an Australian context. The results for these two studies need to be interpreted with caution. The questionnaire used by Doherty et al. (2017) was not valid and reliable. While the questionnaire used by Oluwole-Sangoseni and Jenkins-Unterberg (2017), had limited evidence for validity and reliability. Similar to the findings in the previous reviews (Section 3.1), there is limited empirical research around cultural responsiveness in physiotherapy education, and no studies conducted to date in an Australian context. Only two of the 44 studies were conducted among Australian students but in nursing (Lim et al., 2004) and OT (Rasmussen et al., 2005).

Overall, a limited number of questionnaires had acceptable levels of both validity and reliability. Thus, the results need to be interpreted with caution. Another limitation was that most studies did not identify or control for confounding factors such as social desirability bias. Social desirability bias is important in studies that use self-report measures to assess personality variables, attitudes, and self-reported behaviours, which are prone to socially desirable responses (Fisher & Katz, 2000).

Only one study in nursing assessed and controlled for social desirability bias in their analysis. Future studies assessing self-perceived cultural responsiveness need to ensure that questionnaires have acceptable validity and reliability and control for social desirability bias.

Finally, although the OT profession may share similar conceptual frameworks, core competencies, and educational approaches to physiotherapy, differences in student attributes who choose to study OT and physiotherapy exist and should also be considered. For example, previous studies have found differing attitudes and perceptions towards disability, where differences in curricula exposure and the conceptualisation of disability in each profession are possible contributing factors (Stachura & Garven, 2003). Therefore, profession specific and context relevant studies are important for determining the effectiveness of the curricula and student learning needs in this area.

3.2.2 Section summary

Entry-level physiotherapy education in Australia needs to ensure that graduates are equipped with the professional attributes and skills to work with people from CALD communities. Understanding students' level of cultural responsiveness is important for informing educators about whether the learning and teaching approaches are appropriate in achieving learning outcomes and whether students need further support in their learning. The review in this chapter found limited studies in physiotherapy, with none of these studies conducted in Australia. Nonetheless, insights from the other literature indicate that there are many factors associated with

the level of self-perceived cultural responsiveness in health professional students that should be considered in physiotherapy research and education in this area.

3.3 New graduate physiotherapists' capabilities when working with CALD communities

Understanding new graduate physiotherapists' perceptions and experiences when working with people from CALD communities are important as this information may inform how physiotherapists can be better prepared for and supported when they transition into the workforce. This section presents a review of the studies that have evaluated new graduate physiotherapists' perceptions and experiences of their professional practice. Specifically, studies that explored new graduate physiotherapists' perceptions and experiences working with people from CALD communities were the focus.

3.3.1 New graduate physiotherapists' perceptions and experiences when working with people from CALD communities

Upon graduation, physiotherapy students are expected to practice in a culturally responsive manner. However, Australian physiotherapists with clinical experience ranging from one to 22 years have been found to hold negative attitudes towards CALD communities, stereotype ethnocultural groups, and use superficial communication strategies (Lee et al., 2006a, 2006b). These results raise the question of whether entry-level curricula are adequately equipping students with the knowledge, skills, and attributes to work effectively in culturally diverse societies upon graduation. However, as a new graduate physiotherapist is considered to be a person with less than two years of experience (Atkinson & McElroy, 2016), and this sample included people with one or more years of experience (up to 22 years), these results do not allow for direct interpretation of new graduate culturally responsive practice. To understand whether graduating students have been prepared to work

with people from CALD communities during their formal education, there needs to be insight on how new graduates think, feel, understand, and make decisions around implementing care towards people from CALD communities. These insights would provide an in-depth understanding of how and why new graduates culturally adapt their practice for people from CALD communities and illuminate personal or environmental factors that influence their decisions and actions.

An in-depth understanding of new graduates' professional practice when working with CALD communities could also illuminate learning needs and guide future education, research, and practice in supporting the development of cultural responsiveness in physiotherapy. An initial search of the literature that focused on studies exploring new graduate physiotherapists' perceptions or experiences working with people from CALD communities returned limited results. The literature review was thereby expanded to include all studies that explored new graduate physiotherapists' perceptions and experiences of their professional practice (activities, qualities, skills, attributes, or behaviours) in clinical settings. Expanding the search allowed the inclusion of studies that have investigated factors related to culture, cultural diversity, and cultural responsiveness as a component of new graduates' perspectives regarding broader features of clinical practice. Therefore, this section provides a review of studies that have explored new graduate physiotherapists' perceptions and experiences of their professional practice in clinical settings. Specifically, this review aimed to identify and describe new graduates' perceptions and experiences when working with people from CALD communities.

3.3.1.1 Search strategy and terms

A systematic search process was undertaken to ensure all relevant articles that explored new graduates' perceptions and experiences of their professional practice in clinical settings were captured. The literature search was conducted across five major electronic databases which targeted journals related to education and health science research (Table 3.17). The search terms that were applied to each of the databases are also presented in Table 3.17. Truncations, Boolean operators, and medical subject headings were used as appropriate for each database. Hand searching of the reference list of the articles included in the review was also performed by the primary researcher (MT), to identify additional applicable publications.

Table 3.17 Databases searched and search terms

Electronic data bases	CINAHL ERIC MEDLINE PsycINFO Scopus Google Scholar
Search terms	Physical therap* OR physiotherap* (MeSH and non-MeSH) AND New graduat* OR novice (MeSH and non-MeSH) AND Professional practice OR clinical practice OR practice OR experiences (MeSH and non-MeSH)

MeSH: Medical subject headings

3.3.3.2 Inclusion and exclusion criteria

Studies were included in the literature review if they met the following criteria:

- Be an empirical study that explored new graduate physiotherapists' perceptions and experiences related to their professional practice (e.g., activities, qualities, skills, attributes, or behaviours) in clinical settings. Due to the aim of this literature review, qualitative studies were chosen. Qualitative studies provide a means to capture data on the nuances of practices that are complex and poorly understood (Bunniss & Kelly, 2010; Turner et al., 2013). At the individual level, cultural responsiveness is influenced by the environment, interactions with patients, and personal factors such as feelings, attitudes, and perceptions about healthcare (Blanchet Garneau & Pepin, 2015b; Muñoz, 2007). Thus, qualitative studies exploring perceptions and experiences would allow an in-depth insight into new graduates' understanding and actions when working with people from CALD communities.
- Focused on professional practice in clinical settings. A clinical setting was defined as a location in which clinical practice occurs involving direct contact or interaction with patients (Nordquist et al., 2019). This may refer to inpatient or outpatient hospital settings, private practice clinics, nursing homes, or community settings (Higgs et al., 2001).
- Published in a peer-reviewed journal. The peer-review process ensures that the research has been assured for a certain minimum level of quality (e.g., the research is scientifically valid, using the appropriate methodology, and has reasonable conclusions) (Kelly et al., 2014).

- Full-text articles and written in English as no funds were available for the translation of papers.

Studies were excluded from the review if they were one of the following:

- Explored new graduate physiotherapists' professional practice from the perspective of other personnel (e.g., educators or mentors). These studies would not provide insight to understand how new graduates think, feel, understand, or make decisions when working in clinical settings.
- Only explored new graduate physiotherapists' perspectives of professional skills, attributes, or abilities required for professional practice. These studies were excluded as they do not provide information about new graduates' perceptions or lived experiences of their practice.
- Did not explicitly recruit new graduate physiotherapists as a distinct sample group.
- Opinion pieces, discussion papers, narrative literature reviews, editorials, published abstracts from conferences, books, chapters, unpublished manuscripts, reports produced by governments, lectures, and letters to the editor. These were excluded as they have not been evaluated for quality control.

3.3.3.3 Results

The search yielded 488 articles. After the removal of duplicates and screening of titles and abstracts, 61 articles were available for consideration. Following a full-text review of the 36 articles, 18 articles met the inclusion criteria and were included in

this review. Nine studies were conducted in the USA, five in Australia, and two in the UK and Canada. Studies either focused only on new graduates (n = 8), investigated new graduates and experienced physiotherapists (n = 6), or new graduates and physiotherapy students (n = 4).

The definition or cohort of new graduates that were recruited in the studies was variable. However, studies recruited new graduates within the first year (n = 10), first two years (n = 6), or first three years (n = 2) of practice since graduation. The sample size across the studies, only including new graduates, ranged between three to 15 participants.

The most commonly used method to collect data about new graduate perceptions and experiences was in-depth semi-structured interviews (n= 12). Other methods used were focus groups (n = 2), a combination of individual interviews and focus groups (n = 3), or open-ended written responses to questions (n = 1). All studies investigated new graduate physiotherapists' perceptions and/or experiences of their professional practice. However, different aspects of professional practice (e.g., skills, attributes, or abilities) in different clinical settings or with different patient populations were explored. Information about the studies included in this review is presented in Table 3.18.

Table 3.18 Studies exploring new graduate physiotherapists' perceptions and experiences of their professional practice in clinical settings

Reference	Country	Sample size	Area of focus
Black et al. (2010)	USA	11	Learning and development of general professional practice
Case et al. (2000)	UK	12	Clinical reasoning (cardiorespiratory)
Forbes & Ingram (2019)	Australia	15	Chronic pain
Greenfield et al. (2008)	USA	7	Caring
Hayward et al. (2013)	USA	11	Learning and development of general professional practice
Johnston et al. (2012)	Australia	5	Patients on workers compensation
Jones et al. (2020)	Australia	15	Interprofessional care
May et al. (2010)	UK	9	Shoulder pain
Miller et al. (2005	Canada	10	Acute care setting
Musolino (2006)	USA	4	Self-assessment
Plack (2006)	USA	6	Communication and interpersonal skills
Plummer et al. (2006)	Australia	8	Unilateral neglect in stroke
Seale & Utsey (2019)	USA	7	Gait impairments in hemiplegia
Smith & Trede (2013)	Australia	12	Reflective practice
Solomon & Miller (2005)	Canada	10	Private practice setting
Tryssenaar & Perkins (2001)	USA	3	General clinical setting
Wainwright et al. (2010)	USA	3	Reflective practice
Wainwright et al. (2011)	USA	3	Clinical decision making

UK: United Kingdom; USA: United States of America

Results related to culture, cultural diversity, and cultural responsiveness

No studies explicitly explored new graduates' perceptions and experiences when working with people from CALD communities, or regarding practice in a culturally responsive manner. However, three studies presented limited results related to culture, cultural diversity, and culturally responsive practice (Forbes & Ingram, 2019; Plack, 2006; Solomon & Miller, 2005). These results were related to the challenges new graduates experienced during their clinical practice.

Forbes and Ingram (2019) and Solomon and Miller (2005) reported that new graduate physiotherapists felt unprepared to address psychosocial factors in patient care adequately. This finding was specific to their experiences managing patients with chronic pain (Forbes & Ingram, 2019) or patients in private practice settings (Solomon & Miller, 2005). The psychosocial factors discussed in these two studies relate to the biopsychosocial model. Cultural aspects are identified as a social factor in this model (Borrell-Carrio et al., 2004). However, these two studies did not explore the specific social factors, such as ethnocultural. Thus, whether new graduates felt unprepared to address sociocultural related factors in these settings is unclear.

Similarly, Plack (2006) reported that new graduates found it challenging to interact with patients from different cultures. This finding was based on participants' experiences when learning and developing their communication and interpersonal skills. Participants also perceived that having clinical exposure to patients from different cultural backgrounds was essential for learning those skills. In this study, while the authors explicitly recruited new graduates and students as separate groups, the results were combined because similar themes were identified across the two participant groups. However, of these participants, six identified that working with people from CALD communities was a challenge, indicating that there may be differences within the individuals or cohorts. As these specific challenges were not the focus of the study, any differences were not explored.

3.3.3.4 Discussion

This literature review found 18 articles that focused on exploring new graduate physiotherapy perceptions and experiences of their professional practice. Of these

articles, there were no published studies that explicitly examined new graduates' perceptions and experiences working with people from CALD communities. Similar to the findings in previous literature reviews, there is limited research investigating culturally responsive practice in new graduate physiotherapists, especially in an Australian context. The studies identified in this literature review focused on new graduates' perspectives on their learning, development, and practice of generic professional skills or attributes, their professional practice in certain clinical settings, or patients with specific pathologies. Nonetheless, three studies reported some findings related to culture, cultural diversity, or cultural responsiveness. The findings from the three studies suggest that new graduates may be unprepared to address sociocultural factors during patient care.

While relevant, the results from the three studies provide a limited understanding of new graduates' perceptions and experiences of their professional practice with people from CALD communities. The results from two of the studies were broadly related to the biopsychosocial model (Forbes & Ingram, 2019; Solomon & Miller, 2005). Although culture is a component of this model, culture was not explored explicitly and in-depth in the studies. While, Plack (2006) explicitly reported that participants felt challenged when working with people from CALD communities, this factor was not further explored as it was not a main theme or subtheme and not the focus of the study. The study by Plack (2006) also combined findings for new graduates and students due to overlapping main themes, which suggests that new graduates and students have similar experiences. However, the themes were broad (e.g., access to challenges, access to people), and the quantification of participants

who reported different challenges such as working with people from CALD communities (6/15), suggests there may have been differences.

Further to the limited findings, there were also methodological issues. Across the three studies, there was insufficient information about procedures used to maximise the rigour of the research process and researchers' characteristics and reflexivity. The latter information is important in qualitative studies adopting social constructivist and interpretative paradigms, where researchers are active participants that influence the knowledge produced (Carpenter & Suto, 2008). Also, Forbes and Ingram (2019) and Plack (2006) did not provide a clear philosophical orientation or justification for their research. Similarly, Solomon & Miller (2005) described methods that did not sufficiently align with a grounded theory approach. These limitations reduce the potential for authors to determine the credibility of the findings.

Besides the study conducted by Lee and colleagues exploring perceptions of physiotherapists in general (Lee et al., 2006a, 2006b), other published qualitative studies in physiotherapy that have explored clinical practice related to people from CALD communities have only been conducted in student populations outside Australia (Fougner et al., 2012; Hilliard et al., 2008; Kraemer, 2001). Although these results may be useful for understanding the development of culturally responsive practice, the new graduate stage may present with nuances in practice. Different learning needs and challenges have been identified between students and new graduates' during their clinical experiences (Tryssenaar & Perkins, 2001). Differences in perceptions and experiences of professional practice have also been

reported between new graduate and experienced physiotherapists (Johnston et al., 2012; Seale & Utsey, 2019; Wainwright et al., 2010, 2011).

Studies investigating new graduates' perspectives of their professional practice related to working with CALD communities in other health disciplines are also limited. Studies conducted among new graduate health professionals in this area have been quantitative, cross-sectional, survey studies that assess self-perceived cultural responsiveness (Aleksejuniene et al., 2014; Kozlowski-Gibson, 2015; Marino et al., 2013; Van Stormbroek & Buchanan, 2019). While this information can be used to understand where new graduates are in their learning journey and determine their learning needs, the results may not provide a better understanding of how they can be supported. As such, the results from self-assessment questionnaires do not allow an in-depth understanding of how new graduates perceive they culturally adapt their practice, and the factors that may influence care towards people from CALD communities

3.3.4 Section summary

By the time students transition into the workforce, they should be prepared to work effectively with people from CALD communities. Results from the literature review in this section suggest that new graduates may be limited in their capability to work effectively with people from CALD communities. However, the current evidence is limited, and according to this review, there is currently no published study that explicitly focused on new graduate physiotherapists' perceptions and experiences when they encountered people from CALD communities in their clinical practice.

3.4 Directions for future research in entry-level physiotherapy education

Physiotherapy education needs to be developed in line with the changing healthcare needs. As such, the increasing culturally diverse population and existing health disparities among people from CALD communities require physiotherapists to be equipped with the skills and attributes to work effectively with these communities. Therefore, embedding learning and teaching to facilitate the development of cultural responsiveness in entry-level curricula is considered essential to ensure graduates are well prepared for practice across the spectrum of patients receiving healthcare in Australia. The series of reviews presented in this chapter in combination with the evidence of suboptimal health outcomes for CALD communities in Australia (Chapter One), highlights a critical need for research to investigate whether entry-level physiotherapy programs are adequately supporting the development of cultural responsiveness in students and preparing graduates for the workforce.

Overall, the reviews presented in this chapter highlight the limited research around cultural responsiveness in the physiotherapy education literature not only in Australia but internationally. A large proportion of studies were related to clinical or technical skills or focused on specific pathologies. While there were studies investigating concepts related to culture, cultural diversity, and cultural responsiveness, these were either covered implicitly or as a small component of the study. Although there was some evidence around the evaluation of students' cultural responsiveness, these studies were conducted in the USA with major methodological concerns. Therefore, an investigation to determine how entry-level physiotherapy programs in Australia are currently supporting the development of students' cultural responsiveness is required. These findings would inform whether gaps in curricula

are present in preparing students and graduates to work effectively with people from CALD communities.

While this thesis focuses on Australian entry-level physiotherapy curricula, the NZ context is of particular importance as the bi-national *Physiotherapy Practice Thresholds* ensure there are mutually consistent entry-level thresholds of competency for the physiotherapy profession in Australia and NZ. These practice thresholds set the requirements for all Australian and NZ physiotherapy graduates. Also, under the *Trans-Tasman Mutual Recognition Act 1997*, physiotherapists who are registered in Australia are entitled to seek registration and practice in NZ, and vice versa. These mutual agreements and shared competencies mean that entry-level programs in both countries have the same requirements to ensure students are culturally responsive upon graduation. Although Australia’s and NZ's political context are different (multicultural policy and bicultural policy, respectively), the sociocultural makeup of NZ's population, similar to Australia, is increasingly becoming more culturally diverse. According to the 2018 NZ Census, up to 27 per cent of the population in NZ were born overseas (Statistics New Zealand, 2018). Overall, how NZ approaches supporting the development of entry-level physiotherapy students’ cultural responsiveness will influence Australian approaches. Therefore, future research conducted in this area needs to include the NZ perspective.

Studies that are specifically exploring new graduate perspectives of their professional practice and clinical educators' perceptions of their learning and teaching approaches related to cultural responsiveness in an Australian context need to be situated in regions in Australia where the population is the most culturally

diverse. This would ensure that physiotherapists are indeed practicing with a breadth of people from these communities. Also, as the population of people from CALD communities is concentrated in certain local areas (ABS, 2017), targeting research in these areas would be more relevant.

3.5 Thesis aims

The overall aim of this thesis was to investigate how entry-level physiotherapy programs deliver learning and teaching to support the development of cultural responsiveness in students, and to identify if gaps exist in the preparation of new graduates when working with people from CALD communities. To achieve this broad goal, specific objectives were developed based on the gaps in the literature review. These were:

1) Investigate how entry-level physiotherapy programs in Australia and Aotearoa New Zealand design curricula to foster the development of cultural responsiveness in physiotherapy students (Study one – Chapter Four).
2) Evaluate the level of self-perceived cultural responsiveness of entry-level physiotherapy students in Australia and New Zealand during their training, and explore the factors associated with levels of self-perceived cultural responsiveness (Study two – Chapter Six)
3) Explore the perceptions and experiences of physiotherapy clinical educators when facilitating the development of cultural responsiveness during clinical learning (Study three – Chapter Five).
4) Explore the perceptions and experiences of new graduate physiotherapists when working with people from CALD backgrounds (Study four – Chapter Seven).

Chapter Four

Curricula survey of Australian and Aotearoa New Zealand physiotherapy programs (study one)

Chapter four has been published as:

Te, M., Blackstock, F., & Chipchase, L. (2019). Fostering cultural responsiveness in physiotherapy: curricula survey of Australian and Aotearoa New Zealand physiotherapy programs. *BMC Medical Education*, *19*(1), 1-12.

4.1 Statement from co-authors confirming authorship contribution of the PhD candidate

The co-authors of the paper "Fostering cultural responsiveness in physiotherapy: curricula survey of Australian and Aotearoa New Zealand physiotherapy programs" confirm that Maxine Te has made the following contributions:

- Conception and design of the research
- Analysis and interpretation of the findings
- Writing of the manuscript and critical appraisal of the content

In addition to the statements above, in cases where I am not the corresponding author of a published item, permission to include the published material has been granted by the corresponding author.

Maxine Te ______________________________ Date: 7/8/2020

As the supervisor for the candidature upon which this thesis is based, I can confirm that the authorship attribution statements above are correct.

Lucy Chipchase ______________________________ Date: 7/8/2020

4.2 Publication: Fostering cultural responsiveness in physiotherapy: curricula survey of Australian and Aotearoa New Zealand physiotherapy programs.

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Predictors of self-perceived cultural responsiveness in entry-level physiotherapy students in Australia and Aotearoa New Zealand

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Abstract

Background: Ensuring physiotherapy students are well prepared to work safely and effectively in culturally diverse societies upon graduation is vital. Therefore, determining whether physiotherapy programs are effectively developing the cultural responsiveness of students is essential. This study aimed to evaluate the level of self-perceived cultural responsiveness of entry level physiotherapy students during their training, and explore the factors that might be associated with these levels.

Methods: A cross sectional study of physiotherapy students from nine universities across Australia and Aotearoa New Zealand was conducted using an online self-administered questionnaire containing three parts: The Cultural Competence Assessment tool, Altemeyer's Dogmatism scale, and the Marlowe-Crowne social desirability scale- short form. Demographic data relating to university, program, and level of study were also collected. Data was analysed using one-way ANOVA, t-tests and multiple regression analysis.

Results: A total of 817 (19% response rate) students participated in this study. Overall, students had a moderate level of self-perceived cultural responsiveness (Mean (SD) = 5.15 (0.67)). Fewer number of weeks of clinical placement attended, lower levels of dogmatism, and greater social desirability were related to greater self-perceived cultural responsiveness. Additionally, fourth year undergraduate students perceived themselves to be less culturally responsive than first and second year students ($p < 0.05$).

Conclusions: These results provide educators with knowledge about the level of self-perceived cultural responsiveness in physiotherapy students, and the factors that may need to be assessed and addressed to support the development of culturally responsive practice.

Keywords: Cultural responsiveness, Physiotherapy students

Background

Culturally responsive physiotherapy practice is recognised as a vital component of service provision that impacts positively on health outcomes for Indigenous and culturally and linguistically diverse (CALD) communities [1, 2]. Cultural responsiveness refers to the capacity of healthcare professionals or organisations to deliver care that is safe, respectful, and relevant to the health beliefs, practices and cultural and linguistic needs of culturally diverse patient populations [3–5]. Evidence of health disparities experienced by people from Indigenous and CALD communities underpins the need for ensuring culturally responsive practice in all health professions including physiotherapy [6, 7]. As the population of Australia and Aotearoa New Zealand becomes increasingly culturally diverse, physiotherapists must be able to provide culturally responsive care [8–10].

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Developing personal cultural responsiveness is a learning process that is ongoing and dynamic [5, 11, 12]. Cultural responsiveness is not an end state, but an "ongoing contextual, developmental and experiential process of personal growth" [12]. While cultural responsiveness is a lifelong journey, there is agreement that aspects of cultural responsiveness should be addressed early in the education of healthcare professionals [13–15]. To be able to design efficacious health professional curricula that supports the development of behaviours, attitudes, and interpersonal interactions that are culturally responsive, educators need to understand the baseline level of cultural responsiveness of healthcare students and the factors that influence cultural responsiveness.

There is a paucity of published research evaluating cultural responsiveness in physiotherapy students. While there are a handful of intervention studies, there have only been two published studies which assess cultural responsiveness throughout the curriculum. Using a modified version of the Self-Assessment of Cultural Competence questionnaire, Doherty et al. [16] found that self-reported cultural responsiveness differed between the year levels, with second year students reporting lower levels than first and third year students. Similarly, Oluwole-Sangoseni & Jenkins-Unterberg [17] found a difference among first, third and sixth year students, although only cultural awareness and sensitivity was assessed. Overall, the results were based on small samples at single tertiary institutions in the United States and was predominately Caucasian females, limiting generalisability of the study results. Further, the results were self-reported perceptions of cultural responsiveness which may have been influenced by social desirability bias [18]. Social desirability refers to an individual's need for social approval or acceptance, and the belief that this can be attained by adopting socially acceptable behaviours [19–21]. Therefore, to appropriately examine cultural responsiveness using self-reported measures, a measure of social desirability should be concurrently completed, and analyses should include these data as a covariant.

In understanding students' learning to develop cultural responsiveness, factors that potentially influence development should be considered. To date, no literature has examined factors associated with cultural responsiveness in physiotherapy students. In other healthcare disciplines, students who are female, with greater empathy, self-efficacy and who have a lived experience with CALD communities (including speaking multiple languages), and prior training in cultural responsiveness, have been reported more likely to score higher on self-reported cultural responsiveness measures [22–27]. However, many of these factors have also been reported to not be significant predictors of students' cultural responsiveness in other studies [28–30]. To date, investigated predictors have been mostly limited to gender, age, ethnicity, exposure to CALD communities, academic level, socioeconomic status and prior training. There has been limited evaluation of the influence of personality traits. In particular, a lack of open-mindedness (dogmatism) is thought to perpetuate negative attitudes and prejudice towards different cultures, and impede the development of cultural responsiveness [31–34]. However, research assessing whether dogmatism is a predictor of cultural responsiveness is lacking. Understanding how dogmatism relates to the level of cultural responsiveness may help discern whether dogmatism needs to be addressed as a component of education to foster cultural responsiveness in physiotherapy students. Therefore, the purpose of this study was two-fold. First, the study aimed to assess the level of self-perceived cultural responsiveness in physiotherapy students in Australia and Aotearoa New Zealand, and to explore whether this differed between year levels. Second, the study also aimed to identify predictors of self-perceived cultural responsiveness, including participant demographics, prior training related to culture or cultural responsiveness, living in a culturally diverse area, number of weeks of clinical placement attended, dogmatism, and social desirability.

Methods

Design

This study used a descriptive, cross-sectional design. A self-administered web-based questionnaire was used to collect data from physiotherapy students enrolled in one of nine entry-level physiotherapy programs in Australia or Aotearoa New Zealand. These universities were selected as collaborating research partners, as they offered different program types (bachelor, bachelor/masters combined, graduate entry masters (GEM) or a masters extended), included a range of full fee paying enrolments and government supported financial enrolments, and were spread across different geographical locations (metropolitan and regional) in Australia and Aotearoa New Zealand. The study protocol was approved by Western Sydney University Human Ethics Committee (Approval No. H11967), and was also reviewed and approved by each partner university's human research ethics committee.

Data collection procedure

Data collection was conducted between May and November, 2017. Prior to data collection, the researcher at each university provided all participants with full disclosure of their rights, the nature, benefits and risks of the study. This researcher then coordinated a time in a teaching session to provide 20 to 25 min for data collection. During this teaching session, students were provided with a link to the web-based questionnaire. Where this was not feasible due to logistical issues (e.g. students on

clinical placement), students were provided with a link via email to complete in their own time. Information about the study was provided at the beginning of the web-based questionnaire, and consent to participate was obtained on the first page of the web-based questionnaire through a check box agreement. The web-based questionnaire consisted of a demographic section and three reliable and valid instruments used previously in the literature to measure cultural responsiveness, dogmatism and social desirability.

Demographic section

Questions included age in years, gender, postcode, self-identified ethnoculture, and religious affiliation. Participants were also asked about their year level of study, the type of program in which they were enrolled (bachelor, bachelor/masters combined, graduate entry masters or a masters extended) the number of weeks of placement they had attended, if they had prior education or training related to culture or cultural responsiveness, and whether they spoke a language other than English. In Australia and Aotearoa New Zealand, bachelor degrees in physiotherapy are four years, bachelor/masters combined degrees are usually four or five years, graduate entry masters degrees are two years, and masters extended degrees are usually two or three years (or six semesters). A masters extended degree (Doctor of Physiotherapy) is equivalent to a professional doctorate in the United States.

Content validity for this section of the questionnaire was ensured by including questions and answer options based on published work in cultural responsiveness or based on the census data collection in Australia and Aotearoa New Zealand [9, 23, 35, 36]. For example, questions related to demographic variables such as age, gender, level of study, self-identified ethnoculture, type of program or previous cultural training were either adapted from published studies assessing self-perceived cultural responsiveness or constructed based on the literature defining important factors associated with cultural responsiveness. Questions related to ancestry, religious affiliation and spoken language were worded similarly to the Australian 2016 census or Aotearoa New Zealand 2013 census. Additionally, to ensure face validity, a draft of this section was provided to the research team for feedback regarding the content and structure of the questions [37].

Cultural competence assessment tool

The Cultural Competence Assessment (CCA) [38] was used to assess self-perceived levels of cultural responsiveness. The CCA is a 25 item Likert scale questionnaire with two subscales: Cultural Awareness and Sensitivity (CAS), and Culturally Competent Behaviours (CCB). For an overall CCA score, the average of all 25 items was calculated to provide a score from 1 to 7 [39–41]. The CCA assesses self-report of behaviour rather than self-efficacy for performing a behaviour, and provides a measure of cultural responsiveness that does not emphasise knowledge about specific cultural groups [38].

The CAS subscale measures awareness (knowledge) and sensitivity (attitudes) and consists of 11 items with a 7- point Likert type scale ranging from 1 (Strongly Disagree) to 7 (Strongly Agree), with four items reversed scored. The CCB subscale measures the frequency of culturally responsive behaviours with 14 items and a 7-point Likert type scale ranging from 1 (Never) to 7 (Always). Scores for all items on each subscale are summed and divided by the number of items to provide a score from 1 to 7. Higher scores mean higher levels of overall cultural responsiveness, cultural sensitivity or culturally responsive behaviours demonstrated. Mean scores of 4 indicate moderate levels cultural responsiveness. Mean scores of 5 indicate moderately high levels of cultural responsiveness. Mean scores approaching the range of 6–7 indicate high levels of cultural responsiveness [39, 40]. Internal consistency has been reported as high (Cronbach's $\alpha > 0.80$) with validity (content, construct and face) and test-retest reliability established [38, 42, 43].

Altemeyer's dogmatism scale

Altemeyer's dogmatism (DOG) scale was used to assess participants' level of dogmatism, defined as an unjustified and unchangeable certainty in one's beliefs [44]. The DOG scale asks respondents to think about the certainty with which they hold their beliefs, their views about maintaining an open belief system, and the likelihood that their beliefs will change in the future [44]. The DOG scale consists of 20 items with a 5-point Likert type scale ranging from 1 (strongly agree) to 5 (strongly disagree). Ten items are reversed scored to avoid response set biases. All items are summed up to calculate the total DOG score. Scores range from 20 to 100, with higher scores indicating greater levels of dogmatism. Internal consistency of the DOG scale has been reported as high (Cronbach's $\alpha > 0.88$) and construct validity has been established [44–47].

Marlowe Crowne social desirability scale – Short form C

The Marlowe Crowne-Social Desirability Scale – Short Form C (MCSD (Form C)) was used to assess participants' social desirability [18, 48]. The MCSD (Form C) consists of 13 items with a true/false response format. Seven items are reversed scored to avoid response set biases. Scores range from 0 to 13. Higher scores indicate that the participant is more likely to respond in a manner that is considered socially desirable [21, 49]. Internal

consistency reliability of the MCSD (Form C) has been reported with a Cronbach's α ranging from 0.62 to 0.89, and construct validity has been established [50–52].

Statistical analysis

Demographic characteristics of respondents were analysed using descriptive statistics. Means and standard deviations were reported for cultural responsiveness scores. Associations between academic year levels were analysed based on the type of program (bachelor, graduate entry masters and masters extended) using one-way ANOVAs or independent t-tests, with post hoc tests (Tukey), where appropriate. Differences between universities were not assessed due to political sensitivities and differences in the sample sizes between participating institutions.

To identify predictors of cultural responsiveness, three separate simultaneous multiple linear regression analyses using the general linear model procedure, were conducted for the total CCA score, and the CAS and CCB subscale scores. Predictors are independent variables that are linked or associated with a particular outcome such as the level of cultural responsiveness [53]. Ten independent variables were entered in each model: age, gender, number of weeks of clinical placement attended, prior education related to culture or cultural responsiveness, speaks another language other than English, self-identified ethnoculture, religious affiliation, lives in culturally diverse area, dogmatism score, and social desirability score. These predictors were chosen based on the cultural responsiveness literature, and prior research in other health disciplines [18, 23, 34, 54].

Prior to conducting the analyses, the statistical assumptions for regression analyses were tested. All assumptions were met, and data did not have to be adjusted (i.e. linearity, homoscedasticity and normality of residuals, and multicollinearity were within acceptable limits). Statistical software (Statistical Package for the Social Sciences (SPSS) version 24, IBM Corp., Armonk, NY, USA) was used to perform all the data analysis at a 0.05 level of significance.

Results

A total of 817 (19% response rate) physiotherapy students from the nine universities in Australia and Aotearoa New Zealand participated. Eighty-five per cent of the responses were undergraduate students, 7% were GEM students, while 6% were enrolled in a masters extended program. Characteristics of the participants are summarised in Table 1.

Level of self-perceived cultural responsiveness

The cultural responsiveness mean score was 5.15 ± 0.67 (range = 2.42–6.73), indicating a moderately high level of self-perceived cultural responsiveness among the participants. Responses on the CAS subscale showed a moderately high level of cultural sensitivity and awareness (5.77 ± 0.49, range = 3.27–7.00). Analysis of the CCB subscale showed a moderate level of culturally competent behaviours (4.53 ± 1.11, range = 0–7).

Self-perceived cultural responsiveness and year levels

There were significant differences between undergraduate year levels for self-perceived cultural responsiveness (overall CCA score) ($F[3706] = 4.60$, $p = 0.003$) (Table 2). Tukey's post hoc comparison revealed that fourth year students had lower self-perceived cultural responsiveness when compared to first year ($p = 0.004$) and second year students ($p = 0.023$). There was no statistically significant difference between fourth year and third year students ($p = 0.46$), and between first, second and third year students (all $p > 0.19$).

Analysis of the CAS subscale scores revealed a significant difference between undergraduate year levels for cultural awareness and sensitivity ($F[3706] = 3.46$, $p = 0.016$). Post hoc comparisons revealed that first year students had lower cultural awareness and sensitivity than second year students ($p = 0.017$), but there were no significant differences between all other year level comparisons (all $p > 0.47$).

Analysis of the CCB subscale scores showed significant differences between undergraduate year levels for culturally responsive behaviours ($F[3706] = 8.361$, $p < 0.001$). Post hoc comparisons revealed that fourth year students perceived they demonstrated less culturally responsive behaviours than first ($p < 0.001$) and second year students ($p = 0.02$). Third year students also perceived they demonstrated less culturally responsive behaviours than first year students ($p = 0.003$). There were no significant differences between all other year level comparisons (all $p > 0.18$). There were no significant differences between year levels in the GEM and masters extended programs for self-perceived levels of cultural responsiveness, or for the individual subscales measuring cultural awareness and sensitivity, and culturally responsive behaviours (all $p > 0.13$).

Predictors of Cultural responsiveness

Multiple regression models for overall self-perceived cultural responsiveness, and subscales of cultural awareness and culturally responsive behaviours are presented in Table 3. All three multiple regression models were significant.

Fewer number of weeks of clinical placement attended, lower levels of dogmatism, and greater social desirability were significant predictors of greater self-perceived cultural responsiveness, with the model for total CCA score

Table 1 Demographic characteristics of the respondents

Demographic Characteristics		Number of students	Percentage (%)
Country of Residence	Australia	717	87
	Aotearoa New Zealand	100	12
Gender[a]	Male	281	34
	Female	529	64
Age (mean years ± SD)		22.6 ± 4.90	
Cohort	1st year undergraduate	193	23
	2nd year undergraduate	193	23
	3rd year undergraduate	171	21
	4th year undergraduate	150	18
	1st year GEM	45	5
	2nd year GEM	14	2
	1st year masters extended	28	3
	2nd year masters extended	23	3
Weeks of clinical placement (mean ± SD)		14.08 ± 10.73	
Prior education or training related to cultural responsiveness[a]	Yes	106	13
	No	704	85
Speaks another language other than English at home	Yes	256	31
	No	561	68
Self-identified Ethnoculture	Indigenous[b]	20	2
	Australian	448	54
	New Zealander	57	7
	Aus/NZ mixed with another ethnoculture	103	13
	Non Aus/NZ	141	17
Religion	No religion	337	41
	Christianity (all denominations)	381	46
	Buddhism	39	5
	Islam	19	2
	Hinduism	23	3
	Other Religions	14	1

[a]Percentages may not add to 100 due to missing data. SD, standard deviation; GEM, graduate entry masters; Aus, Australia; NZ, Aotearoa New Zealand. [b]NZ Maori and Aboriginal and Torres Strait Islander

Table 2 Means and standard deviations (SD) for CAS, CCB and total CCA score for each year level

Program Type	Year level	CAS (mean ± SD)	CCB (mean ± SD)	Total CCA (mean ± SD)
Undergraduate	1st year	5.68 ± 0.50[a]	4.80 ± 1.08[bc]	5.24 ± 0.67[e]
	2nd year	5.82 ± 0.50[a]	4.57 ± 1.19[d]	5.25 ± 0.70[f]
	3rd year	5.81 ± 0.44	4.39 ± 1.02[c]	5.09 ± 0.60
	4th year	5.75 ± 0.47	4.23 ± 1.08[bd]	4.94 ± 0.60[ef]
GEM	1st year	5.68 ± 0.48	4.42 ± 1.04	5.03 ± 0.64
	2nd year	5.59 ± 0.67	4.39 ± 0.80	4.96 ± 0.57
Masters extended	1st year	6.01 ± 0.51	5.14 ± 1.00	5.55 ± 0.70
	2nd year	5.99 ± 0.45	4.72 ± 0.98	5.29 ± 0.62

CAS, Cultural Awareness and Sensitivity; CCB, Cultural Competent Behaviours, CCA, Cultural Competence Assessment; GEM, graduate entry masters; SD, standard deviations; [a]CAS scores 1st year vs 2nd year – $p < 0.05$; [b]CCB scores 1st year vs 4th year – $p < 0.05$; [c]CCB scores 1st year vs 3rd year – $p < 0.05$; [d]CCB scores 2nd year vs 4th year – $p < 0.05$; [e]CCA scores 1st year vs 4th year; [f]CCA scores 2nd year vs 4th year

Table 3 Multiple regression analysis: Predictors of self-perceived cultural responsiveness

	CAS			CCB			Total CCA		
Predictor variable	B	SE B	t	B	SE B	t	B	SE B	t
Gender (reference group: Male)									
Female	0.06	0.04	1.81	−0.03	0.09	−0.32	0.01	0.05	0.36
Age	0.01	0.04	0.33	0.06	0.09	0.65	0.03	0.05	0.65
Speaks a language other than English (reference group: yes)									
No	0.07	0.05	1.52	0.13	0.11	1.13	0.10	0.07	1.49
Prior cultural related education or training (reference group: yes)									
No	−0.06	0.05	−1.24	−0.08	0.12	−0.67	− 0.07	0.07	− 0.99
Living in a culturally diverse area[a]	−0.03	0.04	− 0.91	− 0.05	0.09	− 0.60	− 0.04	0.05	− 0.82
Number of weeks of clinical placement attended	−0.01	0.03	− 0.33	− 0.26	0.08	−3.29*	− 0.14	0.05	−2.87*
Self-identified ethnoculture (reference group: Australian)									
Indigenous (NZ Maori or Aboriginal and Torres Strait Islander)	0.12	0.12	0.99	0.33	0.29	1.14	0.22	0.17	1.31
New Zealander	−0.04	0.06	−0.59	−0.21	0.15	−1.37	−0.12	0.09	−1.36
Non Australian/New Zealander	−0.04	0.05	−0.85	0.15	0.12	1.25	0.05	0.07	0.76
Australian/New Zealander mixed with other ethnoculture	0.01	0.05	0.13	−0.06	0.13	−0.50	−0.03	0.08	−0.38
Religion (reference group: no religion)									
Christianity	0.05	0.04	1.39	0.17	0.09	1.95	0.11	0.05	2.13
Buddhism	−0.42	0.08	−0.51	0.19	0.20	0.97	0.08	0.12	0.64
Islam	−0.13	0.12	−1.09	0.53	0.29	1.85	0.20	0.17	1.18
Hinduism	0.02	0.10	0.22	0.18	0.25	0.71	0.10	0.15	0.68
Other Religion	0.31	0.14	2.31	0.66	0.33	2.00	0.48	0.19	2.49
Social Desirability	−0.005	0.03	−0.14	0.46	0.08	5.74*	0.23	0.05	4.79*
Dogmatism	−0.31	0.04	−8.87*	− 0.43	0.09	−5.04*	− 0.37	0.05	−7.34*

CAS Cultural Awareness and Sensitivity, *CCB* Cultural Competence Behaviour, *CCA* Cultural Competency Assessment, *NZ* Aotearoa New Zealand, *B* unstandardized coefficient, *SE B* standard error for unstandardized coefficient, *t* t test statistics

[a]Data based on the percentage of overseas born population from non-English speaking countries living in the local government area or district in which participants live

*$p < 0.01$

($R^2 = 0.12$, adjusted $R^2 = 0.10$, F[17,743] = 6.064, $p < 0.001$) accounting for 10% of the variance in total CCA scores.

Lower levels of dogmatism were a significant predictor of greater self-perceived cultural awareness and sensitivity, with the model for CAS subscale score ($R^2 = 0.15$, adjusted $R^2 = 0.13$, F[17,743] = 7.309, $p < 0.001$) accounting for 13% of the variance in CAS subscale scores.

Fewer number of weeks of clinical placement attended, lower levels of dogmatism, and greater social desirability were significant predictors of greater self-perceived culturally responsive behaviours, with the model for CCB subscale scores ($R^2 = 0.10$, adjusted $R^2 = 0.08$, F[17,743] = 4.829, $p < 0.001$) accounting for 8% of the variance in CCB subscale scores.

Discussion

This is the first study to assess self-perceived cultural responsiveness in physiotherapy students throughout the curriculum in an Australian and Aotearoa New Zealand context. This study is also the first to explore factors associated with levels of self-perceived cultural responsiveness in physiotherapy students. Understanding baseline levels of cultural responsiveness and the factors that influence cultural responsiveness is central to the development of curriculum that aims to support culturally responsive behaviours, skills and attitudes. The results from this study suggest that physiotherapy educators should consider the characteristics of the learners, especially how dogmatism can contribute to the capacity to develop cultural responsiveness, and the implications of social desirability. Additionally, physiotherapy educators need to be aware of how cultural responsiveness can be fostered overtime.

The results of this study suggest that physiotherapy students who are more dogmatic in their thinking have lower self-perceived cultural responsiveness scores. This may be explained by understanding the cognitive processes related to dogmatism. Dogmatism is a personality

trait that is marked by a closed-minded cognitive style. This involves the selective processing of information and evidence, and the tendency to minimise or ignore information that contradicts with co-existing beliefs (confirmatory bias) [55, 56]. Culturally responsive practice requires health professionals to be aware and set aside personal biases, and to understand and respect different health beliefs and experiences from their patients' perspective [54, 57]. In this sense, individuals who are dogmatic would likely process information about different or competing health beliefs and practices in a biased or dismissive manner.

Previous literature has also demonstrated that dogmatism is associated with negative attitudes and behaviours towards people from different cultural backgrounds. For example, dogmatic nursing staff displayed more negative attitudes or viewed culturally diverse patient groups as more annoying and superstitious than those who were less dogmatic [33]. Additionally, dogmatic students are less willing to listen, and have lower receptivity and tolerance towards teaching instructors who were from CALD communities [58, 59]. These attitudes and behaviours are contrary to the personal attributes that are considered essential for developing culturally responsive practice [34, 54, 60]. Therefore, dogmatism may impede the capacity of students to learn and develop cultural responsiveness. Educators should assess dogmatism to identify at risk students, and design educational interventions that aim to facilitate open-mindedness and self-awareness, and dispel biased and prejudiced thinking to support the development of culturally responsive practice.

In this study, students who responded in a manner considered to be more socially desirable perceived themselves to be more culturally responsive. The majority of studies that have measured social desirability have also demonstrated similar results [18]. Being culturally responsive is a skill that is expected in healthcare culture and practice. Students who are more socially desirable are thought to respond in a way that portrays themselves as favourable, and thus providing a self-perceived measure of their desired performance level rather than actual level [18, 19]. When using self-reported measures to assess cultural responsiveness, social desirability should be assessed to determine the validity of responses [18, 21, 61]. Educators should also consider the implications of social desirability responding on learning. That is, it may be important for educators to have discussions in this area to promote self-awareness in students to openly acknowledge their limitations, and to facilitate self-reflection on skills and behaviours.

Alternatively, greater social desirability and higher self-perceived cultural responsiveness may also be explained by viewing social desirability as a personality trait [62, 63]. Social desirability is associated with personality traits of agreeableness, conscientiousness, emotional stability, greater emotional intelligence, and honest-humility [64–66]. In this sense, social desirability may be indicative of social cognitive skills. That is, individuals are cognisant of the standards of their society or group, are aware of the reputation they hold, and conscious to how they should present themselves in the society or group [67]. As such, physiotherapy students who are more socially desirable may engage in behaviours based on expectations of their roles to provide quality care to their patients. In this view, social desirability may have implications on how educators address this area from a social-cognitive and a professional standpoint. However, social desirability as a personality trait is also influenced by multiple cultural and personality variables [66–68]. More research is required to understand this perspective, how it relates to culturally responsive practice and whether there is a role within curriculum to explore social desirability for learning culturally responsible practice.

The findings in this study also indicate that physiotherapy students with greater clinical experience had lower levels of self-perceived cultural responsiveness than those that did not. While counter-intuitive to what might be expected, these findings have also been observed in other studies [69–72]. On the surface, these results suggest that the curricula in clinical education may not be adequately fostering the development of culturally responsive practice. However, it is also possible that with increasing education and clinical experience, students feel less culturally responsive as they learn more about diversity, and begin to see what they do not know about delivering care to people from CALD communities. Additionally, these results could also represent the increasing ability of students over the duration of their training to effectively self-reflect on their abilities. Understanding how cultural responsiveness is integrated and addressed within the classroom and clinical curricula may help further explain why self-perceived cultural responsiveness decreases overtime. Longitudinal studies assessing cultural responsiveness of students as they progress through the curriculum could also provide better insight into the development of cultural responsiveness overtime.

Limitations

The findings of this study need to be considered in light of the following limitations. Despite collecting data from 817 students, the overall response rate was 19%. Therefore, there is the risk of non-response bias [73]. However, the sample population included students studying at different universities across different geographical locations in Australia and Aotearoa New Zealand, thereby

providing a representative sample of physiotherapy students across the geographic region. Also, demographic data for gender proportions reflect recent studies in Australian physiotherapy universities and the current workforce data [74–77]. In addition, self-reported questionnaires, such as the CCA provide information about perceived abilities, which are often only low or moderately correlated with actual level of performance [78]. As such, self-reported tools may be influenced by social desirability, and the ability of students to accurately self-reflect on their own skills [78, 79]. However, there is little consensus on the most appropriate assessment method and this study attempted to examine the influence of social desirability bias on the cultural responsiveness measure. Also, a vast majority of research relies on self-reported questionnaires, and there are currently no valid and reliable observational measures available to assess cultural responsiveness [18, 79]. Thus, future research should consider developing and validating observational measures to assess cultural responsiveness.

Conclusion

This study is the first to assess and explore the factors associated with Australian and Aotearoa New Zealand physiotherapy students' self-perceived cultural responsiveness. The results indicate that higher dogmatism was related to lower levels of self-perceived cultural responsiveness, and higher social desirability was related to higher levels of self-perceived cultural responsiveness. Additionally, students with more clinical experience and final year undergraduate students perceived themselves to be less culturally responsive. Overall, these results provide educators with knowledge about the level of perceived cultural responsiveness in physiotherapy students, and the factors that may need to be assessed and addressed to support the development of culturally responsive practice.

Abbreviations

CALD: culturally and linguistically diverse; CAS: Cultural awareness and sensitivity; CCA: Cultural competence Assessment; CCB: Cultural competency behaviours; DOG: Altemeyer's dogmatism scale; GEM: graduate entry masters; MCSD: Marlowe crowne-social desirability scale

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Availability of data and materials

The datasets used and/or analysed during the current study are available from the corresponding author on reasonable request.

Authors' contribution

MT designed the study with substantial input from LC and FB. MT coordinated the study and all authors were involved in data collection. MT performed the statistical analysis and interpreted the results. MT drafted the first manuscript, and all authors critically reviewed and provided feedback on the manuscript. All authors have read and approved the final manuscript.

Ethics approval and consent to participate

Approval was obtained from the Western Sydney University Human Ethics Committee (Approval No. H11967) and all partnering universities for the collection and publication of student data. Consent was obtained from all students prior to participation.

Consent for publication

Not applicable.

Competing interests

The authors declare that they have no competing interests.

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4.3 List of appendices related to chapter four

The following appendices have been included to supplement material contained in the publication.

4A Semi-structured interview guide – curriculum survey

Chapter Five

Perceptions and experiences of clinical educators on fostering cultural responsiveness in students (study three)

Chapter five is currently under review

Te, M., Brady, B., Blackstock, F., Liamputtong, P., & Chipchase, L. (2020). "An added layer of complexity": Perceptions and experiences of Australian physiotherapy clinical educators on fostering cultural responsiveness in students. *Physiotherapy Theory and Practice.*

5.1 Chapter overview

This chapter presents the findings of a qualitative study undertaken to understand how physiotherapy clinical educators integrate aspects of culture, cultural diversity, or cultural responsiveness into their learning activities in the clinical environment. The learning and teaching process that occurs in a clinical learning environment is considered to be a complex and dynamic phenomenon that is influenced by personal, social, institutional, and structural factors (Higgs & McAllister, 2007; Laitinen-Väänänen et al., 2007; Patton et al., 2013). Therefore, qualitative research approaches would allow researchers to obtain an in-depth knowledge of how clinical educators understand the learning and teaching processes, and the sociocultural factors that may influence their perceptions and actions related to facilitating cultural responsiveness. This chapter begins with a description of the methodological framework and justification for selection, followed by a version of the manuscript, which is currently under peer review. The interview guide, additional participant

quotes, and extracts from the reflexive journal and coding manual are provided in Appendix five.

5.2 Methodological framework

5.2.1 Epistemological Position

The overarching epistemology guiding this qualitative investigation was interpretivism-constructivism. Specifically, a social constructivist approach underpinned this research study. This approach is in contrast to the positivist paradigm, which is common in physiotherapy research. A positivist approach assumes that there is one single objective reality or truth that exists independently of the subject being studied (Yilmaz, 2013). Research situated in a positivist paradigm (quantitative research approaches) dismisses the contextual influences and the dynamic nature of the phenomenon being studied. As such, the truth is generally expressed as a binary outcome generalised to all individuals (Creswell & Creswell, 2017; Yilmaz, 2013). Thus, the positivist approach would not capture an in-depth understanding of the nuances of clinical education related to cultural responsiveness.

On the other hand, social constructivism posits that reality (what is known as the truth) is continuously constructed and reconstructed from individual experiences and interactions with others and their environment (Carpenter & Suto, 2008; Creswell & Poth, 2017; Liamputtong, 2013). What is known as the truth is a consequence of the context in which the action occurs and is shaped by the historical, political, and sociocultural norms that operate within that context and time (Creswell & Poth,

2017). Therefore, different views of reality exist based on each persons' understandings and experiences of the world.

The multiple, yet different and valid interpretations of phenomena can be understood by exploring the meanings people attribute to the experiences or interactions with the social world (Liamputtong, 2013). Here the social world is intersubjective, meaning people come together to interchange thoughts, come to terms with, or interpret each other's perspectives or actions (Liamputtong, 2013). For example, clinical educators develop their understanding of learning and teaching based on broad underlying perceptions of professional requirements, and their experiences as students and interactions with other clinical educators (Trede & Smith, 2014). Although individuals cannot directly adopt another individual's perspective, it is possible to recognise and engage in similar experiences or actions, making it feasible to share a common interpretation of aspects in their reality.

The process of learning and teaching is shaped by cultural, historical, political, and social norms. The concept of cultural responsiveness, being an interactive and dynamic process, can also be viewed as a socially constructed phenomenon (Blanchet Garneau & Pepin, 2015b). Additionally, as the overall research question sought to explore the perceptions and experiences of clinical educators, to uncover their understanding of how they facilitate the development of cultural responsiveness, a social constructivist epistemological position was considered appropriate for this objective.

5.2.2 Methodology

As this research aimed to explore and examine the perceptions and experiences of clinical educators, a qualitative research methodology was adopted. Additionally, this research approach was also guided by phenomenology methodology. That is, this research was not situated in the phenomenology methodology framework, but the concept of exploring participants' 'lived experiences' to understand the meanings they attribute to a social phenomenon, such as facilitating students' learning, was used to guide the research process. Therefore, interviews were used to explore the individual subjective perspectives and lived experiences of clinical educators (Carpenter & Suto, 2008).

Interviews are similar to an informal conversation and invite participants to recall, reveal, and construct aspects of their subjective experiences (Minichiello et al., 2008). The in-depth interviews used in this research provided relevant information about clinical educators' perceptions and their experiences regarding how they facilitated the development of cultural responsiveness in their students during clinical learning. Data produced from the in-depth interviews were also influenced by the interaction between the researcher and participants (Fontana & Frey, 2000). Therefore, the use of interviews as the data collection method was consistent with the epistemological position and methodology of this study.

Purposive sampling was used to allow the selection of information-rich cases, which involved identifying individuals that were knowledgeable about or experienced with the phenomenon of interest (Creswell & Poth, 2017; Liamputtong, 2013). That is, experienced physiotherapy clinical educators who had supervised students working

with patients from CALD communities. As the aim of the study was to explore and understand the perceptions and experiences of clinical educators, purposive sampling was considered an appropriate sampling method.

The data were analysed using inductive thematic analysis, which involved identifying, analysing, and reporting patterns (themes) across the data set (Braun & Clarke, 2006). Thematic analysis is a flexible method that is independent of theory and epistemology (Braun & Clarke, 2006). Thus, it can be applied across a range of theoretical and epistemological approaches. Given this flexibility, thematic analysis was considered appropriate for exploring the meanings ascribed to a phenomenon, such as facilitating the development of cultural responsiveness from a social constructivist orientation. Additionally, adopting this analytical approach provided a framework to ensure that data were analysed in a systematic and rigorous way.

When conducting thematic analysis, themes can be identified in two ways, inductively (data-driven) or deductively (theory-driven) (Braun & Clarke, 2006). Inductive thematic analysis was used in this study. This meant that the analysis process was not driven by the researcher's preconceived theories, rather the themes identified were linked to the data themselves. On the other hand, deductive thematic analysis involves analysing the data based on existing theory or using a predetermined framework to interpret and identify themes (Braun & Clarke, 2006). An inductive analysis approach aligned with the social constructivist epistemological position, as the themes identified generated new knowledge about clinical educators' understandings of and their experiences in supporting the development of cultural responsiveness in their students.

In thematic analysis, themes can be identified at a semantic (explicit) level or at a latent (interpretative) level. At the semantic level, patterns of data are identified at the surface level, where the analysis does not go beyond what a participant has said in response to the questions (Braun & Clarke, 2006). In contrast, themes identified at the latent level are subject to researchers' interpretation. That is, the data are examined for the underlying ideas, assumptions, and ideologies embedded in the data. The data in this research study were analysed at the latent level, which aligned with the social constructivist epistemological position (Braun & Clarke, 2006). As such, the themes identified were not just descriptions of participants' responses, but overarching themes also represented the underlying meanings of the data.

Data collection in this study continued until saturation. This involved recruiting participants into the study until the data set was complete (Bowen, 2008). Saturating data ensures that there are adequate data to develop a valid understanding of the study phenomenon. In this study, saturation was defined as the point at which there was no new or relevant information identified within the data (Guest et al., 2006). Several methods were used to determine data saturation. After completing each interview, the primary researcher (MT) analysed the transcripts and listened to the audio recordings. Initial codes were identified and listed in an Excel spreadsheet after each interview and were continued until no new relevant codes were identified. Additionally, personal reflective notes completed after each interview and peer debrief meetings also helped to determine whether any new relevant information was being generated or whether participants were making the same comments.

5.3 Quality considerations

In qualitative research, trustworthiness or rigour refers to the quality, authenticity, and trustfulness of the research. There are many different criteria or definitions of trustworthiness in qualitative research (Nowell et al., 2017). One widely accepted criterion, introduced by Lincoln and Guba (1985), was chosen to demonstrate trustworthiness in this study. The criteria for trustworthiness by Lincoln and Guba (1985) was credibility, transferability, dependability, and confirmability. Each of these aspects will now be described as they relate to this study.

5.3.1 Credibility

The concept of credibility refers to the degree to which the findings make sense and reflect the participants' perspectives and experiences (Lincoln & Guba, 1985). Credibility is comparable to internal validity and affirms that the research findings can be trusted. Credibility is judged based on the research process. Thus, researchers need to provide a thorough and transparent description. Establishing credibility also requires that the researchers ensure they consciously pay attention to their own biases and perspectives and understand how these have influenced how they have interpreted or represented the participants' perspectives (Denzin & Lincoln, 2011).

Credibility was established using a number of methods throughout the research process. Firstly, during the conception phase, a well-established methodology and congruent research methods were chosen. This choice was considered based on the research questions, previous comparable studies that had successfully used the methods, and discussions with an expert in qualitative research methods (LP). Secondly, before data collection, pilot testing of the data collection process

(interview) was undertaken to ensure that questions were appropriate and provided relevant responses to the research questions. Reflections made from the pilot interviews were used to help strengthen the interview process, such as ensuring appropriate probes and that the primary researcher's (MT) questioning did not bias the participant responses. Thirdly, frequent peer-debriefing sessions between the primary researcher and the research team (BB, FB, LC) were conducted throughout the entire research process, which allowed the discussion of alternative views, approaches, and interpretations. Regular peer-debriefing meetings were also conducted with an expert qualitative researcher (LP). This allowed critique of the interview transcripts, discussions about biases, and interpretations of the data from an individual (public health) who did not have a physiotherapy background. Additionally, as the researcher is an active participant in the generation of knowledge in qualitative research, information about the researcher's and research teams' background, qualifications, and experiences were made explicit (Patton, 2014). Providing this information would allow readers to understand how the interpretation of the data may have been influenced by the researchers. Further, a second researcher independently coded parts of the data set, and the coded transcripts were compared for consistencies and differences. Finally, decisions throughout the research process were also documented in a memo by the primary researcher, which was part of the audit trail.

5.3.2 Transferability

Transferability refers to the applicability of the research findings to other situations. That is, the degree to which the theoretical knowledge obtained from the research study can be used to inform and facilitate insights in other similar individuals, groups,

or situations (Carpenter & Suto, 2008; Liamputtong, 2013). While the researchers do not know the sites that the findings may be transferred to, certain strategies were undertaken to ensure that those who seek to transfer the findings can judge for transferability (Lincoln & Guba, 1985).

Methods to enhance transferability were used throughout the research process. First, purposive sampling was used to select individuals who could provide knowledge and insights into their subjective experiences about the phenomenon of interest. Specifically, clinical educators working in one of the most culturally diverse areas in Australia were chosen, as their students would likely have a greater encounter with patients from CALD communities. Second, demographic information about the participants were provided to allow readers to understand the cohort of participants. However, detailed information for each participant was not provided due to confidentiality issues.

5.3.3 Dependability

Dependability can be compared to reliability in quantitative research (Shenton, 2004). Although, in qualitative research, this may be problematic due to the changing nature of the phenomenon (Shenton, 2004). Nonetheless, researchers need to ensure that the research process is logical, traceable, and clearly documented. This would allow readers to assess the extent to which appropriate research methods have been used. Indeed, these concepts overlap with the concept of credibility (Shenton, 2004). Dependability was addressed by providing a detailed description of the methods and documenting all decisions, thoughts, and interpretations in the audit trail.

5.3.4 Confirmability

Confirmability refers to the degree to which the interpretations are valid and not derived from the imagination of the researchers, but are clearly linked to the data (Whittemore et al., 2001). Achieving confirmability requires that the researchers demonstrate how conclusions and interpretations have been reached. Thus, beliefs underpinning decisions made, and methods adopted need to be acknowledged and explained (Shenton, 2004). Also, participants' perspectives should be represented using direct quotes to support the identified themes and sub-themes. In this study, quotes from the transcripts were checked carefully and individually by the research team, and also presented alongside the discussion of each theme. Additional quotes are also provided (Appendix Five). Confirmability was also achieved through reflexivity, a process of continuous critical self-reflection, and awareness of how personal perspectives have influenced the research (Darawsheh, 2014). Reflexivity improves the transparency of the researcher's subjective role in the research process (Darawsheh, 2014). This process was important because it is impossible for the researchers to be objectively distant from their research (Carpenter & Suto, 2008; Liamputtong, 2013). Personal reflections, including thoughts, actions, emotions, assumptions, and how these factors may have influenced the research were documented in a memo as part of the audit trail.

5.4 Submitted manuscript: "An added layer of complexity": Perceptions and experiences of Australian physiotherapy clinical educators on fostering cultural responsiveness in students.

This is the version of the submitted manuscript that is currently under review in Physiotherapy Theory and Practice.

“An added layer of complexity”: Perceptions and experiences of Australian physiotherapy clinical educators on fostering cultural responsiveness in students

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Abstract:

Introduction: In Australia, entry-level physiotherapy programs are required to include learning activities that facilitate the development of cultural responsiveness. Learning activities that foster experiential learning, such as clinical education, are recommended. However, there is limited research on how the development of cultural responsiveness is facilitated during clinical education.

Objective: To explore the perceptions and experiences of physiotherapy clinical educators when facilitating the development of cultural responsiveness in physiotherapy students during clinical education.

Methods: A qualitative design guided by a phenomenology framework, using semi-structured interviews was conducted. Fourteen physiotherapy clinical educators working in the South Western Sydney Local Health District, Australia were interviewed. Interviews were audio-recorded, transcribed verbatim, and then thematically analyzed.

Results: Physiotherapy clinical educators' perceived approach to facilitating cultural responsiveness in students was a reactive process. Specifically, cultural responsiveness was not prioritized as an expected learning outcome, was addressed unintentionally in certain circumstances, and viewed as an added layer of complexity for learning and teaching. When cultural responsiveness was addressed, this was often done generically, and mainly focused on facilitating communication skills, with some focus on open-mindedness, and empathy. However, feedback, discussions, and assessments around communication were not culture-specific, and encouraging open-mindedness and empathy were limited to the use of prompting questions.

Conclusion: Our findings illustrate a missed opportunity to support the development of cultural responsiveness in physiotherapy students during clinical education.

Importantly, clinical educators require guidance and support on how aspects of cultural responsiveness can be integrated into clinical learning activities.

Keywords: Physiotherapy; Clinical educator; Clinical education; Cultural competence

5.5 List of appendices related to chapter five

The following appendices have been included to supplement material contained in the submitted publication to ensure transparency.

5A Semi-structured interview guide

5B Additional participant quotes

5C Extracts from reflexive journal/memo

5D Extracts of coding manual/codebook

Chapter Six

Predictors of self-perceived cultural responsiveness in entry-level physiotherapy students (study two)

Chapter six has been published as:

Te, M., Blackstock, F., Fryer, C., Gardner, P., Geary, L., Kuys, S., McPherson, K., Nahon, I., Tang, C., Taylor, L., Van Kessel, G., van der Zwan, K., & Chipchase, L. (2019). Predictors of self-perceived cultural responsiveness in entry-level physiotherapy students in Australia and Aotearoa New Zealand. *BMC Medical Education*, *19*(1), 56.

6.1 Statement from co-authors confirming authorship contribution of the PhD candidate

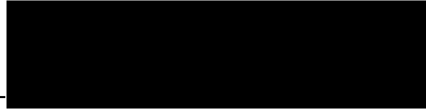
The co-authors of the paper “Predictors of self-perceived cultural responsiveness in entry-level physiotherapy students in Australia and Aotearoa New Zealand” confirm that Maxine Te has made the following contributions:

- Conception and design of the research
- Analysis and interpretation of the findings
- Writing of the manuscript and critical appraisal of the content

In addition to the statements above, in cases where I am not the corresponding author of a published item, permission to include the published material has been granted by the corresponding author.

Maxine Te ________________________________ Date: 7/8/2020

As the supervisor for the candidature upon which this thesis is based, I can confirm that the authorship attribution statements above are correct.

Lucy Chipchase ______ Date: 7/8/2020

6.2 Publication: Predictors of self-perceived cultural responsiveness in entry-level physiotherapy students in Australia and Aotearoa New Zealand

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BMC Medical Education

RESEARCH ARTICLE Open Access

Fostering cultural responsiveness in physiotherapy: curricula survey of Australian and Aotearoa New Zealand physiotherapy programs

Maxine Te*, Felicity Blackstock and Lucy Chipchase

Abstract

Background: Developing cultural responsiveness among physiotherapists is considered essential to promote quality and equity in healthcare provision for our culturally diverse populations. The aim of this study was to evaluate how entry-level physiotherapy programs in Australia and Aotearoa New Zealand (NZ) design curricula to foster the development of cultural responsiveness in physiotherapy students. Further, the challenges of integrating educational content and approaches, and the perceptions of the effectiveness of these curricula were also explored.

Methods: A cross-sectional telephone survey with closed and open-ended questions, was conducted with 18 participants representing 24 entry-level physiotherapy programs (82% of all programs) in Australia and NZ between May and September 2017. Data were analysed descriptively in the form of frequencies, percentages or ratios as appropriate. Open-ended responses were thematically analysed.

Results: Results suggest variability in the structure, and teaching and assessment methods used across all programs. The majority of programs appeared to rely on didactic teaching methods, along with knowledge based and implicit assessment methods. The main challenges reported were that cultural responsiveness was thought to be perceived by academic staff as unimportant and that the curriculum was perceived to be 'overcrowded'. Participants also felt there was room for improvement despite perceiving the curriculum to be effective at fostering cultural responsiveness.

Conclusion: Results provide insight into the educational content and approaches integrated in entry-level physiotherapy curricula in Australia and NZ, and suggest opportunities for further research and development to foster cultural responsiveness among physiotherapy students.

Keywords: Curriculum, Cultural responsiveness, Entry-level education, Physiotherapy

Background

The development of cultural responsiveness among physiotherapists is considered to be an essential strategy to enhance the quality of healthcare, and improve the health outcomes of indigenous and culturally and linguistically diverse (CALD) populations [1–4]. At an individual level, cultural responsiveness refers to the ability of healthcare professionals to deliver care that is safe, respectful and responsive to the health beliefs and practices, and the cultural and linguistic needs of their patients [2, 5, 6]. While the development of cultural responsiveness is a lifelong journey, entry-level physiotherapy programs should design curricula to include educational content and approaches that foster the development of cultural responsiveness in physiotherapy students [1, 7, 8].

The "Physiotherapy Practice Thresholds in Australia and Aotearoa New Zealand" explicitly state that cultural responsiveness is an 'essential component' of physiotherapy practice [9]. The 'essential components' are a list of behaviours that apply to all key competencies outlined in the Physiotherapy Practice Thresholds. As such,

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physiotherapists in Australia and Aotearoa New Zealand (NZ) should always "*consider each client as a whole, adopt client-centred and family/whānau focused (where relevant) approaches and prioritise cultural safety and cultural respect*" [9]. This commitment to culturally responsive practice has been driven by government health policies and legislations that aim to reduce the health disparities experienced by Māori, Aboriginal and Torres Strait Islander peoples and people from CALD communities. In NZ, the founding document, Te Tiriti o Waitangi or the Treaty of Waitangi, underpins all legislation, policy, and practice to improve health outcomes for Māori people [10]. Additionally, the *Health Practitioners Competence Assurance Act 2003* (NZ) requires that health regulatory authorities ensure registered health professionals are culturally responsive in their practices [11]. In Australia, government policies, such as Closing the Gap and Australia's Multicultural Policy, aim to improve access, equity and health outcomes for people from Aboriginal and Torres Strait Islander and CALD communities, respectively [12, 13]. To meet the boards' requirements, entry-level physiotherapy programs must include learning outcomes and assessment of the attainment of those outcomes, to ensure that their graduates can work safely, respectfully and autonomously in culturally diverse societies.

Published research exploring the development and exhibition of cultural responsiveness in physiotherapy is sparse. There is some evidence that suggests physiotherapists may not be culturally responsive. For example, a qualitative study by Lee et al. [14] reported that Australian physiotherapists had negative attitudes towards people from CALD communities, and tended to stereotype ethnocultural groups. Australian physiotherapists were also reported to hold negative perceptions about using interpreters and had misconceptions about communication with people with limited proficiency in English [15, 16]. These issues are recognised as factors that lead to culturally inappropriate care and have been identified as important areas that should be addressed by health professional education programs, such as physiotherapy [17–20].

To date, only one published study has explored the inclusion of educational content and approaches related to culture or cultural responsiveness in entry-level physiotherapy programs [21]. This study was conducted in one state of the United States, and captured the status of the physiotherapy curricula 20 years ago, limiting the generalisability of results to current day teaching practices internationally [21]. Other studies evaluating educational content and approaches related to culture or cultural responsiveness in the curricula have been conducted in medicine, nursing or dentistry [22–34]. This work, conducted mainly in the United States, demonstrated that educational content and approaches related to culture or cultural responsiveness were integrated into most curricula, with wide variation existing in content, teaching and assessment methods, and level of integration. Overall, these studies provide an understanding of how and whether health professional education programs appropriately design curricula to foster cultural responsiveness.

With little published about physiotherapy curricula, how and whether physiotherapy students are appropriately supported in developing cultural responsiveness is not known. Therefore, the purpose of this study was to evaluate how entry-level physiotherapy programs in Australia and NZ design curricula to foster the development of cultural responsiveness in physiotherapy students. This is particularly important given the indigenous populations and the increasing culturally diverse population in Australia and NZ [35, 36].

Methods

Study design

A descriptive, cross-sectional exploratory design was used. A semi-structured telephone interview, with closed and open-ended questions, was used for data collection. Telephone interviews were chosen as they have been demonstrated to have lower rates of missing responses compared to postal surveys [37, 38]. Ethics approval was granted from the University Human Research Ethics committee (Approval No: H11909).

Design of the Interview Guide

A focus group was used to facilitate the development of the interview guide and to ensure content validity [39–41]. The focus group provided a method to identify relevant and appropriate concepts to generate interview questions [42]. Participants who had experience teaching material related to cultural responsiveness, and/or had experience in teaching or curriculum development in entry-level health profession programs in the tertiary education sector were invited to participate. Participants were recruited via email. Five academic staff from Western Sydney University consented to participate. Two participants were from health science with one specialising in education related to cultural competency. The other three participants were from health and physical education, paramedicine and physiotherapy.

The principal researcher (MT) facilitated the focus group. Questions asked during the focus group were designed to facilitate an in-depth exploration of the concepts, educational content, and approaches related to cultural responsiveness that would contribute to the generation of the interview questions. Relevant key elements such as educational approaches, assessment methods and content areas perceived important for developing cultural responsiveness, were also extracted from a literature search of survey studies investigating cultural responsiveness in other health

profession programs to help guide the focus group discussion and question development. For example, the focus group was asked to describe how they integrated content related to culture or cultural responsiveness into their teaching or asked to list content areas that they considered important.

The data from the focus group was audio-recorded. The principal researcher (MT) transcribed, and analysed the data using an inductive approach to identify themes [43]. After the themes and concepts were identified, a draft interview guide was developed. Questions in the draft interview guide were also modelled using previous surveys of curricula identified in the literature [22, 26–29, 31]. The initial draft of the interview guide was reviewed by the research team to ensure appropriate wording, spelling, format sequencing, and that the questions were relevant to the aims of the study. Slight changes to wording were made to enhance the clarity and comprehensibility of the questions. Due to the small participant response pool, the interview guide was pilot tested with an academic from the physiotherapy department at the lead institution to ensure clarity, correct interpretation of questions, and assess completion time. The final interview guide contained nine structured, closed-ended questions about the integration of content related to culture or cultural responsiveness in the curriculum, and two open-ended questions. The first open-ended question was about the perceived challenges to integrating educational content and approaches related to culture or cultural responsiveness, and the second about their perceptions of the effectiveness of the curricula in fostering cultural responsiveness (see Additional file 1 for the final interview guide).

Data collection

Twenty-nine physiotherapy programs in 21 universities were identified from the listings of accredited programs of study found on the Physiotherapy Board of Australia, and the Physiotherapy Board of New Zealand websites, accessed at the beginning of 2017 (http://www.physiotherapyboard.gov.au; https://www.physioboard.org.nz). Every university that enrolled students in an entry-level physiotherapy degree in Australia or New Zealand was invited to participate. A letter of invitation was emailed to the discipline lead for physiotherapy. If the discipline lead agreed to participate but was not the most appropriate person to complete the interview, he or she was requested to nominate another academic staff member in their school/department. There were no eligibility criteria for participating in this study due to the variability of staff roles and/or responsibilities across different programs. As such, programs may or may not have specific staff in the department involved in curriculum development for fostering cultural responsiveness. A letter of invitation was then sent via email to this academic staff. Informed and written consent was obtained from the discipline lead or nominated academic staff prior to data collection. A copy of a blank interview guide was also emailed to each participant before the interview to allow them time to collect any relevant material (Additional file 1). Participants were provided with flexibility in how they collected the information. Generally, participants were expected to gather information from academic staff responsible for teaching into the physiotherapy program or refer to learning guides on subjects offered in the course. All telephone interviews were audio-taped and transcribed verbatim by the principal researcher (MT). The written transcripts were cross checked against each audiotape for accuracy.

Analysis

Closed-ended questions with ordinal or nominal responses were entered and coded in numerical format on a Microsoft Excel spreadsheet. Data were analysed descriptively in the form of frequencies, percentages or ratios as appropriate.

Open-ended responses were analysed inductively using qualitative thematic analysis [43]. First, transcribed data was read and re-read to allow familiarisation of the data, and any comments were written down during this phase. The initial coding of the transcript was carried out by the principal researcher (MT). All coded extracts were printed and cut out, and organised into meaningful groups. Coded extracts were then refined and categorised into themes. A codebook was then developed [44, 45]. One research team member (LC) who was not involved in data collection and the initial stages of data analysis independently coded 20% of the data using the codebook. Discrepancies related to the coding structure were discussed, codes were added, combined or deleted and the codebook was then revised [46, 47]. The data were independently coded again and results compared. This process was repeated until all inconsistencies were addressed and an agreement was reached on all coded data. The principal researcher (MT) then recoded all the data independently. Memo writing of the coding and analysis processes was performed throughout [48]. Member checking of the themes was also conducted to ensure the validity of the findings and interpretations [49]. All participants were provided with a written summary of the themes to review and were asked to confirm whether the themes represented their perceptions [50]. Two of the 18 participants responded, and no changes were required.

Results

Eighteen universities agreed to participate in the study (86% response rate) and data was collected for 24 entry-level physiotherapy programs (82% of all physiotherapy programs in Australia and NZ). Demographic data for the types of programs and the number of programs that participated in this study are outlined in Table 1.

Table 1 Demographics of entry-level physiotherapy programs in Australia and Aotearoa New Zealand

Program Type	Duration of Programs	Postgraduate Program[a]	Number of Program Types in this Study[b]
Bachelors	4 years	No	14 (88%)
Bachelors/Masters (double degree)	4 or 5 years[c]	No	2 (100%)
Graduate Entry Masters	2 years	Yes	6 (75%)
Extended Masters	2 or 3 years[c]	Yes	2 (67%)

[a]Requires a bachelor degree qualification in a related health or medical science area to enrol into the program
[b]Percentages (%) represent the response rate for each type of program offered in Australia and NZ at the time of data collection
[c]Year variations are due to differences in university course structures. For example, semesters or trimesters

Program structure

In two out of 24 entry-level programs, content related to culture or cultural responsiveness was integrated into the curriculum as a stand-alone subject, while 15 programs reported content to be integrated across the curriculum in a number of subjects, and seven programs had a mixture of both. The term 'subject' in this study refers to semester-length courses or units. Stand-alone subjects were delivered in the first half the curriculum of the programs (i.e. first two years of the bachelor or bachelor/masters programs, or first year of the graduate entry masters (GEM) programs). Five out of nine stand-alone subjects focused on Indigenous or First Peoples' health and issues. The other four stand-alone subjects were focused on social determinants and/or communication.

Overall, there were 165 different subjects identified that addressed or embedded content related to culture or cultural responsiveness. Table 2 outlines the percentage of subjects identified across the different year levels for each program type. Identified subjects were also categorised broadly as a 'stand-alone indigenous health' subject, a 'core physiotherapy' subject such as cardiorespiratory, neurological or musculoskeletal physiotherapy practice, a 'social determinants and health' based subject, a 'professional practice and communication' based subject, a 'community care and/or complex cases' subject or a 'clinical placement' subject. Table 3 demonstrates the percentage of different types of subjects that were identified based on the six broad categories.

Table 2 Percentage of subjects across different year levels for each program type

Program type	Year level				
	1st year	2nd year	3rd year	4th year	5th year
Bachelors	24	19	16	38	x
Bachelors/Masters	21	14	1	36	21
Graduate Entry Masters	40	60	x	x	x
Extended Masters	46	29	7	x	x

Table 3 Percentage of different types of subjects identified

Type of subject	Percentage (%)
Stand-alone indigenous health	3
Social determinants and health	7
Community care and/or complex cases	8
Professional practice and communication	16
Core physiotherapy	32
Clinical placement	32

Content areas included in the curricula

Figure 1 demonstrates the percentage of programs that included each of the content areas related to culture or cultural responsiveness in the curricula. All programs included material about communicating with patients from culturally diverse backgrounds, most programs covered content related to indigenous (Māori in NZ or Aboriginal and Torres Strait Islander in Australia) populations, and concepts or definitions of culture, ethnicity or cultural responsiveness, while fewer programs (25%) covered immigrant and refugee health and issues.

Teaching methods used to deliver content related to cultural responsiveness

Figure 2 demonstrates the percentage of programs that used each of the teaching methods to deliver content related to culture or cultural responsiveness. The most frequently reported educational methods were case studies or scenarios (100%), lectures/seminars (95%), small group discussions (85%), online/web-based (85%), and readings (90%), while fewer programs used methods such as role plays (33%) and simulations (50%). Other educational methods included leadership debates, volunteering with local communities, field trips to the local indigenous community areas or cultural centres, and overseas study abroad programs. Overall, most programs appeared to use didactic teaching methods, such as lectures, online and films/videos, compared to experiential teaching methods, such as simulation-based learning and immersion in culturally diverse healthcare communities.

Assessment methods used to assess learning outcomes related to cultural responsiveness

Figure 3 illustrates the percentage of programs that used each of the assessment methods to assess learning outcomes related to culture or cultural responsiveness. An assessment method was considered explicit if the assessment criteria focused on learning outcomes related to culture or cultural responsiveness. The assessment method was considered implicit if the evaluation of student learning in

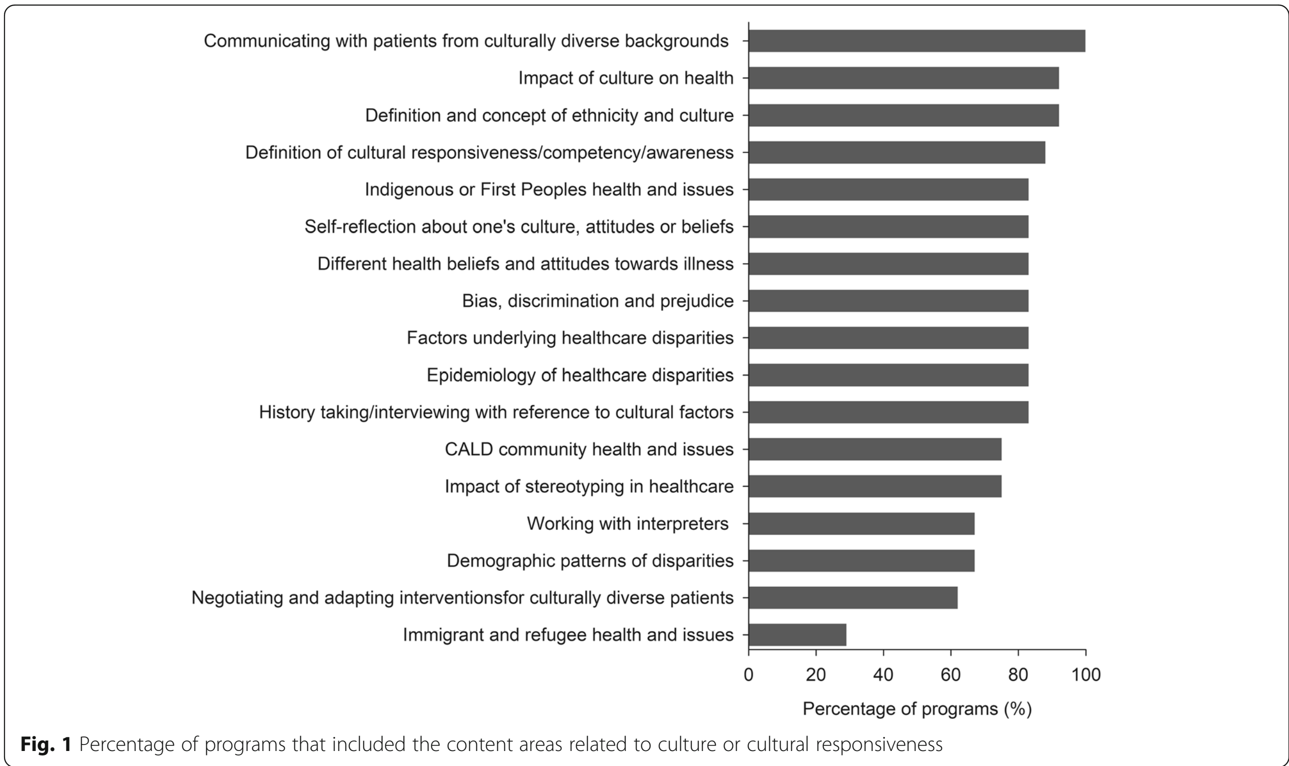

Fig. 1 Percentage of programs that included the content areas related to culture or cultural responsiveness

reference to culture or cultural responsiveness was implied; the assessment criteria focused on learning outcomes not directly related to culture or cultural responsiveness, but potentially influenced by a student's cultural responsiveness. For example, an explicit assessment could be a practical exam evaluating whether cultural factors were considered appropriately during history taking, while an implicit assessment could be a practical exam assessing broad skills such as communication skills and professionalism.

The most frequently reported methods of assessment were written case studies/essays (89%), the use of the Assessment of Physiotherapy Practice (APP), a standardised evaluation tool used by clinical educators in Australia and NZ to assess workplace based performance of entry-level physiotherapy students (89%) [51], and written exams (short/long questions and multiple choice) (56%). Fewer than half of the programs used practical exams (28%), simulations (22%), and reflection journals (44%) to assess the development of cultural responsiveness. Other types

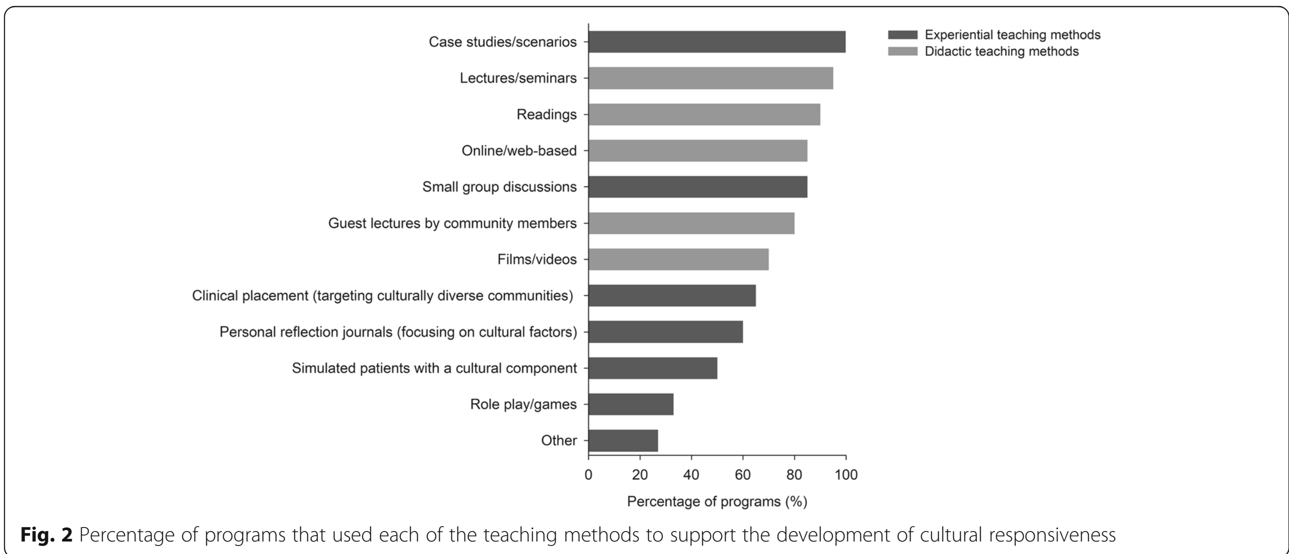

Fig. 2 Percentage of programs that used each of the teaching methods to support the development of cultural responsiveness

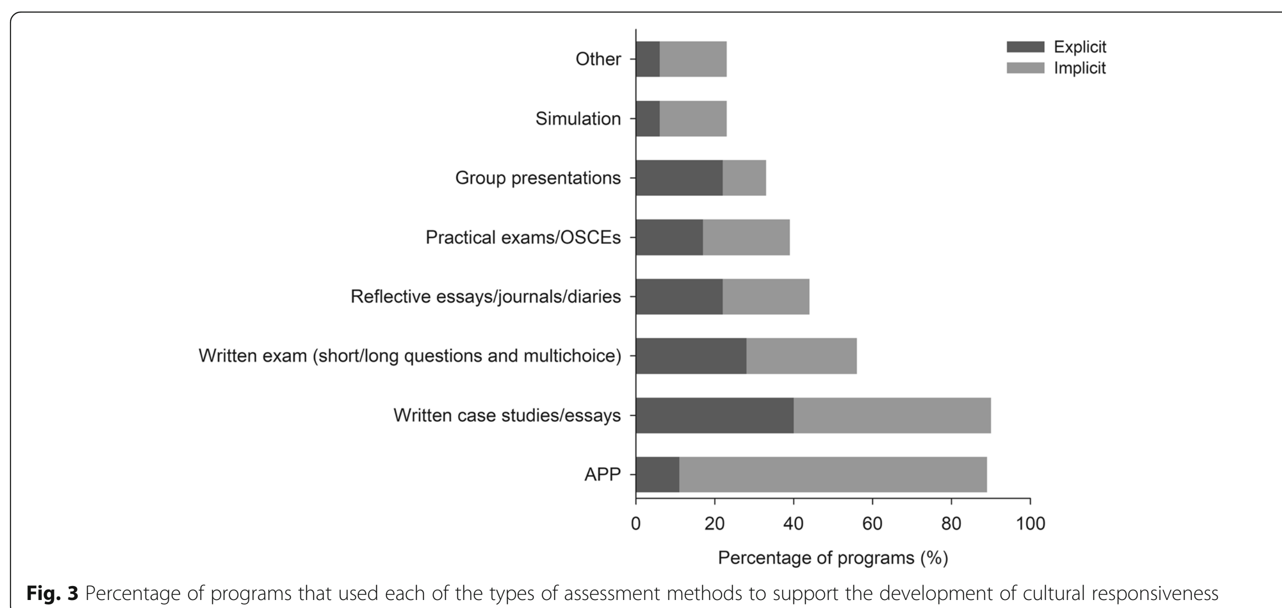

Fig. 3 Percentage of programs that used each of the types of assessment methods to support the development of cultural responsiveness

of assessment methods included student led seminars, journal clubs, debates, or poster presentations. Overall, a greater proportion of implicit assessments were used compared to explicit assessments.

Perceived value of resources that inform content and teaching

Figure 4 outlines the percentage of programs that used each of the resources to inform the content and teaching that supports the development of cultural responsiveness and the perceived value of the used resources. The most frequently used resources were theoretical models (89%), and the Physiotherapy Practice Thresholds (83%). However, national policy frameworks (50%), and evidence-based curricula guidelines (44%) were perceived by participants to be the most valuable in informing content and teaching in the programs. Other resources considered extremely valuable by participants included personal experience and expertise from teaching staff who were of a Māori or Aboriginal and Torres Strait Islander background, consultations with local community groups and people working in culturally diverse areas, consultations with the Indigenous or First Peoples engagement unit/liaison from the University, and the University reconciliation action plan for Aboriginal and Torres Strait Islander populations.

Open-ended questions

Six main themes were identified from the data which represented participants' perceived challenges integrating educational content and approaches to foster cultural responsiveness. One prominent theme was identified from the data which represented participants' perceptions about the effectiveness of the curriculum to foster cultural responsiveness. These themes are outlined below. Quotes supporting each theme are displayed in Tables 4 and 5.

Challenges with integrating educational content and approaches

Perceptions of unimportance

Participants felt that academic staff who perceived cultural responsiveness as unimportant were less likely to focus their teaching on content related to culture or cultural responsiveness. Perceptions of unimportance were related to a lack of understanding, awareness, or interest by academic staff about cultural responsiveness, and because the conventional focus of teaching was based on other topics perceived to be important in physiotherapy.

Over-crowded curriculum

The limited amount of time available in the curriculum for students to develop competence across the breadth of physiotherapy was perceived to be a significant barrier. Participants found it challenging to find time to include content related to culture or cultural responsiveness, as the curriculum was already crowded with the content required for accreditation and competence in physiotherapy practice.

Difficulties with accessing and using resources

Participants found it difficult to access and find appropriate staff [with expertise] to teach content related to culture or cultural responsiveness. In particular, staff of Māori, Aboriginal and Torres Strait Islander or CALD backgrounds were perceived to have expertise. Participants also found it difficult to find relevant resources or use available resources to foster cultural responsiveness.

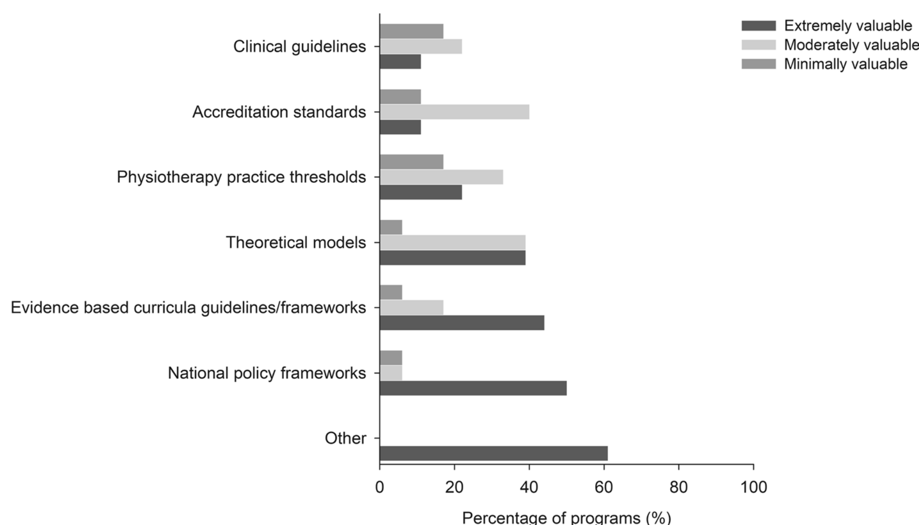

Fig. 4 Percentage of programs that used each of the resources to inform content and teaching of cultural responsiveness in the curricula

Challenging to teach

Participants found it challenging to teach content related to culture or cultural responsiveness. Participants noted it was challenging to ensure teaching did not stereotype ethnocultural groups and was not tokenistic, covered the breadth of content for many different ethnocultures, and facilitated the development of attitudes and behaviours required to be culturally responsive.

Ensuring appropriate integration

Ensuring that material was integrated appropriately in the curriculum was perceived to be a challenge. This was described as being related to uncertainty about how and where to integrate content to best facilitate cultural responsiveness.

Students' perceptions of irrelevance

Some participants reported that it was a challenge to instil the importance of cultural responsiveness as students were thought to see culture and culturally responsive practice in physiotherapy as irrelevant or not important.

Perceived effectiveness of the curriculum

Participants perceived the curriculum to be effective in fostering cultural responsiveness. Participants felt that the curriculum appeared to facilitate an understanding and awareness of the importance of culture in health among students. However, participants also perceived that there was room for improvement. Potential improvements included teaching students to integrate cultural knowledge into practice and adapt interventions, teaching processes to obtain cultural information, using appropriate assessment methods, and having a greater focus on CALD communities, health promotion and advocacy, and on patient-centred physiotherapy.

Discussion

This is the first study to describe how entry-level physiotherapy programs across Australia and NZ design curricula to foster cultural responsiveness in physiotherapy students. Viewed together, all programs were integrating educational content and approaches related to culture or cultural responsiveness. This is encouraging given that health professionals have a legal and moral obligation to be culturally responsive in their practice and that education during the pre-professional years is considered one strategy to tackle the health inequities and to ensure quality healthcare for indigenous and CALD communities [1]. However, there was variability in the structure, teaching and assessment methods used, and the types of resources used to inform teaching. The majority of programs appeared to rely on didactic teaching methods, along with knowledge based and implicit assessment methods. Additionally, the main challenges reported were that cultural responsiveness was thought to be perceived by academic staff as unimportant and that the curriculum was perceived to be already "overcrowded". Participants also felt there was room for improvement despite perceiving the curriculum to be effective in fostering cultural responsiveness. These findings highlight areas for improvement and should be considered if the profession is to ensure graduates are equipped with the knowledge, skills and the moral foundation to meet the healthcare needs of indigenous and CALD communities.

The variability in curricula across programs potentially reflects the accreditation standards and thresholds statements that programs must meet to ensure that their

Table 4 Summary of themes – Challenges in integrating content related to culture or cultural responsiveness

Theme	Sub theme	Examples
Perceptions of unimportance	Lack of understanding, awareness and/or interest	"I suppose a challenge is the staff designing the program being aware of cultural responsiveness and understanding that and prioritising that in a way they are including it not just in their teaching but their assessment … I suppose it's an understanding of the educators that's the first thing" [P3]
	Teaching is focused on areas perceived to be important to physiotherapy	"I think there's a lot of drive to include clinical or biomedical content, I guess non patient-centred aspects in the curriculum, and I guess that comes from the history of physiotherapy and the focus on the body … traditionally there's been less attention of peoples' opinions and experience of health, and on population health and social justice …" [P5]
Overcrowded curriculum		"The next challenge is then sort of getting through the processes and trying to embed it within our programs without it being at the expense of other things we need …" [P11]
Difficulty with access and use of resources	Difficult to access and/or find appropriate teaching staff	"I guess a challenge would be finding lecturers with appropriate skills and expertise in the area" [P18]
	Difficult with finding and/or using resources	"… there is a lot of demographic or sociological kind of studies about how cultural groups behave or respond but really there hasn't been a lot of intervention kind of research or trials to look at - if we do this, how does that improve cultural responsiveness? Therefore, it's almost impossible to teach students how to behave [in a] culturally responsive manner." [P1]
Challenging to teach		"… internationally there's very few examples of very strong culturally responsive practice to draw on so it's some way easy to teach around things like health and equity that you can usually demonstrate examples, but to think through and imagine, and create ways of working that are different but are useful to diverse communities that involve sort of flexibility and attentiveness and a change in clinician behaviour and attitude, I think that probably the teaching staff struggle with that" [P6]
Ensuring appropriate integration		"… I think that a real challenge is working out how to cover it appropriately and where" [P8]
Students' perception of irrelevance		"I think there's also the perception of students as well, unfortunately they don't see the relevance … that's the case with a number of physiotherapy modalities and techniques, they don't see the relevance to the social side of things..." [P17]

graduates are eligible for registration in Australia and NZ [9]. The accreditation process, using these thresholds and standards, is broad and open, allowing for variability and flexibility in curricula design. Consequently, content areas, and teaching and assessment methods are likely influenced by the local context or personal factors [52–54]. For example, universities located in culturally diverse communities may have a larger focus on cultural factors, or academic staff who have a personal interest in culture or cultural responsiveness may have a greater

Table 5 Summary of themes – Perceived effectiveness of curriculum

Themes	Sub themes	Examples
Perceptions of effectiveness	Ability of program to facilitate understanding and awareness	"I think we do … I think our health and wellbeing collaboration is really good at that in terms of exposing our students to a wide range of things, of different groups and trying to get them to really look at healthcare from that person's perspective …" [P12]
	Effective, although room for improvement	"Yes … but I think that we can teach students how to adapt their interventions for people, and that's where I don't think we've made that link yet. So how have you changed your management approach of what you actually do to get better patient outcomes, better engagement, better retention in people from culturally diverse backgrounds? So, I think that's what we can do better …" [P15]

focus in their teaching. Additionally, the different socio-political dynamics and policies, particularly related to the indigenous communities are likely to have influenced the curricula.

The majority of programs appeared to rely on didactic teaching methods rather than methods facilitating experiential learning. Didactic teaching methods involve instruction and information to the learner, where the learner passively obtains knowledge [55]. Methods that support experiential learning involve facilitating learning through actively engaging the learner in direct experiences, and allowing them to learn through 'doing' and 'reflecting' [56]. Although the finding of reliance on didactic teaching methods was based on the authors' classification, experiential learning methods such as role plays, simulation and clinical placements with a cultural focus, that provide direct experiences or participatory hands-on activities appeared to be less utilised. The theoretical and conceptual underpinnings of culturally responsive healthcare practice highlight that development occurs through human interaction and involves a process of critical reflection and action [57, 58]. This is because cultural responsiveness involves complex skills such as patient-centred communication and problem solving, and also requires the development of moral reasoning, open-mindedness and a critical consciousness on current practices and the healthcare system [57–59]. For this reason, experiential learning involving practical or authentic situations are recommended to encourage students to better understand the individuals they may work with, and allow them to practice, reflect on their experiences and see the effects of their actions, and also receive critical feedback [58]. While there is some research demonstrating the successful application and potential benefits of experiential learning approaches, such as community or international service learning in physiotherapy and other health disciplines, these studies do not explore the impact on patient outcomes and ongoing practice beyond graduation [60–63]. Therefore, research exploring effective teaching methods that lead to improved patient outcomes is required to ensure students learn to effectively support the health of culturally diverse communities.

Cultural responsiveness in students was assessed by most programs using knowledge based assessment methods, compared to practical, reflective or performance based assessment methods. Knowledge based assessments are usually written assessments that test factual recall and applied knowledge. These assessments provide little evidence of actual performance, skill or behaviour, which are considered key components of cultural responsiveness [2, 3, 64]. In contrast, performance based assessments are usually practical tests that assess knowledge, and evaluate actual performance, skill or behaviours [55, 65]. In this study, written case studies/essays and written exams were used in greater proportion to performance based assessments such as practical exams or simulation. The limited use of performance based assessments are also evident in the wider healthcare literature. As such, a majority of studies evaluating the impact of interventions on the development of cultural responsiveness use self-reported questionnaires, which assess knowledge or perceptions. To evaluate the complex skills, and behaviours associated with developing cultural responsiveness, performance based assessments are recommended to assess the ability of students to apply knowledge into practice [66]. However, research is first needed to understand the features of performance based assessments that would provide greater confidence that students have advanced in their development of cultural responsiveness.

How learning outcomes are assessed also influences learning, and assessment of cultural responsiveness in physiotherapy curricula appear to be done implicitly. Implicit assessments obscure the specific learning outcome that students need to successfully learn and then demonstrate. Implicit assessments may also send an unintended message that demonstrating good physiotherapy skills, in general, would result in carryover to performance in contexts with people from indigenous or CALD communities. As such, students may overlook their development of cultural responsiveness, or not demonstrate culturally responsive skills in the implicit assessment task. Despite these concerns, implicit assessments should not be completely disregarded as a process in assessing cultural responsiveness. Many skills in physiotherapy, such as communication and interpersonal skills, are influenced by cultural responsiveness and are difficult to explicitly separate [67]. Therefore, to adequately assess cultural responsiveness, educators need to ensure that the components and nuances of culture are considered during assessments, and that students are challenged in a cultural context and know they need to learn and demonstrate cultural responsiveness in the broad spectrum of skills required for appropriate patient care [7].

Alternatively, explicit assessments assign emphasis to the learning outcomes of interest and highlight the important outcomes students are required to learn and demonstrate [68]. For this reason, explicit assessments are recommended to be included in the curricula [68, 69]. The greater use of implicit over explicit assessments of cultural responsiveness in entry-level physiotherapy curricula found in this study may be due to limited research on valid and reliable methods to assess cultural responsiveness, especially in physiotherapy. That is, it may be easier to assess broad skills, such as communication or interpersonal skills if there is little guidance on how to appropriately and explicitly assess cultural responsiveness. Therefore, future research is needed to understand how assessment methods can be designed and implemented to

validly and reliably assess cultural responsiveness in students. These assessment methods can then be used to effectively support students in developing safe, respectful and appropriate interactions with their patients.

How cultural responsiveness was presented and addressed in the curriculum appeared to depend on the availability of expertise, and knowledge, understanding or interest about the concept of cultural responsiveness among academic staff (Table 4). These issues were raised as challenges by the majority of participants, and have also been reported as inhibitors to the successful integration of cultural responsiveness in health education curricula [70, 71]. Without understanding, being aware, or having an interest in how culture impacts physiotherapy practice, or how interventions can be culturally adapted, academic staff are likely to struggle to facilitate the development of cultural responsiveness in students. Additionally, investment and commitment from staff are considered crucial for creating an environment that supports and advocates culturally responsive practice [58]. Students need explicit 'role models' who send clear messages about the importance of incorporating cultural factors into practice and about the moral obligation of interacting with patients safely and respectfully, promoting human rights and tackling health inequities [58, 72]. Therefore, future directions may include professional development to support academic staff in fostering cultural responsiveness and to build greater staff awareness, understanding, and commitment in this area.

The challenges of embedding cultural responsiveness in physiotherapy education are understandable as there is a lack of published clinical research outlining culturally responsive best practice interventions for indigenous and CALD populations [73]. While there are tools available in the literature which guide curricula content, such as the Tool for Assessing Cultural Competence Training [74], without evidence to demonstrate how physiotherapy practice can be culturally adapted for culturally diverse populations, designing curricula and understanding how cultural responsiveness should be taught and assessed remains problematic for academic staff [73]. Future research outlining what culturally responsive physiotherapy practice encompasses, and how evidence-based treatments can be adapted to improve patient outcomes should be considered to guide teaching and practice if the profession is committed to reducing health inequities. Not doing so may result in failure to take proper care of people from culturally diverse communities. Additionally, incorporating community partnerships such as engaging with indigenous and CALD community groups in curriculum development and instruction, and in assessing the appropriateness of physiotherapy treatments is another strategy that can be adopted to guide teaching and practice.

This study had a response rate of 86% and data was collected from 82% (NZ = 2 (100%), Australia = 22 (81%)) of all physiotherapy programs. The sample was also broad, including undergraduate, graduate entry masters and extended masters programs at public and private universities located in diverse geographical areas. Thus, the sample was representative of the physiotherapy program designs in 2017. However, the findings of this study also need to be considered in light of the following limitations. The results of this study were based on participants' perceptions of their curriculum. There may have been an underestimation or overestimation of the educational content and approaches integrated, especially if participants were not involved directly with delivering material related to culture or cultural responsiveness in the classroom or clinical setting. Also, the structure and type of questions may have limited the degree to which participants provided an in-depth response about the extent or how content related to culture or cultural responsiveness was addressed in the curriculum. Additionally, while the focus group discussion only consisted of academics in one country, the focus group discussion and the questions for the interview guide were informed by the international literature on cultural responsiveness across different health disciplines, which should have captured all key elements. Finally, differences in curricula associated with the content and teaching related to Māori and Aboriginal and Torres Strait Islander populations could exist between NZ and Australia given the socio-political circumstances of each country. In NZ, Māori are acknowledged specifically in their own right as tangata whenua in a nationally diverse population [75]. Whereas in Australia, Aboriginal and Torres Strait Islander peoples do not have an officially acknowledged status [76]. This study did not aim to explore culturally responsive curricula solely from a Māori or Aboriginal and Torres Strait Islander perspective, and as such, did not did examine differences between countries. The remarkable social, political and historical contexts surrounding indigenous peoples in Australia and NZ require specific attention. In Australia and NZ, there is a moral obligation to ensure that students and health professionals learn about, understand and respect the history and traditions of indigenous peoples [13, 75]. This is essential to support reconciliation and to foster culturally responsive practices by ensuring that health professionals understand and respond to how colonialism creates and sustains health inequities [77]. Therefore, studies specifically exploring Māori and Aboriginal and Torres Strait Islander content related to cultural responsiveness in physiotherapy would be beneficial to evaluate curricula and areas for improvement to tackle health inequities that persist in these communities.

Conclusion

Health professionals have an ethical and moral responsibility to provide healthcare that supports culturally diverse communities to achieve their maximum health and well-being. Appropriate education during the pre-professional years is considered important to develop the foundations needed to support the health of people from these communities. The present study offers the first insight into the learning and teaching of content related to culture and cultural responsiveness in entry-level physiotherapy programs in Australia and NZ. The results of this study demonstrate the integration of educational content and approaches related to culture or cultural responsiveness across all programs, but also highlight potential areas for further evaluation and improvement. These results lay a foundation for how learning and teaching to foster cultural responsiveness among physiotherapy students in Australia and NZ can be improved, with future research evaluating the impact of learning activities, assessments on both development of cultural responsiveness and the subsequent impact on patient outcomes. Finally, while this study is specific to Australia and NZ, these findings may offer insights about the learning and teaching considerations that may be transferrable to physiotherapy education in other countries and health disciplines.

Additional file

Additional file 1: Final Interview guide. (DOCX 19 kb)

Abbreviations

CALD: Culturally and linguistically diverse; NZ: Aotearoa New Zealand

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Authors' contributions

MT designed the study with substantial input from LC and FB. MT collected all the data and performed the data analysis. LC and FB were also involved with the qualitative data analysis. MT drafted the first manuscript, and all authors critically reviewed and provided feedback on the manuscript. All authors have read and approved the final manuscript.

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Availability of data and materials

The datasets used and/or analysed during the current study are available from the corresponding author on reasonable request.

Ethics approval and consent to participate

Approval was obtained from the Western Sydney University Human Ethics Committee (Approval No: H11909). Written informed consent was obtained from all participants.

Consent for publication

Not applicable.

Competing interests

The authors declare that they have no competing interests.

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6.3 List of appendices related to chapter six

The following appendices have been included to supplement material contained in the publication.

6A Cultural Competence Assessment (CCA) tool

6B Marlowe-Crowne social desirability scale-short form

6C Altemeyer's Dogmatism scale

6D Demographic questionnaire

Chapter Seven

New graduates' perceptions and experiences working with people from culturally and linguistically diverse communities (study four)

Chapter seven has been accepted for publication as:

Te, M., Blackstock, F., Liamputtong, P., & Chipchase, L. (2020). New graduate physiotherapists' perceptions and experiences working with people from culturally and linguistically diverse communities in Australia: A qualitative study**.** *Physiotherapy Theory and Practice.* Advance online publication. (Accepted 26 June 2020).

7.1 Statement from co-authors confirming authorship contribution of the PhD candidate

The co-authors of the paper "New graduate physiotherapists' perceptions and experiences working with people from culturally and linguistically diverse communities in Australia: A qualitative study" confirm that Maxine Te has made the following contributions:

- Conception and design of the research
- Analysis and interpretation of the findings
- Writing of the manuscript and critical appraisal of the content

In addition to the statements above, in cases where I am not the corresponding author of a published item, permission to include the published material has been granted by the corresponding author.

Maxine Te ______________________________ Date: 7/8/2020

As the supervisor for the candidature upon which this thesis is based, I can confirm that the authorship attribution statements above are correct.

Lucy Chipchase ______________________________ Date: 7/8/2020

7.2 Chapter overview

This chapter presents the findings of a qualitative study undertaken to gain an understanding of new graduates' perceptions and experiences when working with people from CALD communities. In order to capture participants' beliefs and perspectives about their own actions when working with people from CALD communities, a detailed exploration using qualitative methods was required. As the process of culturally responsive practice is also influenced and driven by personal feelings and attitudes which guide an individual's action, a qualitative study exploring perceptions and experiences was considered appropriate. This chapter begins with a description of the methodological framework and justification for selection, followed by a version of the manuscript, which has been accepted for publication. The interview guide, additional participant quotes, and extracts from the reflexive journal and coding manual are presented in Appendix Seven.

7.3 Methodological framework

Similar to the previous study exploring clinical educators' perceptions and experiences (Chapter Five), this study used the same methodological approach. Therefore, extensive descriptions and definitions of the methodological components and quality considerations are not provided to avoid repetition. The specific contextualisation of the methodological theory for this study is now described.

7.3.1 Epistemological position

The epistemological position guiding this study was interpretivism-constructivism. Specifically, a social constructivist approach underpinned this research study. This epistemological position was considered appropriate as the research sought to uncover participants' personal and subjective views and experiences, to understand how they culturally adapt their practices when working with people from CALD communities. This is because the process of cultural responsiveness, at the individual level, is influenced by the environment, interactions with patients, and also personal factors such as feelings, attitudes, and perceptions about healthcare (Blanchet Garneau & Pepin, 2015b; Muñoz, 2007).

7.3.2 Methodology

Qualitative research methodology was adopted to explore the perceptions and experiences of new graduate physiotherapists. A phenomenological framework was also used to guide this study. As described in Chapter Five, the concept of exploring individuals' 'lived experiences' was used to guide the research. Exploring lived experiences would allow an understanding of the meanings new graduates attribute

to a social phenomenon, such as when they encounter people from CALD communities in clinical settings.

The qualitative methods used in this study, which aligned with the epistemological position and methodology, were the same as those described in Chapter Five. This study used semi-structured in-depth interviews to explore subjective perceptions and experiences (Carpenter & Suto, 2008) and purposive sampling to obtain information-rich data (Creswell & Poth, 2017). Thematic analysis at the latent level was used as the data analysis approach (Braun & Clarke, 2006). Data collection in this study continued until saturation, or when no new or relevant information was identified (Bowen, 2008; Guest et al., 2006).

7.4 Quality considerations

The criteria for trustworthiness by Lincoln and Guba (1985) (credibility, transferability, dependability, and confirmability) was applied to this study. Methods used to ensure trustworthiness in this study are also listed briefly below to avoid repetition.

7.4.1 Credibility

Credibility was achieved using a number of strategies throughout all phases of the research process. The strategies used mainly aimed to obtain multiple perspectives and interpretations of the data. Different perspectives would help ensure that the interpretations of the data were grounded in the participants' views and experiences. First, the choice of methodology was considered based on the research question and the phenomenon of interest, and also based on discussions with an expert in

qualitative research methods (LP). Secondly, frequent peer-debrief meetings were conducted between the primary researcher (MT) and the research team (FB and LC), with an expert qualitative researcher (LP), and also with an individual not part of the research. This individual was an experienced physiotherapist clinician who had experience in research around culturally responsive practice in physiotherapy. Parts of the data set were also coded independently by a second researcher (LP). Finally, the researchers' backgrounds, characteristics, and experiences were explicitly provided, and all decisions, thoughts, and feelings were documented in a memo, which was part of the audit trail.

7.4.2 Transferability

Methods used to ensure the transferability of data included purposive sampling to identify new graduate physiotherapists who had experience working with people from CALD communities. Also, new graduates were recruited from two specific areas (metropolitan Sydney and Melbourne). These areas were chosen as they are the most culturally diverse areas in Australia. Thus, new graduates would most likely have experience working with people from CALD communities. Additionally, demographic details of the participants were presenented to provide readers with an understanding of the participant group and how this may apply to their settings.

7.4.3 Dependability

Dependability was achieved in this study by providing a detailed description of the methods and documenting all decisions, thoughts, and interpretation of data in the audit trail.

7.4.4 Confirmability

Strategies used to achieve confirmability in this study overlap with those used to establish credibility, transferability, and dependability. These strategies included practicing reflexivity, disclosing researchers' characteristics and experiences, and documenting the research process in the audit trail. Additionally, to achieve confirmability, participant quotes were included in the discussion of the themes and sub-themes and the codebooks during the identification of codes and themes (Appendix seven).

7.5 Publication: New graduate physiotherapists' perceptions and experiences working with people from culturally and linguistically diverse communities in Australia: A qualitative study.

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New graduate physiotherapists' perceptions and experiences working with people from culturally and linguistically diverse communities in Australia: A qualitative study

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ABSTRACT

Introduction: Upon entering the workforce, physiotherapists are required to provide safe and effective care towards people from culturally and linguistically diverse (CALD) communities.

Objective: To explore new graduate physiotherapists' perceptions and experiences when working with people from CALD communities in Australia.

Methods: A phenomenological framework guided this qualitative study. Seventeen new graduate physiotherapists who had experience working with people from CALD communities were interviewed. Interviews were audio-recorded, transcribed verbatim, and then thematically analyzed.

Results: New graduate physiotherapists felt challenged when they encountered people from CALD communities. Although they had good intentions, their healthcare approach was limited. Their perceived approach to care was unidirectional and anchored in a western healthcare framework, and they used superficial strategies for cultural adaptation. Perceptions that people from CALD communities were passive recipients to healthcare also underpinned their practices. While participants described pockets of patient-centered care, their perceived healthcare approach lacked appropriate consideration and integration of their patients' cultural perspective.

Conclusion: New graduate physiotherapists may need support with effectively integrating different cultural perspectives into their care and adapting their practices and interventions for people from CALD communities. Education and training at entry-level and after graduation should address these learning needs. However, there is limited research on how to culturally adapt physiotherapy practices and interventions that impact patient engagement outcomes. Thus, research is needed to

understand how current evidence-based interventions can be culturally adapted to integrate patients' cultural perspectives into care.

KEYWORDS

New graduates, physiotherapist, cultural competence, culturally and linguistically diverse

7.6 List of appendices related to chapter seven

The following appendices have been included to supplement material contained in the published manuscript to ensure transparency.

7A Semi-structured interview guide

7B Additional participant quotes

7C Extracts from reflexive journal/memo

7D Extracts of coding manual/codebook

Chapter Eight

Discussion

This final chapter provides an overview of the findings and implications for physiotherapy practice and education in Australia, bringing together the results from the four studies conducted as part of the program of research. First, an overview of the findings from the four studies is provided. Then, the picture that these studies paint regarding how learning and teaching in entry-level physiotherapy curricula supports the development of cultural responsiveness in students is discussed. Here, the implications of the findings are discussed from a professional, educational, and research perspective. The chapter is then concluded by identifying recommendations for future research and potential changes to education and practice.

8.1 Overview of the research program

The overarching aim of this thesis was to investigate how entry-level physiotherapy programs deliver learning and teaching to support the development of cultural responsiveness in students, and to identify if gaps exist in the preparation of new graduates for working with people from CALD communities. To achieve this aim, four primary research studies were conducted; two were quantitative studies, and two were qualitative study designs.

Study one

The first study was a descriptive, cross-sectional survey design whereby semi-structured interviews were used to evaluate how entry-level physiotherapy programs in Australia and NZ designed curricula to facilitate the development of cultural responsiveness. This study also explored academics' perspectives on embedding

content and educational approaches to facilitate the development of cultural responsiveness.

The results demonstrated that physiotherapy programs in Australia and NZ integrated content and educational approaches related to cultural responsiveness. However, the results also suggest that the curriculum can be strengthened through the types of educational approaches used to facilitate learning. Additionally, the challenges reported by academic staff suggest the extent to which cultural related material is integrated may be limited. Academics noted that content related to cultural responsiveness was sometimes perceived as unimportant and challenging to teach in an already 'overcrowded' curriculum and that accessing relevant resources was difficult.

Study two

The second study was also a descriptive cross-sectional design using an online questionnaire. In this study, 817 physiotherapy students from nine physiotherapy programs in Australia and NZ participated. The questionnaire sought to evaluate the level of self-perceived cultural responsiveness of entry-level physiotherapy students. The study also explored predictors of self-perceived cultural responsiveness across different stages of the students' development. The predictors explored included demographic factors (gender, age, ethnoculture, language spoken, living in a culturally diverse area, prior education related to cultural responsiveness, and the number of weeks of clinical placement attended), and personal attributes (dogmatism and social desirability).

Overall, students perceived themselves to have moderate levels of cultural responsiveness (mean (SD) = 5.15 (0.67)). However, fourth-year undergraduate students perceived themselves to be less culturally responsive than first- and second-year students. Additionally, more clinical experiences, higher levels of dogmatism, and greater social desirability scores were found to be predictors of lower self-perceived cultural responsiveness.

Study three

The third study used a qualitative research design guided by a phenomenological framework. In this study, the perceptions and experiences of physiotherapy clinical educators' when facilitating the development of cultural responsiveness in students during clinical learning were explored. Specifically, semi-structured interviews explored clinical educators' perceptions of their teaching and assessment approaches, and the challenges and facilitators they experienced when addressing cultural aspects during clinical learning.

The findings from this study suggest that clinical educators do not routinely integrate cultural aspects into clinical learning experiences. The findings also suggest that clinical educators need support to appropriately draw out aspects related to culture in their teaching. Specifically, cultural responsiveness was not perceived as a priority or an expected learning outcome. The development of culturally responsive practice tended to be viewed as an added layer of complexity for clinical learning and teaching and was addressed unintentionally in certain circumstances when the opportunity incidentally arose. When cultural responsiveness was addressed, this was often done generically and focused on facilitating communication skills.

Study four

The final study of this thesis was also a qualitative study guided by a phenomenological framework. While not specifically centred on entry-level physiotherapy curricula, semi-structured interviews were used to explore the perceptions and experiences of new graduate physiotherapists when working with people from CALD communities. This study explored how new graduates perceived people from CALD communities, their perceptions of how they culturally adapted their practice and the challenges and facilitators experienced during cross-cultural encounters.

The findings suggest that new graduates' perceptions of practice were laced with challenges that, when viewed in totality, appeared to limit their ability to work effectively with people from CALD communities. While new graduates were respectful and worked with good intentions towards their patients and their health outcomes, their practice was considered to be 'inside the box'. They appeared to follow conventional healthcare approaches that were aligned with a western healthcare framework and did not adequately integrate their patients' cultural perspectives into their approach to care, using mainly superficial communication strategies to culturally adapt their practice. However, there were pockets of culturally responsive practice with some new graduates describing a deeper understanding of the cultural influences on their patient’s health behaviours and perceived therapies.

8.2 Summary of findings of the suite of research

Overall, the suite of the research examined different components and/or perspectives related to the curriculum and the development of cultural responsiveness in physiotherapy students. Taken together, the findings indicate that, while aspects of cultural responsiveness are embedded into physiotherapy curricula, there are limitations in how physiotherapy students are supported in their development of cultural responsiveness and new graduates' capability to work effectively with people from CALD communities. Specifically, the findings highlight that physiotherapy education and practice are anchored in western philosophies, where diversity of sociocultural perspectives appears to be a marginal component in physiotherapy education and also in new graduates' perceptions of their practice. Additionally, the findings also highlight limitations in the current learning and teaching approaches, with rich experiences for development of cultural responsiveness not explicitly occurring. These curricula limitations appear to be a missed opportunity to support students' learning journeys and prepare new graduates for their future practice.

Figure 8.1 provides a pictorial representation of the overall finding of this thesis. The blue circle sits in front, is opaque and has a thick solid outline, representing the greater focus and solid understanding of healthcare based on western philosophies and emphasis on physiotherapeutic skills in current physiotherapy education and practice. The red circle represents cultural responsiveness, or diverse sociocultural aspects and perspectives. The small overlap of the red circle with the blue circle suggests that aspects of cultural responsiveness are currently integrated into physiotherapy education and practice. However, the faintness of the red circle and

the broken outline highlights the marginal focus on diverse sociocultural perspectives, the limitations of the current learning and teaching approach, and the gaps in research in this area. Nonetheless, the overlap represents an opportunity for change.

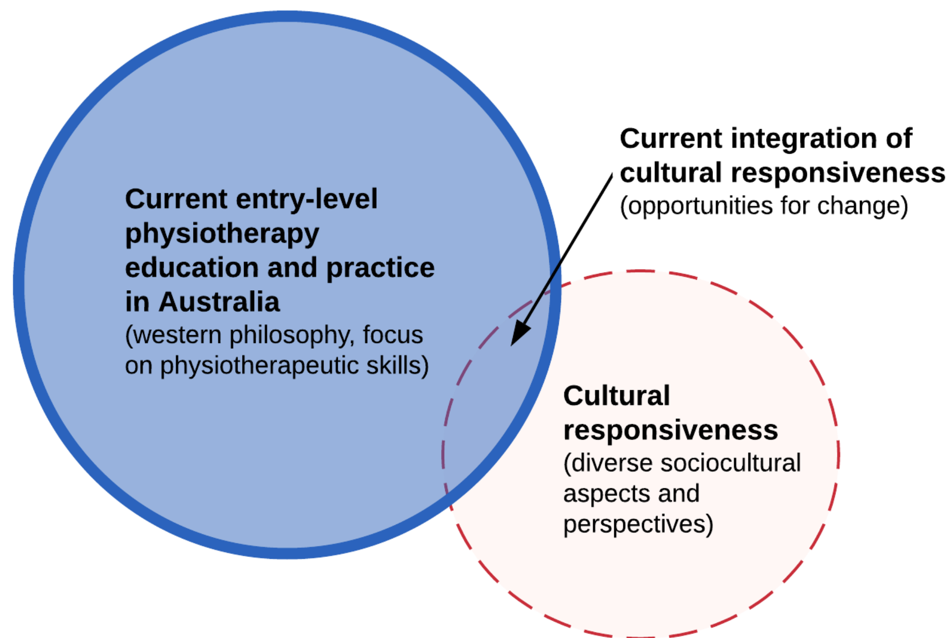

Figure 8.1 Pictorial representation of thesis findings

8.2.1 Western-centric physiotherapy education and practice

The findings from this thesis indicate that current physiotherapy education and new graduate practice in Australia are predominantly situated in a western healthcare framework. The western healthcare framework has a strong emphasis on scientific knowledge, reasoning, and evidence-based practice, where a positivist perspective and biological aspects of health are often privileged (Gibson et al., 2018; Norris & Allotey, 2008). To some degree, this is evidenced by academics in study one noting that cultural responsiveness was perceived as less important in contrast to physiotherapeutic skills or evidence-based practice. Additionally, concepts such as

individualism, autonomy, efficiency, and responsibility for action are universal western ideologies that can be part of practice and treatment (Norris & Allotey, 2008). Again, this is evidenced by new graduates (study four) focusing on encouraging treatment that was considered active and evidence-based, demonstrating their readiness to work in a western healthcare framework.

Physiotherapy being situated in the western healthcare framework is not a revelation. For example, Kraemer (2001) noted that second-year physiotherapy students, at one university in the USA, verbalised western philosophical views such as individualism and independence when reflecting on their practice with people from CALD communities during clinical learning. Additionally, studies identified in the literature review (Chapter Three, Section 3.3) highlight that new graduates appear to be ill-prepared to address the psychological and social aspects of care (Forbes & Ingram, 2019; Solomon & Miller, 2005), suggesting a bias towards the biological aspects of care that is privileged in a western healthcare framework. Similarly, studies exploring experienced physiotherapists have observed that sociocultural aspects were only partially acknowledged or not explored as part of their practice, with practice predominantly underpinned by biomechanical perspectives (Jorgensen, 2000; Mudge et al., 2014; Synnott et al., 2015). If senior physiotherapists are also finding this aspect of care challenging, it is not surprising that students and new graduates role model similar approaches (Black et al., 2010; Delany & Bragge, 2009; Laitinen-Väänänen et al., 2007). These ways of practice may keep being perpetuated, and practice may continue to be ‘inside the box’ as found to be with new graduate physiotherapists in this thesis.

The past and current alignment of physiotherapy in Australia to a western healthcare framework is arguably due to several reasons that are beyond an individual's demonstrated or perceived practice. First, the healthcare system in Australia, and ways of knowing are based on western philosophies, influenced by European colonisation (Norris & Allotey, 2008; Taylor, 2008). Physiotherapy in Australia continues to need to operate effectively within, and as such, prepare graduates to work as part of this western-centric healthcare system. Organisational agendas such as efficiency and reduced bed days or return to independence are common therapeutic goals in this system (Gibson et al., 2018; Norris & Allotey, 2008). These concepts are arguably said to be financially driven (Gibson et al., 2018). Also, these are commonly used outcomes as part of physiotherapy research, which drives education and practice. Further, the alignment to a western medical model focused on scientific knowledge and evidence-based practice, was based on a need to legitimise the profession as 'scientific', and for professionalisation and respectability (Nicholls & Cheek, 2006; Nicholls & Gibson, 2010; Taylor, 2008). Indeed, this alignment has influenced the success of physiotherapy and positive perceived health outcomes. Not surprisingly, funding for research in education and healthcare services continues to support the furthering of knowledge and practice from a western healthcare perspective, compared to diverse sociocultural perspectives. As such, findings from the literature review (Chapter Three) highlights the limited research focus of education research on diverse sociocultural perspectives of health and illness and physiotherapy practice. Overall, the alignment to a western healthcare framework is beyond the control of physiotherapists as individuals and possibly physiotherapy as a profession and warrants the entire healthcare system to reflect on western philosophies that underpin practices and ways of knowing.

Only focusing on a western healthcare framework may mean that we are not providing the best care to meet the needs of a diversity of cultures, hindering cultural responsiveness, and thus, risking perpetuating health disparities. The findings of this thesis indicate that new graduates were prepared to work in a western healthcare framework and that the curriculum may be teaching them to fit into this framework. Culturally responsive care requires embracing diverse sociocultural perspectives of health and illness, and if education and practice only focus on and prioritise western-based concepts and values, this could hinder the profession from actually becoming culturally responsive. At the patient-therapy interaction level, focusing on the western healthcare framework by individual therapists may lead to cultural clashes, which has been noted as one of the main factors contributing to poor access or compliance with healthcare (Abouzeid et al., 2013; Butow et al., 2010; Caperchione et al., 2011; Choi et al., 2017; Gupta et al., 2017; Renzaho et al., 2017; Yoshikawa et al., 2019). Viewing health from a western perspective may elicit misunderstandings and stigmatisation of patients' behaviours and attitudes, who do not align with the western healthcare framework (Lee et al., 2006b). For example, new graduates' perceptions of people from CALD communities being 'passive' recipients due to the lack of individual action for responsibility is one viewed from a western healthcare perspective (study four). While not explored in this thesis, these perceptions or assumptions may be underpinned by a cultural bias or prejudice (Johnstone & Kanitsaki, 2008a). Thus, exploring health and illness from diverse sociocultural perspectives is crucial.

These findings suggest a need for a shift in the way health and illness is perceived and approached. In particular, a broadening of the lens of practice that considers

diverse sociocultural perspectives is required. However, this does not mean the dominant western healthcare framework is dismissed, but rather, physiotherapy needs a model of healthcare that incorporates different sociocultural perspectives with the dominant framework. While current models that underpin physiotherapy practice, such as the biopsychosocial model (George & Engel, 1980) or the ICF model (World Health Organisation, 2002), have identified the sociocultural component of health, limitations have been identified. That is, the social aspects of care are generally not adequately considered, or when considered, are based on western concepts and values (Norris & Allotey, 2008; Synnott et al., 2015). Perhaps proposed models that focus on the sociocultural aspects of health could provide insight to facilitate a shift in perspective. An example includes the emancipatory physiotherapy practice model that focuses on patients' subjective experiences of health and illness (Trede, 2012; Trede et al., 2003). Another proposed framework, by Nicholls and Gibson (2010), is one of embodiment, which draws on diverse theoretical perspectives (scientific and objective reasoning, subjective lived experiences, and social and political environments) to understand health. Future research is required to develop such a model, or rather, build on current models that already underpin physiotherapy practice and then have it be thoroughly and explicitly embeded across education and practice.

For frameworks or models of practice to be successful, physiotherapists must be aware of the limitations of their current practice for people from CALD communities. First, this would require insight that physiotherapy is based on western philosophies and that ideas and concepts regarding health and underlying therapy are not culturally neutral, nor are they universal for everyone. At an individual level,

physiotherapists need to think critically and reflexively about the beliefs underlying physiotherapy practices (Gibson & Teachman, 2012; Walton, 2019). Academics and educators need to critically reflect on the dominant western perspectives that have continued to influence education and potentially act as barriers to how cultural responsiveness is addressed. Indeed, supporting the development of critical self-reflection to allow individuals to recognise their cultural biases is crucial in developing cultural responsiveness and life-long learning in this area (Blanchet Garneau & Pepin, 2015a; Muñoz, 2007; Werkmeister-Rozas & Klein, 2009). For these ways of thinking to change, there also needs to be professional champions who can drive the transformation and reinforce a diverse sociocultural perspective in education, practice, and research.

Leading this transformational change in thinking may be difficult, with the current focus mainly on evidence-based practice. Additionally, limited research into culturally responsive practice and health outcomes contributes to the challenge. The type of research and health outcomes associated with evidence-based practice generally prioritise 'gold standard' designs such as randomised controlled trials and systematic reviews, which focus on measurement and objectivity (Setchell et al., 2018). In physiotherapy education research, the literature reviews conducted as part of this thesis highlights the focus on technical skills (see chapter three). Therefore, the limited research in this area may be why academics report challenges with integrating sociocultural aspects in their teaching, why clinical educators do not prioritise cultural responsiveness, and why new graduates readily work in a western healthcare framework. Despite the awareness of cultural responsiveness, individuals would likely fall back on a framework or model that is well researched and has a

strong evidence base. Further research that explores health and physiotherapy practice from diverse sociocultural perspectives is required. From that, the educational transformation would hopefully follow through.

8.2.2 Opportunities for change in the curriculum

While entry-level physiotherapy programs in Australia and NZ have designed curriculum to meet the *Australian Standards for Physiotherapy* (Australian Physiotherapy Council, 2016) and graduate physiotherapists who meet the *Physiotherapy Practice Thresholds* (Physiotherapy Board of Australia & Physiotherapy Board of New Zealand, 2015), the results of this thesis suggest there are opportunities for curriculum reform to impact positively on the development of culturally responsive practice.

Findings from this thesis demonstrate that academics realise there is 'room for improvement' in the curricula (study one), and clinical educators report trying to foster essential attributes such as open-mindedness in their students (study three). Both of these findings show there is an interest in embedding cultural aspects into teaching. Additionally, lower self-perceived cultural responsiveness scores were observed among final year undergraduate students compared to first-and second years. These results indicate that students develop increased insight into their limited knowledge, attitudes, or behaviours related to cultural responsiveness, are more honest or accurate in their self-assessment (low social desirability) and are ready to learn (study two). Finally, new graduates' perceived approach to working with people from CALD communities was grounded by good intentions, as they were trying their best to improve their patients' health outcomes, suggesting an interest in continuing

to learn and culturally adapt their practice. Overall, the results demonstrate an opportunity for improvement and change in education and practice.

This suggestion for improvement and change in curricula is supported by a previous study that explored physiotherapy students' experiences after working with CALD communities. In that study, students reported changes in beliefs and attitudes towards addressing their patients' cultural needs, and also indicated an openness to explore cultural avenues in their future practice (Hilliard et al., 2008). Taken together with the findings of this thesis, the results illustrate openness and willingness to grow and learn. This openness can be leveraged through curricula transformation to masterfully support the development of cultural responsiveness in entry-level physiotherapy students.

Scaffolding is an essential component of learning that needs to be correctly implemented to support physiotherapy students' development of cultural responsiveness. Scaffolding has been defined as the just-in-time support provided by a teacher that allows students to move towards deeper levels of learning and, ultimately, the development of autonomous learning strategies (Belland, 2014). Particularly, scaffolding is critical in the transition from learning in the academic environment to the clinical environment where theory on culturally responsive practice is translated into practice (Calvillo et al., 2009; Rapp, 2006). Cultural responsiveness is a developmental process and is not a competence that can be ticked off in one short session. Individuals need time to learn and integrate new information that may challenge their own beliefs, as well as an appropriate amount of time to practice in clinical environments (Blanchet Garneau & Pepin, 2015a; Bourjolly

et al., 2005). While academics in study one noted that cultural responsiveness was addressed during clinical learning, study three highlights that clinical educators did not routinely address cultural aspects in their teaching during clinical learning, nor was it an explicit prioritised learning outcome. Similarly, studies exploring educational interventions in North American medical programs show that learning activities related to cultural responsiveness were generally not embedded in clinical learning environments (Azad et al., 2002; Deliz et al., 2020; Jernigan et al., 2016). This highlights an opportunity to work towards greater scaffolding of experiences from academic to clinical environments, for improved learning. Although, there may be barriers to achieving this that need to be addressed.

The discrepancies in findings in studies one and three indicate miscommunications or misunderstandings about where the responsibility lies for the development of cultural responsiveness and how it should be scaffolded and facilitated. Assumptions that students would naturally learn and transform their practice based on having encounters with people from CALD communities are common (Beagan, 2015; Kumas-Tan et al., 2007). This assumption may explain why academics reported that culturally responsive practice was addressed during clinical learning. While interactions with people from CALD communities are an essential catalyst in the learning process, exposure alone does not guarantee the development of cultural responsiveness (Greer et al., 2007; Kumas-Tan et al., 2007). Without a good knowledge or skill base on which to build on, and guided learning during clinical experiences, students may risk developing coping strategies that are superficial, such as those described by new graduates in this thesis. This highlights the reasons why scaffolding of learning is critical. Overall, there appears to be an opportunity to

weave culturally responsive practice throughout the curriculum, particularly during clinical learning, linking learning across the entire program and building it in a strategic manner. Explicit learning outcomes and structured tangible learning activities are needed that are designed to scaffold student learning towards advanced cognitive and knowledge domains (Bloom's Taxonomy; Anderson et al., 2001) throughout the academic and clinical environments. These explicit learning outcomes also need to be clearly communicated between academic and clinical educators. Specifically, the potential learning opportunities and learning activities to facilitate the development of cultural responsiveness that should occur during clinical learning need to be highlighted.

Insights into possible curricula transformation can be drawn from the nursing and medical literature to scaffold students learning in their development of cultural responsiveness. Structuring the curriculum based on building self-awareness and critical reflection and developing effective intercultural communication has been advocated by nursing and medical academics and researchers in this area (Blanchet Garneau, 2016; Boutin-Foster et al., 2008; Calvillo et al., 2009; Henderson et al., 2018; Kumagai & Lypson, 2009). Based on Bloom's Taxonomy, the pre-clinical years could focus on building the foundational knowledge required for students to be able to critically self-reflect in different clinical situations, and the higher-level thinking and learning delayed to later years when students demonstrate an insight for this learning (study two). The results from this thesis indicate that critical reflection focused on aspects related to culturally responsive practice was not commonly used as a teaching strategy during academic and clinical learning. Thus, tangible frameworks that guide critical reflection for the development of cultural

responsiveness could be incorporated to help educators and students (Blanchet Garneau, 2016). Learning activities fostering essential attributes that support the development of critical reflection and effective intercultural communication could be addressed first. For example, getting students to be aware and reflect on their level of dogmatism (open-mindedness). Additionally, activities that encourage students to consider and explore diverse cultural perspectives routinely as part of the patient interview process are ways cultural aspects can be embedded into teaching core skills. Structured reflective activities for the debriefing of these patient interactions, that focus on sociocultural aspects of the interaction would also support clinical educators in tangible ways. Frameworks for intercultural communication also exist and could be introduced to students during the pre-clinical years and for students to then implement during their clinical learning (Ladha et al., 2018).

The results also suggest that academics and clinical educators may not know how to embed diverse sociocultural aspects or perspectives in the curricula and their teaching. This could be a significant barrier to effective scaffolded learning for culturally responsive practice. Academic staff noted that the types of teaching methods used were predominantly didactic, and assessments were implicit and knowledge-based compared to practical-based methods (study one). Considering that cultural responsiveness is a multidimensional concept consisting of a cognitive, affective, and practical component, a broad range of learning experiences that have been scaffolded is recommended (Betancourt, 2003; Calvillo et al., 2009; Deardorff, 2011; Jernigan et al., 2016). Further, clinical educators mainly focused on facilitating generic communication skills in their assessments, and during feedback and discussions with students when describing how they addressed cultural

responsiveness (study three). Similarly, a focus on generic communication skills rather than specific intercultural communication skills was noted among general practitioner supervisors during their teaching and healthcare professionals in their practice (Abbott et al., 2014; Minnican & O'Toole, 2020; Watt et al., 2015). Overall, academic and clinical educators need the capability to be able to embed the varied educational modes for diverse sociocultural perspectives in the curricula and their teaching. Without supporting this professional development for educators, there is the risk that learning and teaching will remain focused on general skills or a false belief that cultural responsiveness has been addressed.

One possible way to support this professional development would be to have a collaborative network of Australian and NZ physiotherapy educators and researchers interested in this area. Although not an official interest group of the APA, in 2019, the 'Cultural Responsiveness Community of Practice' was initiated from the APA Educators group. Currently, the aim of the group is to share resources to help build the capacity, confidence, and identity of members to train students and staff and develop curriculum in the area of cultural responsiveness. This network of educators and researchers could expand their goals to formally support entry-level programs. For example, establishing and determining learning outcomes appropriate for different stages of training, so basic concepts can be introduced during the pre-clinical years and then put into practice during clinical learning. Also, this group would be well-positioned to commence the work on a culturally responsive framework for practice that is nationally accepted in physiotherapy.

A clear understanding of what culturally responsive practice involves is also needed to support academics and clinical educators in their capability to facilitate students' development of cultural responsiveness. While the *Australian Standards for Physiotherapy* and the *Physiotherapy Practice Thresholds* provide a guide for universities to integrate cultural aspects into entry-level education, the competencies outlined and definitions or descriptions around cultural responsiveness are brief and broad. Similarly, the Assessment of Physiotherapy Practice provides minimal guidance for clinical educators to assess students' culturally responsive practice. In this case, the interpretation of cultural responsiveness depends on personal understanding and may be at risk of being inadequately addressed. Therefore, clearer guidance, definitions, and frameworks that demonstrate what culturally responsive practice involves, accepted universally by the physiotherapy profession in Australia and NZ are needed. These would be very useful for educators in providing the clarity needed for designing and providing sound educational experiences. These frameworks also need to be created in the context of the learning and development of culturally responsive practice.

Understanding how cultural responsiveness is developed, and the learning journey involved is equally important to create an entry-level physiotherapy curriculum that supports students' development. There are insights from previous research. For example, embarking on changing practice to be culturally responsive can only meaningfully occur if students are aware of the limitations of their own practice (Blanchet Garneau & Pepin, 2015a; Morell et al., 2002; Purnell, 2019). The findings from study two demonstrated that final year students had lower self-perceived cultural responsiveness scores than first- and second-year students. While this study

provides a single snapshot in time, the results suggest that students begin to realise their limitations in their knowledge, attitudes, and behaviours related to cultural responsiveness in the later years of their degree. Lower self-perceived cultural responsiveness scores in nursing and medical students in later years have also been observed (Ladson et al., 2006; Rew et al., 2014). These insights suggest that in creating a scaffolded curriculum, educators can be more strategic with the timing and moment when students may be ready to develop their learning. Therefore, the curriculum could be structured to support the development of culturally responsive practice in the later years, when students have insights into their culturally responsive practice development needs and are therefore ready to learn how to break 'outside the box' for their physiotherapy practice.

One of the final challenges in embracing curriculum reform is the limited research on how aspects of cultural responsiveness can be effectively embedded with the development of core physiotherapy skills for impactful learning. The current literature base in physiotherapy education research is dominated by published studies that explore clinical skills or is anchored on pathology, compared to interpersonal skills or those related to culturally responsive and patient-centred practice. This is evidenced by the literature review conducted in chapter three (section 3.1), which found that up 74 per cent of studies exploring curricula content areas focused on clinical skills or a clinical specialty area. Furthermore, much of the research is international with no studies evaluating education related to developing cultural responsiveness in the context of Australian physiotherapy practice. Future research studies evaluating the impact of educational interventions in an Australian physiotherapy and healthcare context are needed. These studies are required to confirm that curriculum

transformation leads to education that is effective and relevant, with targeted interventions that ensure learning occurs in those moments when students are ready to advance in their learning journey.

8.3 Recommendations and future research

8.3.1 Recommendations for the physiotherapy profession

Recommendations for the physiotherapy profession should focus on ensuring a community that embraces diverse sociocultural perspectives and supporting entry-level physiotherapy programs. These include:

- Endorse critical reflection in physiotherapy education, practice and research. The lack of or hidden theories, frameworks, and boundaries underpinning physiotherapy should be made obvious to key members of the physiotherapy community.
- The research agenda in physiotherapy should be broadened and research that would support the profession to understand diverse sociocultural aspects and perspectives of health and practice or what culturally responsive practice involves should be prioritised.
- A formalised collaborative network or a community of practice to support the professional development of academics and clinical educators with integrating content related to culture, cultural diversity or cultural responsiveness into the curricula should be established in Australia and NZ. The goals of this committee should include:
    - Establish a nationally accepted culturally responsive practice framework that is relevant to physiotherapy practice with people from culturally diverse communities.

    - Establish recommendations for explicit learning outcomes based on the accepted framework of practice and research insights about the development of cultural responsiveness in students, and also the proficiency expected of new graduates.
    - Determine the learning objectives appropriate for the different stage of training so that basic concepts can be introduced during the preclinical years and then put into practice during clinical learning.
    - Establish recommendations for integrating and scaffolding multimodal teaching and assessment methods into entry-level physiotherapy programs.

8.3.2 Recommendations for entry-level physiotherapy programs

Recommendations for entry-level physiotherapy programs should focus on ensuring that rich and impactful learning experiences are appropriately integrated into the curriculum and experienced at a time when students are ready to advance on their learning journey. These specifically include:

- Learning activities should be strategically scaffolded to increase and build on students' ability to autonomously critically self-reflect and have a heightened awareness of their biases or limitations and also an appreciation of diverse sociocultural worldviews of their patients. Then learning should advance to guide students to transform or culturally adapt their practice. These learning activities should also be structured in a way to facilitate the transition from learning in the academic environment to the clinical environment.
- The learning opportunity for students' development of cultural responsiveness in clinical learning environments should be highlighted. Programs should

ensure there is a clear understanding and communication between academics and clinical educators of the learning outcomes and expectations related to supporting students' culturally responsive practice.

- Entry-level physiotherapy programs should ensure that academics and clinical educators are supported in their professional development to embed content related to culture, cultural diversity or cultural responsiveness into the curriculum and in their teaching.

8.3.3 Areas for further research

Future studies could evaluate a number of avenues related to entry-level curricula and the development of cultural responsiveness in physiotherapy students. These include:

- Research into the development of frameworks or models of healthcare practice that incorporate western-centric and diverse sociocultural perspectives of health. This would provide a tangible framework that can be incorporated into student learning activities to encourage students to acknowledge and integrate different sociocultural perspectives into their healthcare approach.
- Further research into how physiotherapy students develop cultural responsiveness and the learning processes involved. This research could be a longitudinal cross-sectional study that assesses students' learning using multiple evaluation methods as students progress through their degree. These results would provide insight for future curricula transformation.
- Continued research to establish effective educational interventions in entry-level physiotherapy education, especially in clinical learning environments.

This research could be a mixed methods design involving randomised controlled trials that evaluate different aspects of student learning and patient outcomes related to culturally responsive practice.

8.4 Conclusion

This is the first cohesive body of published work in physiotherapy addressing cultural responsiveness in physiotherapy education. This program of original work has resulted in a number of novel insights relevant to entry-level education and the facilitation of cultural responsiveness in Australia and NZ physiotherapy programs. Specifically, the results provide a starting point by which changes to physiotherapy education and practice can be made to support students' development of cultural responsiveness. This thesis argues that for curricula transformation to occur, there first needs to be a philosophical shift in how the profession views and understands practice. If physiotherapy education and practice continue to be focused on western-centric perspectives, this may hinder the profession from achieving culturally responsive practice. Consequently, health disparities arising from cultural differences may be perpetuated if diverse sociocultural perspectives of health are not acknowledged. By encouraging the profession to adopt a critical and reflexive stance, awareness of the limitations of physiotherapy practice can help position the profession to respond to the social and political changes. Further, amidst the limitations identified in the curricula, the results of the studies in this thesis also provide evidence that curricula transformation is possible. The openness to change and growth among the key members of the physiotherapy community can be leveraged to support the development of cultural responsiveness in entry-level physiotherapy students. Nonetheless, to catalyse and support these changes, there needs to be a greater research base that provides insight into what cultural responsiveness involves, how it is developed, and how it can be effectively facilitated in physiotherapy students.

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Appendices

Chapter four appendices

4A Semi-structured interview – curriculum survey

Chapter five appendices

5A Semi-structured interview guide

5B Additional participant quotes

5C Extracts from reflexive journal/memo

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Chapter six appendices

6A Cultural Competence Assessment (CCA) tool

6B Marlowe-Crowne social desirability scale-short form

6C Altemeyer's Dogmatism scale

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Chapter seven appendices

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4A Semi-structured interview – curriculum survey

Curriculum Survey – Fostering culturally responsive practices

Cultural responsiveness describes the ability of health professionals to respond to the healthcare needs of people from culturally diverse backgrounds. This involves being respectful, being able to communicate, understand and empathise with how people from culturally diverse backgrounds might perceive, think, behave and make judgements about their health, and also being able to adapt health practices to meet the needs of people from culturally diverse backgrounds.

This survey seeks to understand how learning and teaching is delivered in entry-level physiotherapy programs in Australia and Aotearoa New Zealand, that aims to ensure graduates are culturally responsive in their practices. Specifically, we are interested in the educational content and processes related to culture and/or cultural responsiveness, that is embedded in the curriculum to foster culturally responsive practices.

1. **Which entry level physiotherapy programs are available at your University?** Please tick all that apply.

- ☐ Undergraduate
- ☐ Graduate Entry Masters (GEM)
- ☐ Masters extended/doctorate

The following questions relate to the overall program and how learning and teaching relating to culture, cultural diversity and/or cultural responsiveness is integrated into the curriculum.

2. **How is the content related to culture and/or cultural responsiveness structured in the physiotherapy program?**

   Please tick all that apply. If there is more than one program at your university (e.g., undergrad and GEM), please answer separately for each program. You can specify the programs in the columns on the right side of the table.

	Program	
	<specify program here>	<specify program here>
Addressed as an identifiable, stand-alone unit/subject in the curriculum	☐	☐
Integrated across the curriculum in a number of units/subjects	☐	☐
Not part of the curriculum *(skip to question 10)*	☐	☐
Other (please explain):		

3. **During which year(s) is the content related culture and/or cultural responsiveness mainly addressed in the physiotherapy program?** Please tick all that apply.

Undergrad ☐ 1st year ☐ 2nd Year ☐ 3rd Year ☐ 4th Year

GEM ☐ 1st Year ☐ 2nd Year

Masters extended ☐ 1st Year ☐ 2nd Year ☐ 3rd Year

☐ Other, please specify
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4. **What are the names of the units/subjects that include content related to culture and/or cultural responsiveness in the physiotherapy program(s)?**

   Could you also indicate which program and year it is taught, and whether this is a stand-alone unit/subject or whether culture, cultural diversity and/or cultural responsiveness is integrated into the unit/subject.

Unit/subject name	Program	Year taught	Stand-alone	Embedded
E.g. Culture 101	Undergrad	2nd	x	

5. **Could you please indicate whether the following topics related to culture and/or cultural responsiveness are addressed in the units that you named earlier?**

   Please tick all that apply. If there is more than one program at your university (e.g., undergrad and GEM), please answer separately for each program. You can specify the programs in the columns on the right side of the table.

	Program	
Content /Topic	<specify program here>	<specify program here>
Definition of cultural responsiveness/competency/awareness/sensitivity		
Definition and concept of ethnicity and culture		
Epidemiology of healthcare disparities		
Factors underlying healthcare disparities		
Demographic patterns of disparities		
Impact of stereotyping in healthcare		
Bias, discrimination and prejudice		
Impact of culture on health		
Different health beliefs and attitudes towards illness		
Aboriginal and Torres Strait Islander health and issues		
Māori and/or Pacific Islander health and issues		
Culturally and linguistically diverse community health and issues		
Immigrant and refugee health and issues		
Self-reflection about ones' own culture, attitudes, or beliefs		
Communication skills – relating to communicating and interacting with patients from culturally diverse backgrounds		
Working with interpreters		
History taking/interviewing with reference to the cultural background and health beliefs of patients		
Negotiating and adapting interventions for culturally diverse patients		
Other topics not listed included in your program:		

Process of education

6. **What processes are used to deliver the content related to culture and/or cultural responsiveness?**
   Please tick all that apply.

- ☐ Lectures/seminars (by academics/staff members)
- ☐ Films/videos
- ☐ Role play/games
- ☐ Case studies/scenarios
- ☐ Small group discussions
- ☐ Guest lectures/presentations by community members
- ☐ Personal reflection journals (focusing on cultural factors)
- ☐ Online/web-based
- ☐ Clinical placements (targeting culturally diverse populations)
- ☐ Simulated patients with a cultural component and focusing on cultural learning outcomes
- ☐ Readings
- ☐ Other:
  ………………………………………………………………………………………

7. **In the units/subjects that you named earlier, can you indicate the assessment practices that are used to evaluate the content that aims to foster culturally responsive practice?**

   Could you also indicate whether the assessment practices explicitly or implicitly assess culturally responsive practice? (please add more rows in the table below if needed)

   Explicit – The assessment criteria focus on learning outcomes related to culturally responsive practice. E.g., A written case study assignment on treating patients from culturally diverse backgrounds.

   Implicit – The assessment criteria do not directly focus on learning outcomes related culturally responsive practice. However, the evaluation of cultural responsiveness is implied. E.g., Students are evaluated on being able to communicate and assess patients effectively and appropriately using the Assessment of Physiotherapy Practice (APP).

Assessment Practice	Explicit	Implicit
e.g., Written case study assignment	x	
e.g., Practical assessment using (APP)		x

8. What is used to inform the content and teaching to foster culturally responsive practice in the physiotherapy program(s)?

Please tick all that apply. Please rate on a scale how valuable the items you have ticked have been with informing the content and teaching to foster culturally responsive practice?

	Please tick	Extremely valuable	Moderately valuable	Minimally valuable
Clinical guidelines	☐	☐	☐	☐
Evidence based curricula guidelines or frameworks	☐	☐	☐	☐
National policy frameworks	☐	☐	☐	☐
Theoretical models	☐	☐	☐	☐
Physiotherapy practice thresholds in Australia and Aotearoa New Zealand	☐	☐	☐	☐
Accreditation standards for physiotherapy practitioner programs	☐	☐	☐	☐
Other (Please specify):	☐	☐	☐	☐

9. **What are the reasons for including content that aims to foster culturally responsive practice in the physiotherapy program(s)?**
   Please tick all that apply.

- ☐ Program accreditation requirements
- ☐ Clinical practice requirements
- ☐ Demographics – a diverse population
- ☐ Leadership commitment
- ☐ Faculty expertise/interest
- ☐ Other (please specify):
  ……………………………………………………………………………………

10. **What are the challenges associated with including and delivering content to foster culturally responsive practice in the physiotherapy program?**

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11. **Overall, do you think the current curriculum is effective in fostering the development of cultural responsiveness in physiotherapy students and graduates?** (Why?/ Why not?)

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Thank you for completing the survey

5A Semi-structured interview guide

1. **What type of skills or attributes do you feel are important, for a clinician, to be able to work with patients from CALD communities? (this can include clinical or non-clinical skills)**
   Probing questions: Why do you feel this/these are important?

2. **Have you undertaken any educational or information sessions or training related to working with patients from CALD communities?**
   Probing questions: If yes, would you be able to describe the type of training you received? What content was covered?

3. **Can you reflect on a time in your practice where the person's cultural or linguistic background was a major consideration and how you adapted your assessment/treatment? (or interaction)**
   Probing questions: If not, why do you not adapt your assessment or treatment?

4. **As a clinical educator, do you make it a priority to facilitate skills/attributes in your students, to work with patients from CALD communities when they are on their 5-week placement?**
   Probing questions: If yes, why? If no, what skills do you prioritise during clinical placement and why? When would you address cultural issues?

5. **Would you be able to talk about your experience in supporting students to work with patients from CALD communities?**
   Probing questions: What teaching approach/methods do you use? Were students receptive? Did it have an impact on the student? How did it impact the patient?

6. **How do you assess physiotherapy students on their skills to work with patients from CALD communities? (this can be formally or informally)**
   Probing questions: If yes, how do you assess? What do you focus on during the assessment? Why do you do this? If no, why do you not assess?

7. **What are some of the challenges you experience when supporting students to develop skills/attributes to work with patients from CALD communities?**
   Probing questions: Would you be able to describe what happened, and why this was a challenge for you? How did you manage to overcome this?

8. **What are the facilitators/enablers, that have helped you with supporting students to develop skills/attributes to work with patients from CALD communities?**
   Probing questions: How has this helped you? Why?

9. **Is there anything else you would like to add? Or ask?**

5B Additional participant quotations

Quotations in support of theme 1: Cultural responsiveness as an added layer of complexity for learning and teaching

Theme	Quotation
Cultural responsiveness as an added layer of complexity for learning and teaching	Safety, clinical skills, assessment, and intervention skills, general communication skills and just clinical reasoning, sort of take precedent, I have taken priority over that to be honest [P1] My job is to try and develop effective, safe physios there are certain hard skills, objective skills such as assessment skills and clinical reasoning, and intervention skills that are difficult to develop on your own that I try and foster, and then there are other skills that you, kind of, develop as you go.. and maybe your awareness of CALD patients and the way you approach it can sort of develop over time just through experience [P3] My priority for students at the end is for them to reach a new graduate level and to be able to assess, treat and manage a range of neurological patients successfully and manage that case load and if that includes CALD patients then expect them to be able to use those or work on those skills and we do discuss issues that come up but I wouldn't say it's something that I would teach them if they didn't have that experience [P5] I think it's [cultural responsiveness] very hard for students because they're trying to improve so many things at once [P6] I would say we don't get to that stage. I'd say we get to the stage of maybe we should emphasise a little bit more of this, but I think that's probably just a step too far for them. [P12]

Quotations in support of theme 2: Education to foster the development of cultural responsiveness was addressed circumstantially

Sub theme	Quotations
Student learning needs: Highly competent or struggling with core skills	There's so much to think about when you have students especially if they're struggling in certain areas that are more physio specific that you want to, sort of, tunnel vision [their learning] to help them pass [P7]

	I guess I have got to think, with our students, the ones that struggle the most are the ones who, are finding it difficult with their musculoskeletal clinical reasoning…So because of that we would actually start giving them maybe more simpler patients to foster that first before considering giving them a patient, where the CALD background might be influencing treatments more so [P10] When the student is overwhelmed and they have so many other things to consider…it's quite difficult to think about those things like cultural and linguistically diverse [P12]
Culture identified as an important factor for progressing specific patients' care	It's more a case by case basis, if we pick someone up on the ward and English is not their first language or they're from a CALD background then we would look in more detail [P3] I think it [addressing culture] is situation dependent - it wouldn't be something that I routinely do…it depends on who the patients are and just situations where I think the cultural elements are changing or impacting how we're delivering our care then we'll have that discussion [P4] What students learn is based on individual patients they will see. They go home and study about their patients…I tell them to look up some history, what happened that is relevant and remember that about your patient [P6] So, if I notice that patient is behaving a certain way, and it is more related to maybe some of their thoughts from their cultural background, that's when I introduce that topic with the student. [P13]

Quotations in support of theme 3: Facilitating patient-centred interactions to develop culturally responsive practice

Sub theme	Quotations
Advising and demonstrating appropriate communication	I like to demonstrate and give examples or really just show them first how I interact with the patient and the kind of things that you want to be able to say [P2] I guess sit down one to one feedback with those examples as well umm and then saying this is how I would have voiced it [P3] I try to model behaviours the students would always observe…particular when people are really hard down the line clinical, trying and get them to spend that bit more time with the

	patients and get to know them and find information out…it's quite hard, how do I foster that? [P7] I'll get them to observe me…I have a checklist for seeing a patient and I'll get them to try and fill that out, and to write down what they observe…for example "I want you to specifically observe how I'm speaking to the patient, write down the structure, the way I phrase instructions or the way I phrase questions" [P11]
Prompting students to think about different perspectives	So sometimes I say 'so when you said this how do you think the patient felt?' so I try get them to reflect that way, put them in the patient's shoes yeah. [P2] I guess in particular for CALD patients I might prompt them with some questions about – "do you think there are better ways you could communicate, or do you think that the patient has beliefs that are causing this difficulty with treatment?" [P3] It is just it's through prompting…it's prompting the students to think "Ok this particular strategy didn't work for you or doesn't work for this patient so you now have a think about what other options there are"… I guess prompting brainstorming with the student to come up with a new idea or new way they could be flexible with their communication [P5] I get them to write it down if they're thinking about planning…asking them what considerations would you take to see if they need to be in rehab any longer for example, what considerations do you then take to see if they can go home or not or how would we find that out [P8]
Informal and subjective assessments	It's [assessment of cultural responsiveness] informal. I look at how they communicate - their non-verbal communication is very important as well as their verbal… how they change like the way that they speak according to the patient, for example, shorter words, more simple terms, considering calling the family…In the APP there's something about cultural competency - there's things about non-verbal and verbal communication in there [P2] If you're building some rapport and you're communicating and you've asked them what their normal day is like, you know, 'what do they normally get up to, what are they like, what do they enjoy?' To me you're going to cover the cultural competence basics in that in that conversation without necessarily knowing it. So you'll come out and you'll say, well, "this lady she's a little bit older, socially she's family orientated, she's fairly religious"…

	without me saying, "I've assessed you on your cultural competency," [P5]. I assess them based on the relationship that they end up developing with the patient - So the way they provide instructions, the way they get along with the patient, how they interact with the patient, how the patient perceives them, and how much rapport they develop with the patient, it's really broad [P7] I look at how they communicate, I'm not sure if you're familiar with the APP there's marking criteria for communication - verbal and nonverbal. [P8] I assess them a lot on communication, so whether or not they're able to explain what they want the patient to be able to do and then the patient is able to follow, I assess them a lot on the communication side of things and see whether they are able to be flexible and adapt according to whoever is in front of them [P9]

5C Extracts from reflexive journal/memo

Extract 1: Reflections on pilot session 1 (25/11/18)

Today I piloted the first iteration of the interview guide. Earlier, I also mapped out how each of the interview questions answer the aims of the research study. The person I piloted the interview guide on today is a physiotherapy clinical educator in outpatient ambulatory care. She has 7 years of experience as a clinical educator and works in the public hospital. This pilot session was conducted face-to-face in a private meeting room, in the university.

This session took about 1.5 hours to complete, which was longer than the expected or planned time for the interview. I think that is ok, considering this was the first time and I also had to re-frame most of the questions - I realised that the questions were too research-centred.

I found that the first question was already problematic. This question was: "*What do you feel is important, for a clinician, to be able to work with patients from CALD communities?"* Firstly, the question was vague and broad, and so the participant was not sure where or how to start. I had to probe her about the skills, attributes, or abilities she felt were important as a clinician and told her these could be clinical or non-clinical. While these prompts seemed like it made it easier, her first response was "I'm not too sure" but she went on to provide an adequate response, which was to do with communication and understanding patients. This was interesting and perhaps this could be a finding in itself, but this is just a pilot. I will change this question to be more specific, maybe: *"What type of skills or attributes do you feel are*

important, for a clinician, to be able to work effectively with patients from CALD communities?".

Another question that was not clear was the third question*. The question was: "As a clinical educator, how do you support your students to work effectively with patients from CALD communities?".* The purpose of this question was to explore their perceptions and experiences regarding teaching methods or approaches used to facilitate cultural responsiveness. The response provided by the participant very broad, for example, providing feedback to students. I felt that the response was superficial and did not provide detail about the feedback process. So, I had to ask her to provide examples or reflect on a situation, and then probe into 'why'. Also, the response did not go into the impact of the teaching on the students or patients. I had to do a quite a bit of probing to find out how they perceived their teaching approaches influenced their students and whether that transferred to patient outcomes. As I did not think about this initially, my way of questioning was convoluted so I need to find a way to ask this so it makes sense. Additionally, I also had to change my questioning by linking the question back to the response to question one. This worked better as it allowed the participant to focus and provide more specific responses when they talked about facilitating certain skills/attributes.

The question on feedback, I found that I skipped because the participant had already talked about feedback as a teaching method based on the third question. I will leave this in for now to see how the next two pilot sessions go.
At the end of the pilot session, I asked the participant on how she felt about the questions. She said that they were quite challenging because it is not something that

she normally thinks about, especially being specific about cultural responsiveness or working with CALD communities. Nonetheless, it was very nice to hear that she felt that the interview session was like a reflection and learning session for her as it made her think about her approach in this area.

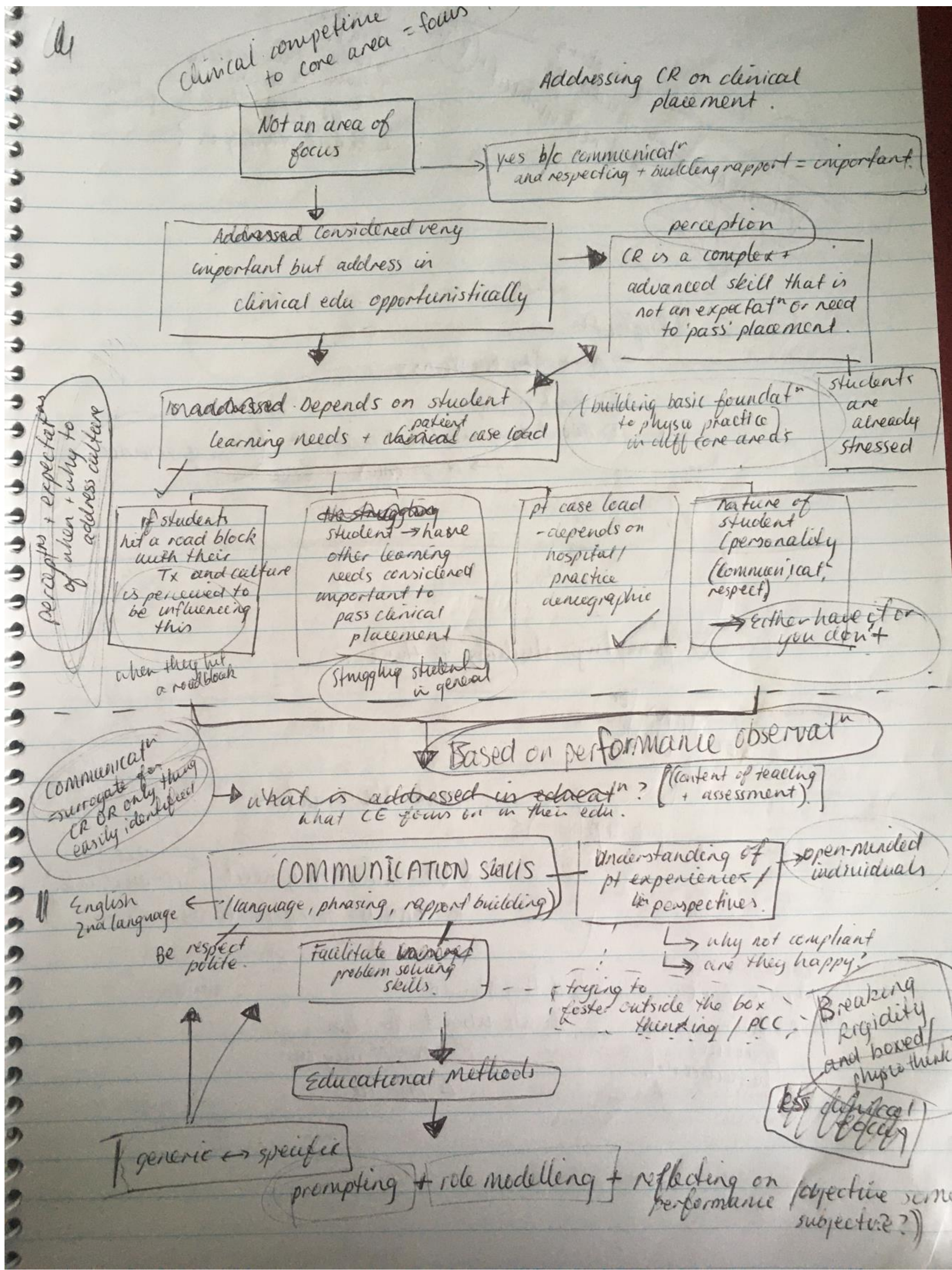
Extract 2: Reflections on role of the researcher based on the first interview (4/12/18)

I felt that my rapport with the participant wasn't the best - it started off a bit flat and the atmosphere was very formal. I know I was definitely nervous. I am comparing this session to my past interviewing experiences, which I could easily connect with the participants because I have had the same lived experiences. In this interaction with [participant] I was an outsider. I have never worked as a clinical educator before. I only know what it is like to be a student on the other side. That is, being supervised by clinical educators, which was about five years ago. Comparing this to my situation as a tutor in the academic environment, I assume that there are different perspectives as a student and as a clinical educator. As such, I noticed my perception about learning shifted when I started teaching undergraduate students. I think having this experience as an educator did help me somewhat connect with the participant (having shared experiences working with physiotherapy students). Above all, I felt it was helpful to have an educator perspective as it made it easier for me to know where to question further on the learning and teaching aspect. I realise that this knowledge and experience does create a bias in how I perceive learning and teaching (my stance on learning is based on social constructivism). I have also read the paper by Patton et al (2013) about the theories of learning in workplaces in physiotherapy. Nonetheless, because I was an outsider, I felt it also helped in a way that I had to question a lot on the participant's response and not make assumptions based on what they were saying or experiencing.

Extract 3: Reflection (ongoing data familiarisation/analysis) (14/3/19)

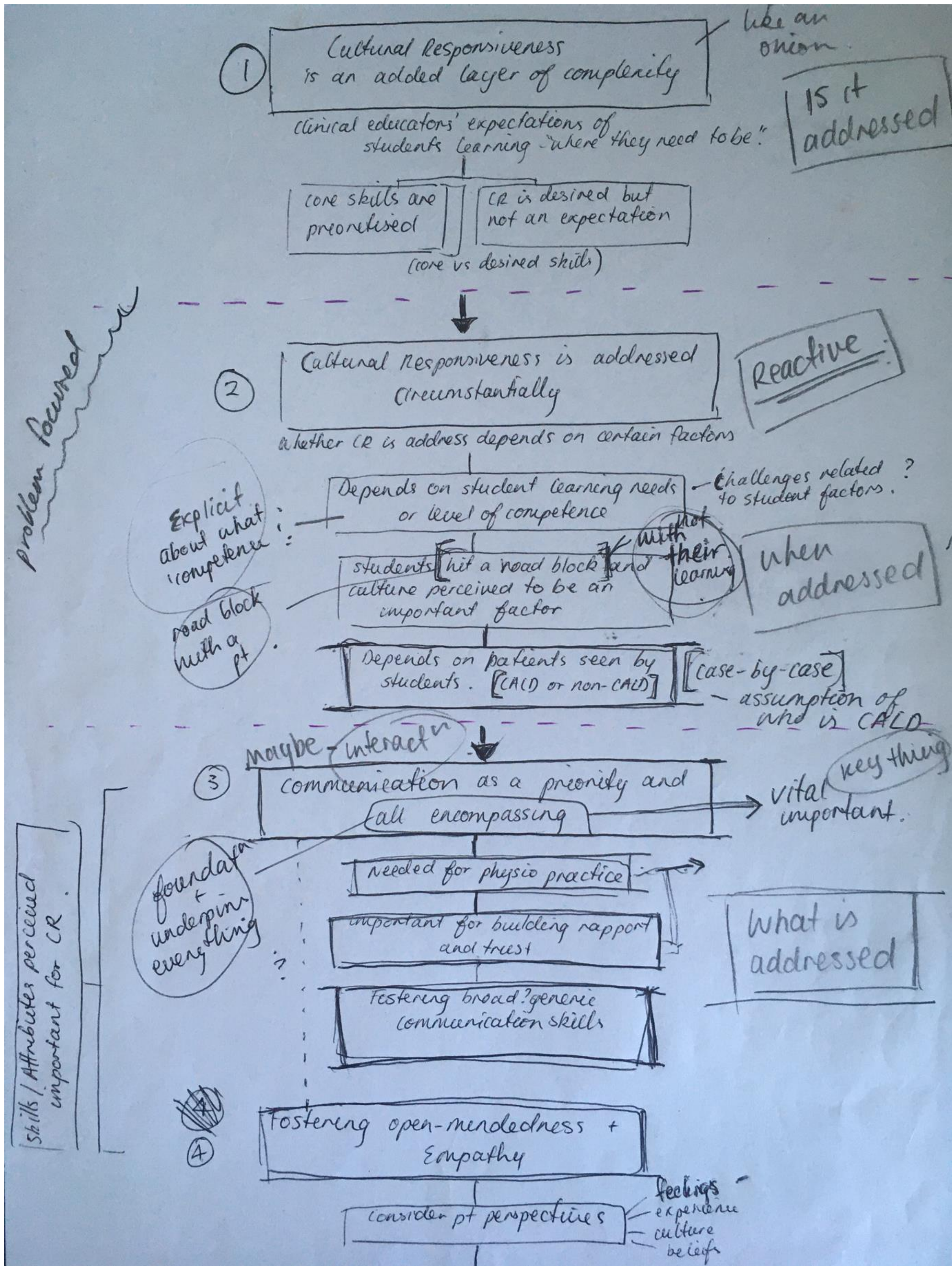
I have completed seven interviews and my impression of the data so far is that there are similarities. The clinical educators appear to understand and are aware of the importance of their patients' culture. Their responses based on the third question from the interview guide, where they reflect on how they have culturally adapted their interactions seem to have elicited similar codes and concepts as my study among new graduates. As such, their responses were mostly around communication strategies and empathy. I think this is a very interesting impression I should keep in mind for the future. Other than that, I'm also seeing a lot of similarities in responses related to their teaching approaches. I have identified many codes based on factors influencing teaching, which I have organised in NVivo as "student-based factors". In particular, why clinical educators choose to teach or how they approach their teaching seem to be influenced by the individual student. Many describe or explain their approach as 'student-centred', which makes sense to me as I also agree that teaching should ideally be tailored to the student's learning needs – this impression is based on my knowledge about learning/teaching theory. Therefore, I guess this is a positive note that the clinical educators are doing this. I would say the codes based on student factors can also be grouped as 'challenges'. This does make me think about how cultural aspects can be addressed during clinical learning.

Extract 4: Mapping patterns and meanings within the data (29/5/19)



Extract 5: Mapping connections- Initial flowchart of major themes and sub-themes

(12/6/19)



5D Extracts from the coding manual/codebook

Codebook version 2 of 4 (12/6/19) – with verbatim quotes

Code	Sub- code	Description	Examples
Core versus desired skills *(Clinical Educator expectations of where students need to be to pass/ to reach new graduate level in core physiotherapy area)* *OR perceptions about what students need to learn* *Cultural responsiveness is an added layer of complexity*	Prioritise core clinical skills	References stating that culture related content is not prioritised, or references about prioritising clinical skills not specifically related to cultural responsiveness.	"I think, you know, safety, clinical skills, assessment, and intervention skills um, general communication skills um, and just clinical reasoning, sort of, take precedent, I have taken priority over that to be honest" [P1] "Yep, I don't know whether I necessarily make it a priority but it's certainly something that we cover, my priority for students at the end is for them to reach a new graduate level and to be able to assess, treat and manage a range of neurological patients successfully and manage that case load and if that includes CALD patients then expect them to be able to use those or work on those skills and we do discuss issues that come up but I wouldn't say it's something that I would teach them if they didn't have that experience" [P5]
	Desired skills - not an expectation *(Cultural responsiveness perceived as a complex or advanced skill)*	References conveying that cultural responsiveness (or skills related to working with culturally diverse patients) is not prioritised because it is an advanced skill and challenging for students.	"So, if we started, you know, really emphasising the cultural competence stuff right from the start, I think the students would just be lost because it's just a layer of complexity they don't need." [P3] "I would say we don't get to that stage. I'd say we get to the stage of maybe we should emphasise a little bit more of this but I think that's probably a little bit – it's just a step too far for them." [P12] "I think there's just general communication skills would go well over the top of that, that's probably lower down in terms of clinical

			reasoning, manual handling, all the core competency skills which are pass off as items that will definitely go well above that umm and then that is for the people who were advancing as practitioners and they're really good students and already come with good communication skills then they're the ones that I'll prompt more or challenge more probably and make it more of a priority because they're already demonstrating good skills in the base areas" [P11]
Culture is addressed depends on a few factors related to the student ? Addressed opportunistically ? Ad-hoc	Students hit a road block with their treatment *(and culture is perceived by clinical educator to be an important consideration)*	References to cultural responsiveness only being important or addressed when a challenge arises in the patient-therapist interaction that the clinical educator has identified that is related to culture.	"So, if I notice that patient is behaving a certain way, and it is more related to maybe some of their thoughts from their cultural background, that's when I introduce that topic with the student." [P10] "It's really a case by case basis, I might not even bring it up a lot if you know the patient is compliant, are happy able to you know engage with all these discussions so I might not really even talk about it, it's generally when they are being challenged and they hit a road block then that's when I might need to explain to them the cultural factors at play" [P9] "I suppose, the first thing that I can do is if a student comes to me and says I don't know what to do or this patient doesn't understand me and I'll immediately start talking to them in their language and show them the difference that that can make" "if something came up as a big issue then we will sit down and discuss it" [P6]

	Depends on patient case-load *(addressed on a case-by-case basis)*	References related to addressing cultural responsiveness (or addressing cultural related content) based on the patients that students see during their placement. That is, if they do not see a patient from a CALD background then culture is not addressed.	"it's more a case by case basis if we pick someone up on the ward who umm English is not their first language or they have a you know they're from a CALD background then umm- then we would look in more detail yeah" [P3] Umm I, I think it's situation dependent it wouldn't be something that I routinely do…Yeah, who the patients are and just situations where I think umm the cultural elements of how they experience the situation are changing or impacting how we're delivering our care then we'll have that discussion umm yeah" [P4] "What students learn is based on individual patients they will see. They go home and study about their patients…I tell them to look up some history, what happened that is relevant and remember that about your patient" [P6]
	Depends on student learning needs or level of competence *(Struggling students have other important learning needs to pass their clinical placement)*	References about cultural responsiveness being addressed depends on student learning needs.	" that is for the people who were advancing as practitioners and they're really good students and already come with good communication skills then they're the ones that I'll prompt more or challenge more probably and make it more of a priority because they're already demonstrating good skills in the base areas and also just depends on what the student has and what their priority goals are" [P4] "there's so much to think about when you have students especially if they're struggling in certain areas like that are more physio specific um, that you want to, sort of, ah, tunnel vision or you're to help them pass." [P7]

			"Yes. So, students who are struggling I would say that the first thing we would do is trim it down away from this stuff." [P9] "If they are struggling towards getting through the placement, um, I guess I have got to think, with our students, the ones that struggle the most are the ones who, um, are finding it difficult with their musculoskeletal clinical reasoning…So because of that we would actually start giving them maybe more simpler patients to foster that first Before considering giving them a patient, um, where the CALD background might be influencing treatments moreso " [P10]
	Nature of the student *"you either have it or you don't"*	References related to attributes that are perceived to be innate and cannot be changed. Clinical educators can only do so much to try facilitate certain behaviours and attributes. For example, empathy and respect.	"I do believe that people are meant to be physios or they're not. If you're not a peoples person then you can't ask questions to get information and listen." [P6] "Students are too amateur and it's not their fault that's where they're at…so it's just me reminding them to listen to the patient.." [P13]
Communication as a priority and all encompassing	Communication skills are important for building rapport and trust with patients	References related to the importance of communication for building rapport and trust. Rapport and trust from the patient perceived to be pertinent for patient-therapist interaction.	"Whereas if you're a little bit more open, build up trust, build a rapport and build a little bit of a relationship with a patient you might just get [0:29:06] with a bit more information from them that could be really useful for those three pages of prep that you came up with yesterday." [P10] "Students are so focused on physio. I tell them just go say "Hi" and ask them about how their weekend was, don't bang on about

			the knee, [it is] super important to make the patient feel comfortable." [P14]
	Communication is needed for physiotherapy practice	References stating the importance of communication (in general) for physiotherapy practice.	"Yeah, look, yeah, um, yes, definitely like so obviously communication is a big part of the, um, just being a physio, part of the marking criteria for a student and part of, um, our daily interactions with patients so I emphasise that a lot - um, with my students um, and try and get them a wide range of experiences, um, to foster that either through communicating with other staff, or patients, or family members that might be from a CALD background" [P7] "I think because – communication fix everything, and so when the students have poor communication, actually does impact on the rest of the, um, core areas that they need to achieve." [P8] "Communication is above all that physio stuff, all that physio stuff you can learn and it's not that hard… on clinical placement, communication and dealing with patients you cannot learn from a book, it takes ages and time. For example, how to run a good interview, because people have different personalities." [P14]
	Generic and/or broad communication skills	References describing clinical educators' reflections on fostering general communication skills in students. This also includes how communication skills are assessed in students.	"suppose instructions and demonstrations to patients which is very applicable to CALD populations where umm we're basically telling them instead of saying 'bring your shoulders forward and try and push through your leg and see how you go trying to get forwards, and then when you're forwards try and push through your legs and see if you can maybe straighten up a little bit umm and then you'll be straight', we say instead demonstrate, so

			demonstrations is the strongest sort of form of instruction you can give which you can give to any, any culture any patient" [P1] "So there's a real disconnect between what they think is normal social communication and then their physio communication. So I do that on purpose because then – usually within the first couple of days I'll say to them, you need to relax. The person is coming in to see you, you don't want this to be really uptight and – there might be some situations where you need it to be but you don't want to foster that environment, and so I'll find that patients, you know, they won't smile, they won't respond. The patient will say something but the – the student is thinking about what the next question is on their list." [P10] "I assess them based on, based on the relationship that they end up developing with the patient so and the way they provide instructions the way they get along, you know, does the patient, ah, and, yeah, so how they interact with the patient how the patient perceives them and how – how much rapport they can, sort of, develop with the patient, um, ah, it's really broad, I guess, like yeah, and, yeah, those are the main things and how they interact" [P7]
Fostering awareness and understanding of patient perspectives and experiences	Hard to foster attributes in students	References or statements to the difficulty with trying to foster or change personalities or attributes in students. Perceptions about attributes, considered innate in the student.	"I suppose if I see issues and I talked early about being able to read the patient and empathise and understand how they might be feeling in certain ways, I-I do bring that up straight away. Umm the student that I've got on placement initial uhh at the moment, for example, umm, I suppose, lacks some of those soft skills. It is hard feedback to give because it's not really something that uhh

(empathy, openness)			it’s sort of a life skill as well as something you need on placement” [P1] “I mentioned were empathy which is kind of like an internal, um, I can’t really train empathy or upskill that but, um, maybe there is a way, I don’t know” [P7] “So it's like okay, you just don’t understand, and you don’t know how to empathise, like okay I can't force you to do that, I can't change you as a person.” [P8] “The personality of students. You can’t really teach personality. You can show and make them aware but having them do that is hard and they may feel that they’re acting” [P14]
	Considering patient perspectives (trying to place students in patient shoes; empathy)		“I’ll ask those sort of probing questions to like “ahh they’re just not doing any of their exercises and yeah and they’re just lazy”, “well have you considered any other reasons why they might not being doing?”- just prompting them for different things, that’s just making them think.” [P2] “But I think that, kind of that is building their empathy is like learning, you know, this is like where they came from, this is their kind of background okay. And then it kind of makes a lot more sense about why the patient presents as they are. Okay, rather than being just a difficult patient, it's like actually they’ve come through all this, they’ve had all these things, and now they're finally in a place where they can take a breath and then a lot of things come out” [P8]

	Prompting students to think (guidance)	References that demonstrate clinical educators prompting students with open-ended questions. These prompting questions are encompassed in educational strategies such as reflections, discussions and feedback. Areas of prompting may be about understanding patient perspectives and experiences, about own performance, about outcome of treatment sessions, and about factors they need to consider.	"yeah so I'll discuss with them umm you know exactly what they've done and and I really like trying to get them to come up with their strategies themselves so to self analyse why they think they haven't got the result they thought they would" I get them to write it down if they're thinking about planning outside of time, one to one with me but say so, what considerations would you take to see if they need to be in rehab any longer for example, what considerations do you then take to see if they can go home or not or umm how would we find that out [P1] "so sometimes I say 'so when you said this how do you think the patient felt?' so I try get them to reflect that way, put them in the patient's shoes yeah." [P2] "it is just it's through prompting, I guess uhh it's prompting the students and think "Ok this particular strategy didn't work for you or doesn't work for this patient so you know have a think about what other options there are in maybe say I guess prompting brainstorming with the student to come up with a… a new idea or new way they could be flexible with their communication" [P3]
	Providing specific direction (direct or informative)	References that demonstrate clinical educators providing direct instructions for students. Direct instructions about how a certain skill should be executed may involve role-modelling for students to see.	"Um, and besides bringing attention to if there's any extra considerations that they need to have with that patient, you know, that patient doesn't like to be touched, that patient doesn't like to be told what to do that patient doesn't like to up, you know, female or male therapists or whatever, you know, just giving them a heads up about that." [P7]

		Direct instructions through demonstration also done when students do not get it.	"I just do more demonstration and I pretty much umm you know when we get time to have those conversations and I'll explain to them you know, this is what this culture prefers in terms of healthcare delivery, explain from my understanding my background, explain those things to the students umm so yeah, that's what I would do." [P9]

6A Cultural Competence Assessment (CCA) tool

For each of the following statements, put an 'X' in the box that best describes how you feel about the statement.

1. Race is the most important factor in determining a person's culture.

Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree	No Opinion
❑	❑	❑	❑	❑	❑	❑	❑

2. People with a common cultural background think and act alike.

Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree	No Opinion
❑	❑	❑	❑	❑	❑	❑	❑

3. Many aspects of culture influence health and health care.

Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree	No Opinion
❑	❑	❑	❑	❑	❑	❑	❑

4. Aspects of cultural diversity need to be assessed for each individual, group, and organization.

Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree	No Opinion
❑	❑	❑	❑	❑	❑	❑	❑

5. If I know about a person's culture, I don't need to assess their personal preferences for health services.

Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree	No Opinion
❑	❑	❑	❑	❑	❑	❑	❑

6. Spiritual and religious beliefs are important aspects of many cultural groups.

Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree	No Opinion
❑	❑	❑	❑	❑	❑	❑	❑

7. Individual people may identify with more than one cultural group.

Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree	No Opinion
❑	❑	❑	❑	❑	❑	❑	❑

8. Language barriers are the only difficulties for recent immigrants to the United Sates.

Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree	No Opinion
❑	❑	❑	❑	❑	❑	❑	❑

9. I believe that everyone should be treated with respect no matter what their cultural heritage.

Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree	No Opinion
❑	❑	❑	❑	❑	❑	❑	❑

10. I understand that people from different cultures may define the concept of “health care” in different ways.

Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree	No Opinion
❑	❑	❑	❑	❑	❑	❑	❑

11. I think that knowing about different cultural groups helps direct my work with individuals, families, groups, and organizations.

Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree	No Opinion
❑	❑	❑	❑	❑	❑	❑	❑

***For each of the following statements put ‘X’ in the box that best describes how often you do the following*:**

12. I include cultural assessment when I do individual or organizational evaluations.

Always	Very Often	Somewhat Often	Often	Sometimes	Few Times	Never	Not sure
❑	❑	❑	❑	❑	❑	❑	❑

13. I seek information on cultural needs when I identify new people in my work or school.

Always	Very Often	Somewhat Often	Often	Sometimes	Few Times	Never	Not sure
❑	❑	❑	❑	❑	❑	❑	❑

14. I have resource books and other materials available to help me learn about people from different cultures.

Always	Very Often	Somewhat Often	Often	Sometimes	Few Times	Never	Not sure
❑	❑	❑	❑	❑	❑	❑	❑

15. I use a variety of sources to learn about the cultural heritage of other people.

Always	Very Often	Somewhat Often	Often	Sometimes	Few Times	Never	Not sure

❑ ❑ ❑ ❑ ❑ ❑ ❑ ❑

16. I ask people to tell me about their own explanations of health and illness.

Always	Very Often	Somewhat Often	Often	Sometimes	Few Times	Never	Not sure
❑	❑	❑	❑	❑	❑	❑	❑

17. I ask people to tell me about their expectations for health services.

Always	Very Often	Somewhat Often	Often	Sometimes	Few Times	Never	Not sure
❑	❑	❑	❑	❑	❑	❑	❑

18. I avoid using generalizations to stereotype groups of people.

Always	Very Often	Somewhat Often	Often	Sometimes	Few Times	Never	Not sure
❑	❑	❑	❑	❑	❑	❑	❑

19. I recognize potential barriers to service that might be encountered by different people.

Always	Very Often	Somewhat Often	Often	Sometimes	Few Times	Never	Not sure
❑	❑	❑	❑	❑	❑	❑	❑

20. I remove obstacles for people of different cultures when I identify barriers to services.

Always	Very Often	Somewhat Often	Often	Sometimes	Few Times	Never	Not sure
❑	❑	❑	❑	❑	❑	❑	❑

21. I remove obstacles for people of different cultures when people identify barriers to me.

Always	Very Often	Somewhat Often	Often	Sometimes	Few Times	Never	Not sure
❑	❑	❑	❑	❑	❑	❑	❑

22. I welcome feedback from clients about how I relate to people from different cultures.

Always	Very Often	Somewhat Often	Often	Sometimes	Few Times	Never	Not sure
❑	❑	❑	❑	❑	❑	❑	❑

23. I find ways to adapt my services to individual and group cultural preferences.

Always	Very Often	Somewhat Often	Often	Sometimes	Few Times	Never	Not sure
❑	❑	❑	❑	❑	❑	❑	❑

24. I document cultural assessments if I provide direct client services.

Always	Very Often	Somewhat Often	Often	Sometimes	Few Times	Never	Not sure
❑	❑	❑	❑	❑	❑	❑	❑

25. I document the adaptations I make with clients if I provide direct client services.

Always	Very Often	Somewhat Often	Often	Sometimes	Few Times	Never	Not sure
❑	❑	❑	❑	❑	❑	❑	❑

6B Marlowe-Crowne social desirability scale-short form

Your answers to these questions will help us understand responses from different kinds of people who complete the survey. ALL answers are strictly confidential. Read each item below and decide whether the statement is True or False.

	True	False
1. It is sometimes hard for me to go on with my work if I am not encouraged.		
2. I sometimes feel resentful when I don't get my way		
3. On a few occasions, I have given up doing something because I thought too little of my ability		
4. There have been times when I felt like rebelling against people in authority even though I knew they were right.		
5. It doesn't matter who I'm talking to, I'm always a good listener.		
6. There have been occasions when I took advantage of someone.		
7. I'm always willing to admit it when I make a mistake.		
8. I sometimes try to get even rather than forgive and forget.		
9. I am always courteous, even to people who are disagreeable.		
10. I have never been irked when people expressed ideas very different from my own.		
11. There have been times when I was quite jealous of the good fortune of others.		
12. I am sometimes irritated by people who ask favours of me.		
13. I have never deliberately said something to hurt someone's feelings.		

6C Altemeyer's Dogmatism scale

Your answers to these questions will help us understand responses from different kinds of people who complete the questionnaire. All answers are strictly confidential. For each of the following statements please mark (x) the option that best describes how you feel.

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1. Anyone who is honestly and truly seeking the truth will end up believing what I believe					
2. There are so many things we have not discovered yet, nobody should be absolutely certain his/her beliefs are right					
3. The things I believe in are so completely true, I could never doubt them					
4. I have never discovered a system of beliefs that explains everything to my satisfaction					
5. It is best to be open to all possibilities and ready to re-evaluate all your beliefs					
6. My opinions are right and will stand the test of time					
7. Flexibility is a real virtue in thinking, since you may well be wrong					
8. My opinions and beliefs fit together perfectly to make a crystal-clear “picture” of things					
9. There are no discoveries or facts that could possibly make me change my mind about the things that matter most in life					
10. I am a long way from reaching final conclusions about the central issues in life					
11. The person who is absolutely certain he/she has the truth will probably never find it					
12. I am absolutely certain that my ideas about the fundamental issues in life are correct					
13. The people who disagree with me may well turn out to be right					

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
14. I am so sure I am right about the important things in life, there is no evidence that could convince me otherwise					
15. If you are “open-minded” about the most important things in life, you will probably reach the wrong conclusions					
16. Twenty years from now, some of my opinions about the important things in life will probably have changed					
17. “Flexibility in thinking” is another name for being “wishy-washy”					
18. No one knows all the essential truths about the central issues in life					
19. Someday I will probably realise my present ideas about the BIG issues are wrong					
20. People who disagree with me are just plain wrong and often evil as well					

6D Demographic questionnaire

1. **Age: ______________**
2. **Gender: ____________**
3. **Country of resident at present time:**
   ____
4. **Postcode (for where you live): ____________________**
5. **Are you a**
   - ☐ Local student
   - ☐ Interstate student
   - ☐ International student
6. **Are you a**
   - ☐ Undergraduate student
   - ☐ Masters student
   - ☐ Masters extended/Doctor student
7. **What is your year of study? ___________________________**
8. **Which university do you currently attend**
   - ☐ Australian Catholic University
   - ☐ Bond University
   - ☐ Charles Sturt University
   - ☐ Curtin University
   - ☐ La Trobe University
   - ☐ University of Canberra
   - ☐ University of South Australia
   - ☐ Western Sydney University
   - ☐ Auckland University of Technology
9. **Have you been on any physiotherapy clinical placements?**
   - ☐ Yes → If Yes, how many weeks have you practiced for?
     ____
   - ☐ No
10. **Were you practicing as a healthcare provider before being enrolled in your current course?**

- ☐ Yes → If Yes, how many long have you practiced for?

  ____

- ☐ No

11. Have you had any prior cultural responsiveness training?

- ☐ Yes
- ☐ No

12. What is your ethnic ancestry, heritage or background?

Ethnic or cultural ancestry refers to your “roots” or cultural background and should not be confused with citizenship or nationality.

Mark the space or spaces (up to 2) which apply to you.

- ☐ English
- ☐ Irish
- ☐ Australian
- ☐ New Zealand European
- ☐ Maori
- ☐ Scottish
- ☐ Italian
- ☐ German
- ☐ Chinese
- ☐ Other (please specify)

  ____

13. How do you define your identity, in ethnic or cultural terms?

This identity may be the same as that of your parents, grandparents or ancestors or it may be different. Your cultural identity is the ethnocultural group to which you feel you belong.

____

____

14. What is your religion, if any

Answering this question is optional

- ☐ No religion
- ☐ Uniting Church
- ☐ Islam

- ☐ Catholic
- ☐ Presbyterian
- ☐ Greek Orthodox
- ☐ Anglican (Church of England)
- ☐ Buddhism
- ☐ Baptist
- ☐ Hinduism
- ☐ Other (please specify) ______________________________

15. Do you speak a language other than English at home?

- ☐ Yes → If yes, please specify ___________________________
- ☐ No, English only

7A Semi-structured interview guide

1) **What are your thoughts and understanding about culture and cultural diversity?** How would you define culture? How about culture in terms of ethnicity? Why?
2) **Based on your experiences, do you think a person's culture (specifically ethnicity or ethnic group) has an influence on how they engage with healthcare?** Why? Why not?
3) **What have been your experiences of working with patients from CALD communities?** How did you feel about those experiences? Why?
4) **Do you adapt your interactions and/or your interventions when providing physiotherapy to patients from CALD communities?** Why? Why not? How do you adapt your practice? What techniques or strategies do you use?
5) **Do you experience any challenges when managing patients from CALD communities?** If yes, what are they? Why is this a challenge? How do you overcome the challenges? If there are no challenges, how about facilitators?
6) **Do you use any resources to help guide your management with patients from CALD communities?** How have these resources helped you? Have you undergone any education or training?
7) **Overall, what do you feel is important to consider, as a clinician, when working with patients from CALD communities?**
8) **Is there anything else we have not discussed that you would like to add?**

7B Additional participant quotes

Quotations in support of theme 1: Patients perceived to be passive recipients to healthcare

Theme	Quotation
Patients perceived to be passive recipients to healthcare	There are probably certain cultures that are very reliant on passive treatment…and less willing to participate in self-management. [3] I think, to put the time aside just to clearly explain what you're going to do, what your concerns are, why you're going to do it…can really give them [people from CALD communities] that sense of empowerment and sense of ability to take control of their own health a little bit, rather than be passive. [8] They [people from CALD communities] rely on a lot of passive treatment because they think that we, being professionals, are more superior and that we are supposed to be giving care, instead of education. [12] I do find that they're just non-compliant. I guess for those cultures that are just playing a sick role. [13] Certain cultures might view healthcare and interventions as quite a passive thing where treatments are done for them, and they're not an active participant. [16]

Quotations in support of theme 2: Practice inside the box

Sub theme	Quotations
Western healthcare work readiness	You're only trying to work with what you can…and you definitely sometimes step back and go "I don't know if I've given the full education or I'm not sure if they understand me". [2] She [patient] was from an Eastern European culture…she was not engaged in therapy, and then later in discussions with her son, we finally found out that for his family and her, there was very much a sense of when you're sick you stay in bed…once everything is better, that's when the rehab could start. This is obviously quite different from the model of care that we have as physios in Australia. [8] The way I've learned to practice physio can sometimes be quite

	challenging with families from culturally diverse backgrounds. I guess because their values of health are really different…trying to teach them the things that are important for their health can sometimes be quite challenging because, for them, that's not of high importance. [9] Some of them are quite fixated, and it's hard to change their minds. I do give them what they want in the end, if I find out there's no way of getting the message across. [12] There was no way I would have gotten her to do exercises I wanted her to do… Even though she was very mobile before, and it was a very small surgery. I knew I wasn't going to win. [13] I actually had a patient from an Asian background… she didn't want to get up, she didn't want to participate in physio, and she didn't understand the point of physio. [17]
Unidirectional approach	If it’s [interaction with patient] not going down the right path, then getting an interpreter or someone in to try and convey the information that I’m trying to - as objectively as possible. [6] If I didn't give them what they want, they wouldn't be inclined to come back again. So, to make them happy, I did that but also provided them with some benefit by giving them what I thought was evidence-based. [7] The other big factor would be when people are non-English speaking [sic]…physios can become good at charades and doing demonstrations, or explaining with very simple words, what we want our patients to do. [8] To make sure that the education and the messages that we were conveying were getting through…I guess, for each session I see them, I might focus on one thing for them to take away…really hammering that home and reinforcing that… [9] If they come in with a lot of pain and they really need some treatment, I would try to explain to them that, "look, this is your first session here, I'm just going to focus on your symptoms today but the next time you come in this is not all I'm going to be doing". [12]
Superficially applied strategies	I ended up just going to find a hand out that had the words written on it in their [patient] language…at least that gave me the ability to prompt the patient or show them some form of what I actually meant. [2]

	I do this with most patients, but I think I make a conscious effort to do it with someone from a CALD community. I'll take a photo of them on their phone so that they've got an image of it rather than a verbal explanation. I'll try to get their family members in [the clinic] if they have a serious issue, and I'll explain it in English… [4] In terms of instructions, all we can really do is a lot more visual cues rather than me saying things…I really try to shorten it to single words, trying to point to things…I use posters, pictures, all sorts of little things to really get the message across. [5] Sometimes the kid's English may actually be a lot better than the parents. So sometimes, we're communicating via the child to their parents. [9] Giving them resources or websites or things like that, that they can take home and think and look over… [9]
Pockets of patient-centered care	I did try giving her [patient] exercises. I don't think she did it. But when I tried to break it down a bit more and just gave her exercises to modify her everyday activity, she came back and the pain was probably a little bit better…So I essentially gave her a couple of options and let her pick the ones that work best. [7] Understanding why the patient believes that these are the only ways that could potentially help- I think when I did try and approach that question, she did become quite defensive and was like, "No", but she wouldn't give me a reason. For me, it was finding a way to try and get that out of her, but I didn't really know how to. [7] On the whole, I found it [using interpreters] a really positive experience. I think it makes families and patients a lot more comfortable. They are able to ask questions and have their concerns or worries noted and responded to appropriately. I think if they didn't have that opportunity, they wouldn't feel like they have the same access to the healthcare system. [10]

7C Extracts from reflexive journal/memo

Extract 1: Reflections on the role of the researcher (debrief with LP) (20/3/18)

Today, I had a debrief meeting with LP about the interview process, she had also looked at two of my transcripts and coded them independently. We agreed to meet to discuss our initial impressions and codes for the interview data so far. I showed and explained my list of codes. She then showed me her codes and shared her impression of the data. As this was the first experience doing qualitative analysis, I was relieved that there were similarities in our codes – this means we have similar perceptions on the data. However, on second thoughts, it is ok to have different codes or perceptions as qualitative data is subjective. Although, what I realise was that I did have many more specific codes on the participants' approaches, which according to LP, my impression of the data was rather critical. That comment did get me thinking about our personal biases. Prior to this, I had read a lot about qualitative research and being aware of personal biases in the analysis process, but this meeting gave me a deeper understanding of why it was important to reflect on these biases.

The way I interpreted the data was based on my understanding of cultural responsiveness or cultural adaptation in physiotherapy practice. For me, I had read a bit around different epistemologies and cultural worldviews about healthcare approaches. In particular, physiotherapy practice is situated in western philosophies (paper by Norris & Allotey, 2008). Also, one of my supervisor and PhD colleague has been doing research about cultural adaptation in physiotherapy, so I have done some readings and had conversations with them in this area. No doubt, their work

has really influenced the way I understand culturally responsive physiotherapy practice. As I am writing this, I am also beginning to realise that I am wearing a different lens to LP. For example, I noticed that LP's codes on participant's approaches, were based broadly on patient-centred care. This is also very thought provoking for me as I realise that prior to me immersing myself in the cultural responsiveness literature, I may have also viewed these approaches as being patient-centred. Thinking back to my practice as a new graduate, I never thought about physiotherapy as a culture that was biased towards western philosophies, and I too, was using similar strategies described by the new graduates in this study. I have to say that embarking on this research journey has been a huge revelation for me, and it is only the beginning.

LP would be considered an outsider as her background is in public health. She was seeing the data based on her perceptions about clinical practice. At times, LP was confused with the participants' responses as she did not understand the jargon, or the clinical technicality involved in physiotherapy practice. Again, this made me realise that I was understanding the data based on assumptions I have as a physiotherapist.

Extract 2: Reflections on data analysis process (7/6/18)

Earlier today I had a mapping session with FB. In this session we focused on defining the themes. We agreed on the themes that were identified, but I feel that one of the themes still needs better unpacking. While the data appears to pinpoint that new graduates in this study don't properly incorporate their patients' cultural worldviews into their practice, there were some instances in the data when participants described a deeper understanding about not trying to force a complete change in belief or behaviour. Personal opinion – some of the examples described by new graduates with them deeply appreciating their patients' culture and culturally adapting their practice definitely impressed me. It makes me wonder why some new graduates were more on the spectrum of pushing their own agenda compared to those who I loosely consider to be more 'patient-centred'. Is it based on personal factors? Is it environmental? Unfortunately, I did not explore this difference – perhaps it is something worth considering in future research. At the moment this code/idea sits under the sub-theme of strategies based on self-reflection. I'm not sure this is correct because the self-reflection may be an assumption, which I also unfortunately did not thoroughly explore in the interviews. I will have to revisit the data again and have a chat with LC and FB to see what they think.

Extract 3: Early conceptualisation of themes (7/6/18)

1. NG physiotherapist fows on being prepared to work in a Western health-care model and are challenged when a patient from a CALD community deviates from this familar framework of practice

2. NG physiotherapists approach patient care in a unidirectional manner when the role of the therapist is to change the patient's beliefs to align with evidence of management

   not sure just to do c̄ beliefs

   To enforce pt to do c̄ their own framework of practice.

   or perhaps it is b/c to do what is 'best practice'.

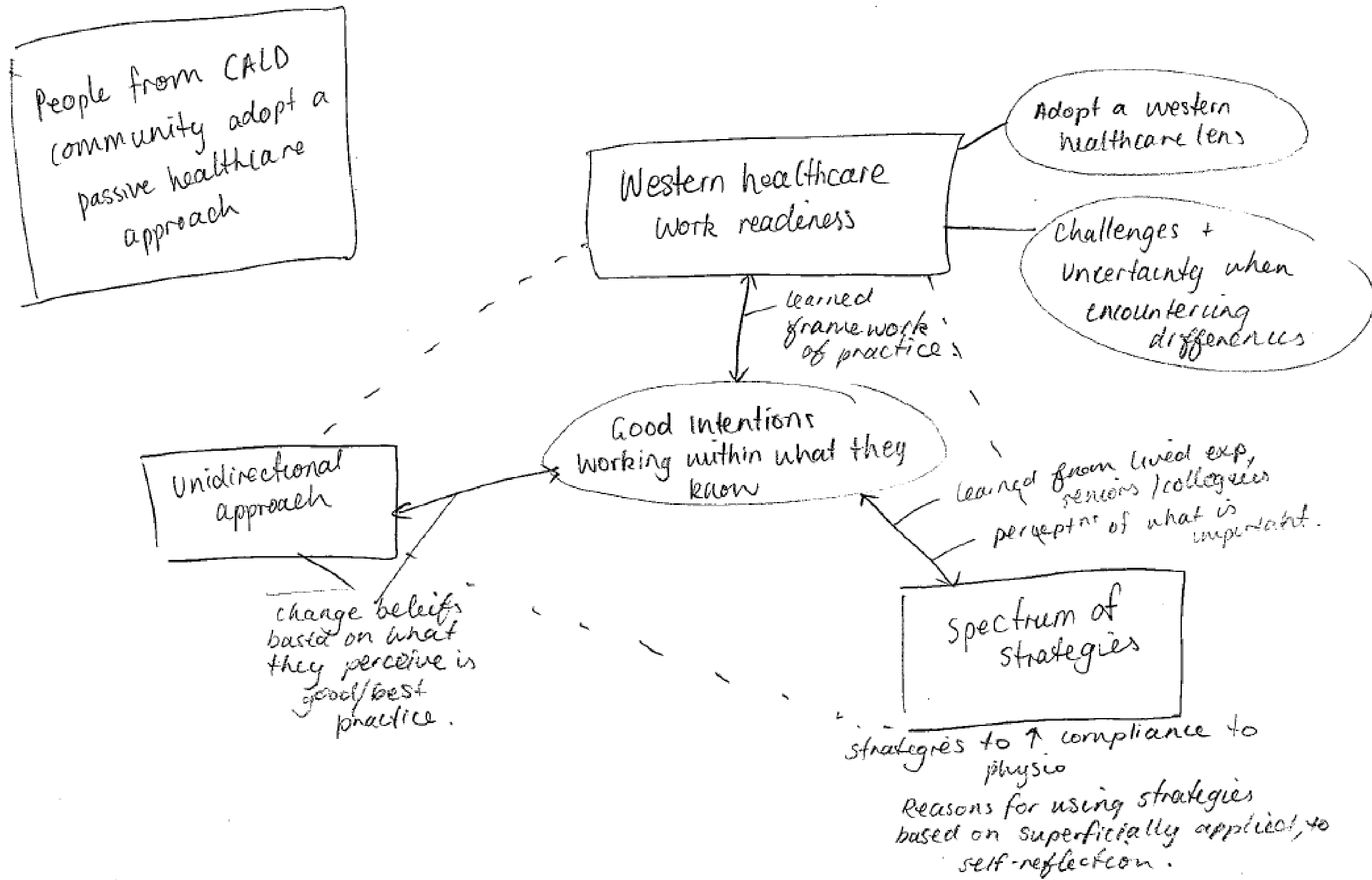
3. A spectrum of strategies are employed by NG physiotherapists to succesfully engage with patient from CALD communities

   - Superficical applied processes to deep self reflection and attitudinal behavioral change ?

   eg therapy centred to patient centred

   reflection → think about personal performance

Extract 4: Initial mapping of main themes (14/6/18)



7D Extract from coding manual/codebook

Codebook version 3 of 4 (27/7/18) – with verbatim quotes

Theme	Sub-theme	Description of Theme/comments	Examples
People from CALD communities adopt a passive healthcare approach		New graduate physiotherapists identify and perceive that the health behaviours and/or beliefs that most patients from CALD community adopt are passive. Most new graduates make a comparison between a patient who is perceived as 'active' and a patient who is 'passive'. Understanding of a patient who is active is someone who is willing to take initiative and self-manage or do exercises. Someone who is passive feels that the healthcare system should treat them. People from CALD communities less likely to self-manage or exercise and therefore need to be encouraged, motivated or educated to do so. This perception of what is passive is based on a western healthcare physiotherapy practice model. From a culturally responsive practice framework, what one person perceives as passive is not passive for another.	"Um, look, I think a lot of people and, like, this is without sounding racist obviously, but in my anecdotal experience, like, think a lot of people from Middle Eastern cultures are very, like, they can be a lot more pain focused, a lot more, um, you know, passive in how they want to be treated as opposed to people who are, you know, Anglo-Saxon, for example, they want to be more involved. They want to be more active in their rehab."[P4]

New graduates have good intentions - working with what they know (New grads are "trying"; they try to get patients involved in the treatments they perceive is best for the patient)	**Western healthcare work readiness**	New graduate physiotherapists demonstrate that they are prepared to work within a western healthcare model/system. This is conveyed through their perceptions of what they believe is important (e.g., education, exercise, self-management), and what is best practice. When recounting their approaches to practice, the approaches are based on trying to get patients to be compliant with treatments that are within a western healthcare physiotherapy framework of practice. Additionally, approaches used are also grounded within a western healthcare approach (e.g., education of risks, benefits, pathophysiological reasons for illness; goal setting).	"I don't know really. I – what I've done is I've taken it, like, patient by patient, kind of load…I have got some people in who are just straight, no, I – I want this, I want that, and this has done – this has been done before and it doesn't work. And those kinds of patients, I'll just, kind of, get them on side first by giving them what they want and then try to include a little bit of what best practice says in it and then reassess and see how it's gone." [p4] "Ah, I think the interventions are quite - I don't think I adapt the interventions but I change the way I approach them, and build rapport with them differently… Um, because I think the way I would treat people, um, as in I - I would provide treatment, is from what I - from, you know, what I've learnt, and evidence based practice and, I mean, unless the studies are saying this particular treatment is better than any other treatment for this particular group of people, um, which at this point I'm not - not quite aware of anything, um, that's - that's different between, um, CALD backgrounds. " [p11]

		New graduate physiotherapists experience challenges or feel uncertain when they encounter patients who are from a different culture to themselves, or from a CALD background. While all participants state they are aware and acknowledge that different health beliefs, health models and cultural practices exist, trying to work with these differences is challenging. New graduates find it challenging because patients from CALD communities do not 'fit' within or approach healthcare from a western healthcare framework, which new graduates have been prepared to work in. There are many reasons for why this is challenging. Language barrier was expressed by majority of participants. Challenges are related to patients' socio-cultural factors (e.g., language barrier, beliefs and expectations). Challenges are also related to the western healthcare work culture (e.g., time pressures and workload, generally cater for English speaking patients). This challenge was also conveyed explicitly by participants who would compare their	"you know, try - try telling someone who speaks minimal English and has a different cultural background the evidence shows three hours of balance practice a week that's challenging but achievable is going to reduce your risk of falls by this per cent, you know, how do you - how do you adapt that to um, to whoever is there." [p3] …considering I had just started, I was more focused on treatment, how do I - like more focused on, um, on the clinical side rather than working with the patient, looking at the patient holistically, um, probably more because coming into work it's all so fresh that you tend to forget that it's sometimes assessing the patient as a whole, that part of assessing and treating a patient would be understanding their culture and beliefs, um, and they actually go hand in hand. I've got a man who speaks Russian at the moment. His English is very, very limited but, um, we haven't been able to organise an interpreter for him and he doesn't have any family that's able to come with him to his appointments. So, that's, yeah. And he's got a lot of, um, chronic, you know, back pain and chronic nerve pain that's, you know, you – you have to deal with a lot of the time by educating

		experiences of treating patients from non CALD communities as being easier. Most participants also expressed an element of uncertainty with knowing what to do or how to adapt their approach, knowing whether their approach was effective, or about certain health beliefs and behaviours of patients.	and that kind of stuff. Like, when you put, um, you put a language barrier on top of that it just compounds the issue." [P6]
	Unidirectional approach	New graduate physiotherapists attempt to align their patients to their framework of practice. Although they state an awareness and respect for different health beliefs, they perceive they are doing what is best for the patient. Most participants convey they try to change patient beliefs or try to encourage patients to adopt what they perceive is best practice. This sense of unidirectional approach is also conveyed through the language used (e.g., convince, sales person, argue, understanding me) when recounting their clinical encounters. Another example that was demonstrated by some participants (generally those who worked private practice) is when new graduates state they need to compromise their treatment and provide what the patients ask for, to obtain patient trust, so they can add in	"Like, if I don't get my message around it's quite frustrating and I just feel like sometimes I just want to give up, in a way. So they're not complying to me or, like, I'm trying really hard, but they just can't – they just don't get it or they just don't understand at all." [p12] "So yeah, if they're not getting it through one way then I'll just have to try and explain it in another way, another medium. I've just got to keep trying to explain things and, yeah, until they – they really understand it. But that's all I can – that's all I can really do; all I can do is try to – try my best to make them understand." [p5] "Um, but then if I didn't give them what they want they wouldn't be inclined to come back again. Um, so I, kind of, had this bit off stitching and into a bit of – a bit of both, ah, to make them happy but also provide them, like,

		what they perceive is best practice at the end of the physio session (Both happy but on different sides of the coin). From a culturally responsive framework perspective, there is no sense of negotiation.	some benefit from which I thought was more evidence based.”
	superficially applied processes (reasons for using strategies??)	New graduates use a spectrum of strategies when working with patients from CALD communities. Superficially applied strategies were applied based on superficial reasons. For example, based on logistics, is protocol driven, ease or pragmatic. Strategies applied were also based on what new graduates perceived as important. For example, all participants perceived that education was important to get patients to understand their condition and the reason for treatment, or empower patients to self-manage. For most participants, these strategies used were aimed at increasing patient compliance to their treatment approach. Compliance was mainly addressed by trying to build a positive and trusting patient-clinician relationship and getting patients to understand the reason of the treatments.	“I should do some more drawings but usually it’s really hard to get a rhythm, yeah, it’s time limited, so I just point towards the poster on the wall and then just explain to them really quickly the anatomy before I go into release things, or get them to do their stretch how I want them to do….so just point towards a picture – this is the muscle, I want you to work…” [P12] “…but for people that were not really available, in terms of instructions all we can really sort of do is, um, a lot more visual, ah, visual cues rather than me saying things or – and – and sort of explaining things in it’s entirety; I really try to shorten it to single words, trying to point to things; I use posters, um, pictures, all sorts of little things, keeping it short and simple, um, to really – to get the message across… But I try and educate them why – why they need to be there.” [p5] “A lot of the time I would spend an extra amount of time going through, things really, really slowly, really, really carefully and just trying to reassure them a lot, spend a lot of

		Strategies were mainly based on communication	time, like, just encourage them and sort of, saying, like, "What you're doing is actually really, really good. Um, you've got pain but your function is really impressive," and like, you need to focus on that type of thing. I do find that very challenging to try and change these belief systems in the time that we have available." [p6]
	Patient-centered care (?)	Some new graduates described instances that demonstrate a deeper understanding or appreciation of their patients' cultural worldviews. Also, some new graduates described how they 'tried' to consider their patients' cultural worldviews in their treatments.	I did try giving her exercises. I don't think she did it, the exercises. But when I tried to break it down a bit more and just gave her exercises to modify her everyday activity, she came back and the pain was probably a little bit better…So I essentially gave her a couple of options and let her pick the ones that work best. [p7] On the whole, I found it a really positive experience. I think it makes families and patients a lot more comfortable. They are able to ask questions and have their concerns or worries noted and responded to appropriately. I think if they didn't have that opportunity, they wouldn't feel like they have the same access to the healthcare system. [p10]