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Research article

# Cultural intelligence and intercultural effectiveness among nurse educators: A mixed-method study

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ABSTRACT

*Background:* Due to globalisation, the education sector is becoming multi-cultural. It is important for nurse educators to be aware of various cultures and to be able to work efficiently with culturally diverse group of students and colleagues.
*Objectives:* To examine cultural intelligence and inter-cultural effectiveness among nurse educators and as well as to explore their experiences in culturally diverse education settings.
*Design:* A mixed-method approach applying a sequential explanatory design.
*Results:* Nurse educators' cultural intelligence (CQ) and intercultural effectiveness (IE) scores were above the median values, with an overall score of 76.33 (range 23–100) for CQ and 74.64 (range 58–87) for IE respectively. Individual CQ component scores were noted to be high. Although, the cognitive component was in the lower score range, which involves knowledge of norms, practices, values, rules of languages, and rules for expressing non-verbal behaviours. For IE, nurse educators had a lower score with Message Skills, which involved effective interactions conveying messages specific to a particular culture or group. The initial quantitative findings was explained by the narratives of nurse educators reinforcing that acquiring cultural intelligence is a continuous process of knowing and learning through active sharing and that cultural sensitivity overlaps with professional nursing standards.
*Conclusion:* In the presence of culture-related dilemmas, nurse educators resort and are guided by professional standards of cultural awareness, inclusivity and culturally safe practice in nursing. Future research might need to examine how objective measures of cultural intelligence and experience-based evidence from nurse educators contribute to shaping the professional nursing requirements and standards applied in the nursing curriculum.

## 1. Introduction

Cultural intelligence is a relatively new field of study. In the last two decades, research into cultural intelligence has grown increasingly popular and a large number of studies now map the field of cultural intelligence. Due to globalisation, the education sector is becoming multi-cultural and in healthcare education programs, such as nursing, it is important for nurse educators to be aware of various cultures and to be able to work efficiently with culturally diverse group of students and colleagues. The term cultural intelligence (CQ) has been used by a number of authors (Ang et al., 2007; Ersoy, 2014; Middleton, 2014; Shomoossi et al., 2019) to describe an individual's capability to function, accommodate diverse values, traditions and manage effectively in culturally diverse settings. According to Earley and Ang (2003), CQ comprises of four components: (1) cognitive CQ, or the knowledge of norms, practices, values, rules of languages, and rules for expressing non-verbal behaviours; (2) metacognitive CQ, which focuses on the higher-order cognitive process and includes planning, monitoring, and revising mental models of cultural norms for different groups of people; (3) motivational CQ, which pertains to having the drive and confidence to be effective in culturally diverse situations; and (4) behavioural CQ, which reflects the capability to exhibit appropriate verbal and non-verbal actions when interacting with people from different cultures.

Brislin et al. (2006) have established in their study that people with high CQ are consciously aware of others' cultural preferences before and during interactions and adjust their mental models during and after interactions. Education involves interactions with students and health care professionals from diverse culture. Intercultural effectiveness (IE) is

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a part of behavioural aspect of intercultural competence and determines the efficiency of a person to manage culturally conflicting situations successfully (Yilmaz et al., 2020).

CQ and IE are regarded as an ongoing cumulative process that nurses endeavour, which may influence the interaction and adaptive abilities in a culturally diverse context. The lack of CQ in dealing with culturally challenging situations, nurses could easily feel less effective in the intercultural arena (Shomoossi et al., 2019). Several studies have shown that CQ and cross-cultural adjustments are positively related (Chen et al., 2014; Konanahalli et al., 2014) improves job performance and satisfaction (Ang et al., 2007) predicts leadership and effectiveness in a culturally diverse situation (Kim and Van Dyne, 2012). As the notion of CQ and IE is becoming popular and being acknowledged, a program focusing on improving knowledge and skills could allow effective development of CQ among nursing educators and for them to be more interculturally effective (Thomas et al., 2008; Solomon and Steyn, 2017; Shomoossi et al., 2019). To provide empirical insights on CQ and IE, we examined and explored these in the nursing education sector.

## 2. Aim

This study aimed to examine the objective measures of CQ and IE and then explore the experience-based evidence among nurse educators using a mixed-method approach.

## 3. Methods

### 3.1. Design

A mixed-method approach was utilised in this study, where a sequential explanatory design was applied, with quantitative data collected in the first phase, followed by individual interviews in the second phase (Creswell and Tashakkori, 2007). The study employed an online survey of nurse educators in New Zealand using two psychometrically validated tools measuring cultural intelligence (CQ) and inter-cultural effectiveness scale (IE) measuring culture-related interactions. The second phase involved interviews of nurse educators, which was informed by the quantitative findings. The integration of findings from both phases explained the quantitative scores from the CQ and IE tools and provided an in-depth understanding based on nurse educators' narratives. Ethics approval was sought from (*Southern Institute of Technology Human Ethics Committee*).

### 3.2. Participants and settings

The study recruited nurse educators working in New Zealand institutions offering nursing degree qualification. Nurse educator is a term used to describe nurses working in the education sector, although the terminologies vary in the university sector, where nurse academics are referred as lecturers and members of the professoriate. The online survey was distributed to a total of 15 institutions. In New Zealand, there are 14 Polytechnic institutions and 4 universities offering degree nursing programme. The number of nurse educators employed in a nursing school or department varies, some institutions with small nursing programs have less nurse educators employed. For the survey, a total of 30 nurse educators out of 40 invited have completed and returned the survey (71 % response rate). Considering the small number of nurses practicing in the New Zealand nursing education sector, the current response rate was expected. For the qualitative phase, 16 participants consented to take part in the interview. The recruitment invitation was sent to the institutions' curriculum leaders and was distributed by administration personnel via a system-generated email.

### 3.3. Data collection

The online survey was disseminated to potential participants through their respective organisations' internal email system. The recruitment email highlighted that participation is anonymous and voluntary. There were two tools used to collect data, the CQ and IE. The CQ scale measured the *participants' ability to understand, act and manage effectively in culturally diverse settings*. CQ scale is composed of 20 items and four different theoretical components (metacognitive, cognitive, motivational, and behavioural) that correlate with each other. The IE measured the ability of individuals to communicate effectively with members of different cultural background. The IE is composed of 20 items and six different components including behavioural flexibility, interaction relaxation, interactant respect, message skills, identity maintenance and interaction management.

At the end of the online survey, the participants were invited to take part in a follow-up qualitative interview about the topic. The participants who agreed were directed to a separate online link, where they have entered their contact details for the qualitative interview participation. The interviews were conducted by both main researchers and took 45–60 min through virtual teleconference. Interview questions were piloted to two nurse educators who are colleagues of the researchers and who did not take part in the study. Interviews were audio-recorded and transcribed by a professional transcriber. Nurse educators who are known to the interviewers and researchers were not included in the study.

### 3.4. Data analyses

Analysis of quantitative data was undertaken using summary statistics through SPSS (Statistical Package for the Social Science) version 25. Descriptive data and statistics including frequencies, percentages, mean and standard deviations were generated for all variables. Both CQ and IE tools have a score range for each of the component, for example metacognitive CQ has 4 (lowest)-20 (highest) scores range (see Tables 2 and 3 for score ranges). The overall median scores for each tool, which are 61 for CQ scale and 72 for IES provided the reference in interpreting the total low and high scores. These have been analysed using descriptive statistical methods. For qualitative data, thematic analysis was employed using the 6-step methods by Braun and Clarke (2006). Pseudonyms were used in the presentation of qualitative excerpts. The researchers who conducted the interviews and analysed the data were also working in the nursing education sector, therefore cross-checking with each other was undertaken during the analysis phase to avoid bias in the interpretation of data.

## 4. Results

### 4.1. Quantitative findings

#### 4.1.1. Sample characteristics

There were 30 nurse educators who returned and completed the survey. All participants are females and the majority obtained their education in New Zealand. Table 1 presents the complete demographic profile of respondents.

#### 4.1.2. Cultural Intelligence Scores (CQ scores)

In terms of cultural intelligence, our analysis revealed that nurse educators who participated in this survey scored above the median value of the CQ scale (score of 61), with an overall score of 76.33 (range 23–100). While all individual CQ components scored in the higher end of the range, it was noted that for nurse educators, the cognitive aspect of CQ was the lowest, where it involves knowledge of norms, practices, values, rules of languages, and rules for expressing non-verbal behaviours. The highest component was for motivational aspect of cultural intelligence, where nurse educators seen to be motivated to learn and adapt to new cultures and ways of socialising among different cultural groups.

**Table 1**
Demographic information for phase 1 ($n = 30$).

| Variables | n | % |
|---|---|---|
| Age, mean (*SD*) | 54.2 | 9.6 |
| Gender | | |
| Female | 24 | 85.7 |
| Male | 4 | 14.3 |
| Country where Nursing degree/training was completed/awarded | | |
| New Zealand | 26 | 92.9 |
| Overseas | 2 | 7.1 |
| How many years have you been in your role as nurse tutor/educator/ lecturer in New Zealand? Mean (*SD*) | 16.5 | 10.4 |
| How do you identify or describe your ethnic background(s)? | | |
| Chinese | 2 | 6.8 |
| European | 2 | 6.8 |
| Indian | 2 | 6.8 |
| NZ European | 14 | 48.8 |
| Māori | 2 | 6.8 |
| Pacific | 3 | 10 |
| Pakeha | 5 | 17.2 |

**Table 2**
The Cultural Intelligence Scale (CQS) (n = 30).

| Item | Mean | SD |
|---|---|---|
| Metacognitive CQ (MC; range 4–20) | 16.97 | 3.27 |
| I am conscious of the cultural knowledge I use when interacting with people with different cultural backgrounds | 4.34 | 0.857 |
| I adjust my cultural knowledge as I interact with people from a culture that is unfamiliar to me | 4.31 | 0.891 |
| I am conscious of the cultural knowledge I apply to cross-cultural interactions | 4.17 | 0.928 |
| I check the accuracy of my cultural knowledge as I interact with people from different cultures | 4.14 | 0.953 |
| Cognitive CQ (COG; range 6–30) | 18.64[a] | 4.86 |
| I know the legal and economic systems of other cultures | 3.11 | 0.994 |
| I know the rules (e.g., vocabulary, grammar) of other languages | 2.89 | 1.066 |
| I know the cultural values and religious beliefs of other cultures | 3.36 | 0.911 |
| I know the marriage systems of other cultures | 3.14 | 0.970 |
| I know the arts and crafts of other cultures | 2.93 | 0.917 |
| I know the rules for expressing nonverbal behaviours in other cultures | 3.11 | 0.875 |
| Motivational CQ (MOT; range 5–25) | 21.51[b] | 4.16 |
| I enjoy interacting with people from different cultures | 4.69 | 0.806 |
| I am confident that I can socialize with locals in a culture that is unfamiliar to me | 4.28 | 0.922 |
| I am sure I can deal with the stresses of adjusting to a culture that is new to me | 4.14 | 0.953 |
| I enjoy living in cultures that are unfamiliar to me | 4.21 | 1.013 |
| I am confident that I can get accustomed to the shopping conditions in a different culture | 4.21 | 1.013 |
| Behavioural CQ (BEH; range 8–25) | 19.34 | 4.36 |
| I change my verbal behaviour (e.g., accent, tone) when a cross-cultural interaction requires it | 3.72 | 1.192 |
| I use pause and silence differently to suit different cross-cultural situations | 3.79 | 0.819 |
| I vary the rate of my speaking when a cross-cultural situation requires it | 4.03 | 0.823 |
| I change my nonverbal behaviour when a cross-cultural situation requires it | 4.00 | 0.926 |
| I alter my facial expressions when a cross-cultural interaction requires it | 3.79 | 1.048 |
| Summary score (range 23–100) | 76.33 | 14.76 |

[a] Low with reference to score range.
[b] High with reference to score range.

#### 4.1.3. The Intercultural Effectiveness Scale (IES)

With IE, nurse educators in this study had an overall score (Mean 74.64; SD 7.38), which above the median range of the IES (score of 72). The area where nurse educators had a lower score was with message skills, which involved effective interactions conveying messages specific to a particular culture or group. In consideration of all items in the IES, the statement '*I find the best way to act is to be myself when interacting with people from different cultures*' had the lowest mean score. This finding has informed the next phase involving qualitative interviews.

**Table 3**
The Intercultural Effectiveness Scale (IES) ($n = 29$).

| Item | Mean | SD |
|---|---|---|
| 1. I find it is easy to talk with people from different cultures. | 4.03 | 0.865 |
| 2. I am afraid to express myself when interacting with people from different cultures. | 3.69 | 1.004 |
| 3. I find it is easy to get along with people from different cultures. | 4.10 | 0.817 |
| 4. I am not always the person I appear to be when interacting with people from different cultures. | 2.48 | 0.986 |
| 5. I am able to express my ideas clearly when interacting with people from different cultures. | 2.34 | 0.769 |
| 6. I have problems with grammar when interacting with people from different cultures. | 3.34 | 0.857 |
| 7. I am able to answer questions effectively when interacting with people from different cultures. | 3.79 | 0.774 |
| 8. I find it is difficult to feel my culturally different counterparts are similar to me. | 3.89 | 0.875 |
| 9. I use appropriate eye contact when interacting with people from different cultures. | 3.83 | 0.658 |
| 10. I have problems distinguishing between informative and persuasive messages when interacting with people from different cultures. | 3.52 | 0.688 |
| 11. I always know how to initiate a conversation when interacting with people from different cultures. | 3.41 | 0.983 |
| 12. I often miss parts of what is going on when interacting with people from different cultures. | 3.10 | 0.976 |
| 13. I feel relaxed when interacting with people from different cultures. | 4.10 | 0.673 |
| 14. I often act like a very different person when interacting with people from different cultures. | 2.24 | 0.951 |
| 15. I always show respect for my culturally different counterparts during our interaction. | 4.62 | 0.561 |
| 16. I always feel a sense of distance with my culturally different counterparts during our interaction. | 3.97 | 0.731 |
| 17. I find I have a lot in common with my culturally different counterparts during our interaction. | 3.69 | 0.761 |
| 18. I find the best way to act is to be myself when interacting with people from different cultures. | 1.90 | 0.817 |
| 19. I find it is easy to identify with my culturally different counterparts during our interaction. | 3.79 | 0.774 |
| 20. I always show respect for the opinions of my culturally different counterparts during our interaction. | 4.62 | 0.862 |
| Behavioural Flexibility (range 9–16) | 12.86 | 2.26 |
| Interaction Relaxation (range 11–25) | 19.45 | 3.09 |
| Interactant Respect (range 8–15) | 13.07 | 1.73 |
| Message Skills (range 5–13) | 9.97 | 1.68 |
| Identity Maintenance (range 6–15) | 11.61 | 1.89 |
| Interaction Management (range 2–10) | 7.45 | 1.35 |
| Summary score (range 58–87) | 74.64 | 7.38 |

*Note for* Table 3. Behavioural Flexibility items are 2, 4, 14, and 18; Interaction Relaxation items are 1, 3, 11, 13, and 19; Interactant Respect items are 9, 15, and 20; Message Skills items are 6, 10, and 12; Identity Maintenance items are 8, 16, and 17; Interaction Management items are 5 and 7.

### 4.2. Qualitative findings

The second phase involved 16 qualitative interviews from nurse educators in New Zealand. Nine participants were employed from institutions in South Island and seven were from the North Island organisations. Eighty percent ($n = 13$) of the participants have been in their roles for more than five years and all participants identified as women. The majority of the participants (90 %) obtained their nursing education in New Zealand. The interview questions were guided by the analysis in Phase 1, where the questionnaire items that scored lower for both CQ and IE have been emphasised during the interviews. For example, the interview question, which stated '*how do you feel about being yourself when interacting with other people you have just met, particularly those from a different cultural background*' was informed by the quantiative findings (low scores) on the questionnaire item- '*I find the best way to act is to be myself when interacting with people from different cultures*'. Following, qualitative analysis, two main and discreet themes have been identified

from the interviews.

#### 4.2.1. Theme 1- continuous educative process: we don't know what we don't know

The first theme talked about acquiring cultural intelligence as a continuous process of knowing and learning through active sharing and involvement, particularly in teaching students as per Linda's narratives:

> "In interacting with people (students) from different cultures, usually what will happen is that you get to share a portion of your culture with them during the teaching sessions, and sharing of experiences and in that case, it becomes an advantage as I also learn in the process, things that I don't know or normally would not have the chance of knowing"

One of the participants, Sarah realised that learning about culture is not only complex but also limitless, and that one should be aware of the cultural nuances and strive to be more educated when opportunities arise.

> "I am very well-travelled, I should say [I have been to and lived in several countries], however, I still think my knowledge about diverse cultures is only at a minimal, until I became an educator, teaching and working with students from different cultures, this made me realise, that there is a lot to learn, and those previous experiences contribute only a tiny portion to the whole cultural diversity awareness"

#### 4.2.2. Theme 2- expressing oneself: intersection between cultural knowledge and professional motivation

The second theme presents the participants' shared views of expressing oneself in certain situations and interactions with individuals from different cultural backgrounds. A salient pattern was observed on the intertwined relationships of cultural sensitivity and professional nursing standards, when expressing oneself as Sherry expressed:

> "In a situation such as a learning environment, adjustment is very important and it is not that you're turning your back from your own culture, but it's also a matter of understanding what your culture is and then making sure that you respect those differences, because sometimes 'you being you' in expressing oneself might violate some of your colleagues or students' beliefs. We are nurses, we have been taught to provide care regardless of cultural or social differences".

The high regard towards professionalism as a nurse was repeated in the Siobhan's words explaining that her intention to be sensitive and proactively adjust particularly with self-expression on controversial topics is motivated beyond one's culture.

> "In my experience teaching students and interacting with staff from diverse cultures, I have made conscious efforts to adjust the way I speak about ideas or personal values that I know are controversial and are received differently by individuals or groups. I believe this is not just about my own culture solely but has something to do with my professionalism as a nurse"

The earlier accounts were supported by another participants' elaboration about boundaries of being true to oneself and cultural awareness, hence the key was to remember professional standards that guides practice in a culturally safe way. Anna with strong conviction, stated:

> "In a situation that I am unfamiliar, I always makes sure that I don't offend colleagues or students, I don't want to be fake, but there is a fine line between being yourself and culturally offensive, and if I don't know the group of people well enough, and they don't know me, being professionally aware of the differences in culture and values guides me"

## 5. Discussion

This study presented the findings from a mixed-method approach examining CQ and IE of nurse educators teaching in a culturally diverse group of students in New Zealand. Our analysis found that nurse educators have high levels of CQ and IE. While it is accepted that culture is a complex concept to examine, our study presented the specific aspects of CQ, namely cognitive (lowest scores) and motivational (highest scores) aspects that have been reported among nurse educators in this cohort. In terms of IE, the specific items on acquiring skills to effectively convey messages and expressing oneself in culturally-relevant scenarios were prominently identified by nurse educators. These findings provide insights into nurse educators' self-rated CQ and their ability to effectively interact with students and colleagues in an increasingly diverse teaching environment. The qualitative exploration of nurse educators' experiences corroborate with the quantitative findings regarding the dilemma towards personal expression (being oneself) yet striving to be culturally aware, where the common approach repeatedly mentioned by participants pointed to adhering to professional standards of nursing. These findings are explained and integrated in the following sections.

### 5.1. Nurse educators are motivated to adjust and modify behaviours when interacting with students and staff

In the current study, the CQ for educators is higher in terms of motivation to adjust and modify behaviours when interacting with students and staff. The findings of this study support Ang et al.'s (2007) view that, motivational CQ and behavioural CQ predicts cultural adaptation, on the other hand metacognitive CQ and cognitive CQ predicts cultural judgement and decision making. This shows that the nurse educators do not necessarily know all the norms, practices and rules of languages of the various cultures, however, they have the drive to be culturally adaptive and understanding of staff and students' culture.

Nurse educators agreed that adjustment was necessary when dealing with diverse cultures. They considered that in a learning environment, adjustment is even more important. However, they perceived adjustment as not turning their back on own culture, on the other hand it is about understanding others culture. In agreement with this, several studies reported that individuals with high CQ have a clear understanding of similarities and dissimilarities across cultures (Ersoy, 2014), were consciously aware of others cultural preferences before and during interactions (Ang et al., 2007). On the other hand, Shomoossi et al. (2019) proposed that people with low CQ will be unable to interact effectively with their clients from the same or different cultures. This supports the view that CQ is important not only in terms of effective interaction with people from diverse culture but also from the same culture. This is also true in the case of nurse educators who interact with students from the same culture and diverse cultures.

### 5.2. For intercultural interactions, nurse educators are aware of the complexities in terms of expressing ones' self

Interculturality has been identified as the interaction of people from different cultures having an understanding of another culture and a common understanding of one another's intentions and behaviours (Shomoossi et al., 2019). In the current study, the item "I find the best way to act is to be myself when interacting with people from different cultures" has scored very low in the IE. This shows that the educators are aware of the complexities in terms of expressing one self, as this can be offensive to some people. According to Forss et al. (2016), during intercultural interactions, cultural conflicts may occur as a result of misinterpretation, labelling, preconception and ethnocentrism.

Being interculturally effective and having a high CQ can complement each other. Several studies have shown that individuals with high CQ have increased cultural flexibility, greater interacting ability, and are

able to adjust their mental models during and after interactions (Brislin et al., 2006; Thomas et al., 2008; Ersoy, 2014). On the other hand, Shomoossi et al. (2019) posits that preventing cultural conflicts in an education setting is possible if the awareness of one's own attitude as well as sensitivity to inter-cultural differences is enhanced. The current study supports this idea as the nurse educators were increasingly sensitive towards other cultures and adjusted their mental models during interactions. According to the nurse educators, there is a fine line between being yourself and crossing into being disrespectful. Some educators were fearful that sometimes being yourself might violate others' beliefs. Middleton (2014) offers a solution for being respectful towards other culture and at the same time not losing self. The key to achieving high CQ is having well defined core (values that will not change) and flex (values that adapt to circumstances) values as this equips human being to experience new situations and adapt to other people without the fear of losing the self (Middleton, 2014).

### 5.3. The motivation to adjust among educators was driven by awareness of professional standards of cultural safety in nursing

The intersection between cultural intelligence and professional standards among nurse educators highlighted in our study has been emphasised in the earlier literature. Hughes (2018) argues that CQ is required of nurses to practice in a culturally safe way as quoted (p. 24): "cultural safety is not about ethnicity or race, rather it is about a nurse understanding their own culture, understanding power relationships, and being aware of the culturally constructed attitudes they bring to each new relationship". Cultural safety knowledge allows nurses to provide care in a way that respects the patient's personal, social, and cultural identity. Cultural safety is a New Zealand term unique to nursing education. According to the Nursing Council of New Zealand, cultural safety is "the effective nursing practice of a person or a family from another culture, as determined by that person or family" (NCNZ, 2005, p. 4). Nurse educators agreed that cultural safety is a powerful teaching tool. It is about respecting other cultures in terms of its uniqueness. Equally, there is support in the literature that the concept of cultural safety includes all the people who might be at cultural risk from attitudes, values and practices of health professionals (Wepa, 2003).

The concept of cultural safety has been poorly understood by many, and it has often been linked to ethnicity. Such a restricted notion of culture fails to address the complexities of the relationship between the individual and his/her culture (Clear, 2008; Engebreston et al., 2008; Wepa, 2003). The nurse educators thought cultural safety is about incorporating a more multi-cultural perspective and acknowledging others culture. Some went on to say that cultural safety does not work if you do not acknowledge other people in the classroom. The findings of this study corroborate with Garity's (2000) conclusion that to be culturally competent, one must be culturally sensitive with regards to different cultural groups. This requires cultural awareness, cultural knowledge, cultural skill, cultural understanding, and cultural sensitivity (Cowan and Norman, 2006; Sargent et al., 2005). Going even further, Tuohy et al. (2008) proposed that nurses have an ethical obligation to provide culturally appropriate care. This theme was resonated by nurse educators mentioning that nurses have been taught to provide care regardless of cultural or social difference and being professionally aware of differences in culture and values guide them. According to Tuohy et al. (2008) to be culturally competent, a nurse must have significant knowledge of the cultural values of a particular cultural group and be able to adapt culturally to specific situations.

### 5.4. Nurse educators considered knowledge of diverse cultures as an advantage in teaching nursing

Nurse educators considered cultural adaptation as a significant factor in teaching and they considered it as a personal responisbility to acquire the knowledge of diverse cultures. This finding supports Berry's (2005) view that adaptation is a matter of conscious choice by the individual. In the current study the adaptation process became easier when the nurse educators took initiative. Some nurse educators thought that they have to be knowledgeable with their own culture, New Zealand culture and also the students' culture. This view is in line with the term cultural pluralism, meaning the ability to shift into two or more cultural world views (Bennett, 1986). On the other hand Berry (2005) concluded that acculturation depends on the individual's degree of participation in the cultural life of the new environment and the degree to which the individual maintains his/ her own cultural identity. Interestingly, the nurse educators thought having the knowledge of diverse culture is an advantage as this helps them to understand their students better and teaching real life scenarios from their cultural experience will only enrich their teaching and students learning. Research shows that with a lack of cultural knowledge, nurses could experience to be less effective in an inter-cultural setting (Shomoossi et al., 2019). On the other hand there are evidence to support that cultural intelligence among nurse educators can be developed and in turn allow them to be more inter-culturally effective in their teaching (Solomon and Steyn, 2017; Shomoossi et al., 2019).

### 5.5. Strength and limitations

The study was limited to self-report measures of CQ and IE, where responses might be affected by participants' subjective understanding and interpretation of the questionnaire items. Moreover, the small sample size limits the generalisability of the findings among nurse educators located globally. The mixed-method nature of the study, is one main strength, where the quantitative findings have been explored sequentially through individual interviews, which provided an in depth understanding of CQ and IE among nurse educators in New Zealand.

## 6. Conclusion

The nurse educators with high motivational CQ, had the confidence to be effective in culturally diverse situations and manage effective interactions among students and colleagues from various cultural backgrounds. Our study revealed the potential that in the presence of culture-related dilemmas, nurse educators resort and are guided by professional standards of cultural awareness, inclusivity and culturally safe practice in nursing. Our findings suggest the need for nursing standards and guidelines pertaining to cultural safety and cultural awareness to be contemporised and evidence-based. Developing and enhancing CQ and IE among nurse educators can assist them to explore methods relevant to teaching and learning that are effective and suitable to a culturally diverse education setting. Future research might need to examine how objective measures of CQ and experience-based evidence from nurse educators contribute to shaping the professional requirements and standards applied in the nursing curriculum.

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## CRediT authorship contribution statement

RS and JM conceptualised and designed the study. RS facilitated the ethics application. RS and JM collected data for both the online survey and interview phases of the study. JM and RS conducted the final stage of data analysis and prepared the manuscript for submission. All co-authors critically reviewed, revised and approved the final paper.

## Declaration of competing interest

The authors declare no conflict of interest.

## References


Ang, S., Dyne, L.V., Koh, C., Ng, Y., Templer, K.J., Tay, C., Chandrasekar, N., 2007. Cultural intelligence: its measurement and effects on cultural judgement and decision making, cultural adaptation and task performance. Manag. Organ. Rev. 3 (3), 335–371.

Bennett, C.I., 1986. Comprehensive Multicultural Education: Theory and Practice. Allyn and Bacon.

Berry, J.W., 2005. Acculturation: living successfully in two cultures. Int. J. Intercult. Relat. 29, 697–712.

Braun, V., Clarke, V., 2006. Using thematic analysis in psychology. Qual. Res. Psychol. 3 (2), 77–101. https://doi.org/10.1191/1478088706qp063oa.

Brislin, R., Worthle, R., MacNab, B., 2006. Cultural intelligence: understanding behaviors that serve people's goals. Group Org. Manag. 31, 40–55.

Chen, A.S., Wu, I., Bian, M., 2014. The moderating effects of active and agreeable conflict management styles on cultural intelligence and cross-cultural adjustment. Int. J. Cross-cult. Manag. 14 (3), 270–288. https://doi.org/10.1177/1470595814525064.

Clear, G., 2008. A re-examination of cultural safety: a national imperative. Nurs. Prax. N. Z. 24 (2), 2–4.

Cowan, D.T., Norman, I., 2006. Cultural competence in nursing: new meanings. J. Transcult. Nurs. 17 (1), 82–86.

Creswell, J.W., Tashakkori, A., 2007. Developing publishable mixed methods manuscripts. J. Mixed Methods Res. 1 (2), 107–111.

Earley, P.C., Ang, S., 2003. Cultural Intelligence: Individual Interaction Across Cultures. Stanford University Press.

Engebreston, J., Mahoney, J., Carlson, E., 2008. Cultural competence in the era of evidence based practice. J. Prof. Nurs. 24 (3), 172–178.

Ersoy, A., 2014. The role of cultural intelligence in cross-cultural leadership effectiveness: a qualitative study in hospitality industry. J. Yasar Univ. 9 (35), 6099–6260.

Forss, S.I., Willems, E., Call, J., van Schaik, C.P., 2016. Cognitive differences between orang-utan species: a test of the cultural intelligence hypothesis. Int. J. Sci. Rep. 6, 30516.

Garity, J., 2000. Cultural competence in patient education. Caring 19 (3), 18–20.

Hughes, M., 2018. Cultural safety requires 'cultural intelligence'. Kai Tiaki 24 (6), 24–25.

Kim, Y.J., Van Dyne, L., 2012. Cultural intelligence and international leadership potential: the importance of contact for members of the majority. Appl. Psychol. Int. Rev. 61 (2), 272–294. https://doi.org/10.1111/j.1464-0597.2011.00468.x.

Konanahalli, A., Oyedele, L.O., Spillane, J., Coates, R., von Meding, J., Ebohon, J., 2014. Cross-cultural intelligence (CQ) – it's impact on british expatriate adjustment on international construction projects. Int. J. Manag. Proj. Bus. 7 (3), 423–448. https://doi.org/10.1108/IJMPB-10-2012-0062.

Middleton, J., 2014. Cultural Intelligence. Bloomsbury Publishing.

Nursing Council of New Zealand, 2005. Guidelines for cultural safety, the Treaty of Waitangi and Māori health in nurse education and practice. Author.

Sargent, S.E., Sedlak, C.A., Martsolf, D.S., 2005. Cultural competence among nursing students and faculty. Nurse Educ. Today 25, 214–221.

Shomoossi, N., Asor, A.A., Kooshan, M., Rad, M., 2019. Interculturality and cultural intelligence in an academic context: a report from university staff interacting with nursing students. J. Educ. Health Promot. 8.

Solomon, A., Steyn, R., 2017. Exploring cultural intelligence truths: a systematic review. SA J. Hum. Resour. Manag. 15 (1), 1–11.

Thomas, D.C., Elron, E., Stahl, G., Ekelund, B.Z., Ravlin, E.C., Cerdin, J.-L., Aycan, Z., 2008. Cultural intelligence: domain and assessment. Int. J. Cross-cult. Manag. 8 (2), 123–143.

Tuohy, D., McCarthy, J., Cassidy, I., 2008. Educational needs of nurses when nursing people of a different culture in Ireland. Int. Nurs. Rev. 50, 164–170.

Wepa, D. (Ed.), 2003. Cultural safety in Aotearoa New Zealand. Pearson Education.

Yilmaz, M., Yildirim Sari, H., Daghan, Ş., 2020. An exploratory study of intercultural effectiveness scale in nursing students. Heliyon 6 (2), e02769. https://doi.org/10.1016/j.heliyon.2019.e02769.