



**Does a cross-cultural peer-to-peer mentoring experience influence
students' cross-cultural adaptability?**

A thesis submitted in fulfilment of the requirements for the degree of
Doctor of Philosophy

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DECLARATION

I certify that except where due acknowledgment has been made, the work is that of the author alone: the work has not been submitted previously, in whole or in part, to qualify for any other academic award; the content of the thesis is the result of work which has been carried out since the official commencement date of the approved research program; any editorial work, paid or unpaid, carried out by a third party is acknowledged; and ethics procedures and guidelines have been followed.

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PEER-REVIEWED ARTICLES AND CONFERENCE PAPERS

Journal article:

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Conference Papers:

1. Australian and New Zealand Marketing Association Conference. Wellington, NZ, December 2019. (Winner of Best Paper in the Marketing Education Track).

Griffiths, K., Kopanidis, F., Angelopoulos S., & Steel, M. Which international experiences impact cross-cultural adaptability?

2. Australian and New Zealand Marketing Association Conference, Adelaide, December 2018.

Griffiths, K., Kopanidis, F., Angelopoulos S., & Steel, M. Do marketing students gain cross-cultural skills as a result of undertaking a peer-peer mentoring experience “at home”.

3. World Association for Co-operative Education 3rd International Research Symposium in Stuttgart, Germany, June 2018.

Griffiths, K., Kopanidis, F., & Steel, M. Is there value for higher education students to undertake a cross-cultural peer-to-peer mentoring experience?

4. Australian and New Zealand Marketing Association Conference, Melbourne, December 2017.

Griffiths, K., Kopanidis, F., & Steel, M. Investigating the value of a peer-to-peer mentoring experience.

5. Office of Teaching and Learning Symposium, Sydney, June 2016.

Griffiths, K., Kopanidis, F., & Steel, M. To investigate functional outcomes of a cross-cultural formal peer-to-peer mentoring experience on higher education students’ cross-cultural adaptability

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List of Abbreviations

Abbreviation

Explanation

ANOVA	Analysis of variance
BIHECC (BIHECC).	Business, Industry and Higher Education Collaboration Council
CCAI™	Cross-Cultural Adaptability Inventory
CCAT	Kim's Cross-Cultural Adaptation Theory
DAE Deloitte Access Economics	Deloitte Access Economics
DoE Department of Education	Department of Education
EFA	Exploratory Factor Analysis p. 100
EFM	School of Economics Finance and Marketing
ETPV model	The Enjoyment, Tolerance, Personal Values and Valuing Others Model
HE	Higher Education
HEMP	Higher Education Mentoring Program
ICT	Allport's Intergroup Contact Theory
IECCA	International Experience and Cross-Cultural Adaptability questionnaire
LAMPs	Law Student Association Mentoring Program
Mahalanobis distance	The distance between two points in multivariate space.
MANCOVA	Multivariate Analysis of Covariance
OECD	Organization for Economic Co-operative Development
PCA	Principal Component Analysis
PWC	Price Waterhouse Coopers
SAP	Study Abroad Program
SES	Socio-economic status
SLAMs	Student Learning Advisory Mentors
SLM	Student Learning Mentor
SLT	Bandura's Social Learning Theory
SPSS	Statistics Package for Social Science
Subjects	Subjects, Courses, Units
UA	University Australia
WIL	Work Integrated Learning

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ABSTRACT

Universities continue to seek ways to respond to the demands of employers to produce graduates whose skills extend beyond discipline-specific knowledge – skills that enable them to apply that knowledge and adapt to various work environments. In response to the changing globalised work environment graduates are faced with, the focus on cross-cultural skills and adaptability is becoming increasingly important. From a business and university perspective, the findings in this study contributed to the increasing discourse on how graduates gain necessary cross-cultural skills if they (like the majority of current Australian students) do not participate in an off-shore academic experience.

This thesis investigated the effectiveness of participation in a cross-cultural peer-to-peer mentoring experience and whether this enhanced students' cross-cultural adaptability. In seeking to develop students' cross-cultural skills, this study proposed a new conceptual model and revealed factors such as demographics, socio-economic, external and internal international experiences that can be employed as a segmentation framework to advance a more targeted approach to cross-cultural experiences.

The study utilised a quasi-experimental methodology with quantitative data analysis, using questionnaires based on the Cross-Cultural Adaptability Inventory (CCAI™). Background information was added to the 50 CCAI™ questions to derive the International Experience Cross-Cultural Adaptability (IECCA) measurement instrument. Multiple mixed-methods analysis of variance ANOVAs were employed with post hoc tests, and repeated measures MANCOVAs, which determined the impact of the cross-cultural peer-to-peer mentoring experience on students' cross-cultural adaptability and the impact of covariates. Exploratory Factor Analysis (EFA) resulted in the identification of new cross-cultural factors; Enjoyment, Tolerance, Personal Values, and Valuing Others which guided the analysis and provided a unique application for future research and development.

Findings suggested that using indirect approaches to improve students' cross-cultural adaptability, such as cross-cultural mentoring, was insufficient. Rather, universities will need to use resources to directly engage students and improve their cross-cultural skills. Specific demographic and psychographic factors had a significant influence on student cross-cultural

adaptability as measured by the new cultural dimensions developed in the thesis, providing guidance to the university sector.

This study advanced existing literature through the unique development of the IECCA measurement instrument and the proposed ETPV conceptual model and demonstrated their potential to be used in higher education pedagogy. These could include analysing the effect of international internships on cross-cultural adaptability, which is currently an under-researched area.

Keywords: cross-cultural adaptability, peer-to-peer mentoring, graduate global employment, quantitative research

Chapter 1

INTRODUCTION

1.1 Introduction

Over the past few decades, technological, financial, political, cultural and educational forces have converged and created the globalised, integrated world economy of which Australia is a part. In order to maintain global competitiveness, employees must be ‘productive, efficient and appropriately skilled’ (Price Waterhouse Coopers (PwC), 2016). These seismic shifts in global economies have placed pressure on the world’s workforce participants to become more educated, increase their skills and change their expectations to remain employable (Gardner & Perry, 2011). In response to the globalisation of the business environment, universities must evolve to meet the demands of employers. Graduates must have more than just discipline-specific skills by the time they join the workforce (Griffiths, Kopanidis & Steel, 2018; McArthur, Kubacki, Pang & Alcaraz 2017; Delpechitre & Baker 2017; Deloitte Access Economics (DAE), 2017). The value of a degree for employability, is being questioned (Ewan, 2016; PwC, 2016; Hanson, 2016) and employers are demanding that graduates and other employees are able to exhibit relevant experience, evidence of work-readiness, (Jackson, Rowbottom, Ferns & McLaren, 2017; Edwards, Perkins, Pearce & Hong, 2015) and be able to adapt and be effective internationally, or to communicate successfully with people who have views that are different (Chang, Yuan & Chuang, 2013; Bennett, 2004; Caligiuri, 2006; Simkhovich, 2009). The requirements from businesses have presented new challenges (and opportunities) to the higher education sector in meeting these needs.

1.2 Objectives of this study

This thesis investigated whether exposure to a cross-cultural experience via peer-to-peer mentoring influenced ‘cross-cultural adaptability’ in university students. It proposed a new measurement instrument adapted from the Cross-cultural Adaptability Inventory CCAI™ (Kelley & Meyers, 1987, 1992), to examine whether a cross-cultural peer-to-peer mentoring

experience ‘at home’ had a significant influence on students’ cross-cultural adaptability. The enhanced measurement instrument, the International Experience Cross-Cultural Adaptability (IECCA) emerged from the application of the CCAI scale in an educational context – peer-to-peer mentoring. In the adapted measurement instrument the influence of demographic, socio-economic, socialising, previous private international experience, external (offshore) international experience and internal (at home) international experience covariates on students’ cross-cultural adaptability was analysed. Studies by Kelley and Meyers (1987), Goldstein and Smith (1999), Kitsantas (2004), Alon and Higgins (2005), Williams (2005), Anderson, Lawton, Rexeisen and Hubbard (2006), Ang, Van Dyne, Koh and Ng, (2007), Zielinski (2007), EmamJomeh-Zadeh, Damirchi, Durban and Sharifi, (2012), Chang et al., (2013), Taguchi (2015) and Taguchi, Xiao and Li, (2016), amongst others, informed and supported the research. These significant categorical segmentation covariates added fresh theoretical perspectives to the understanding of cross-cultural adaptability in this context.

Conceptual Model Development

Questions from the original CCAI™ which represented the four existing cultural dimensions – emotional resilience; flexibility/openness; perceptual acuity and personal autonomy of the Kelley and Meyers’ (1987, 1992, 1995) CCAI™ were reduced after Exploratory Factor Analysis (EFA) was conducted. New cultural dimensions emanated from this analysis and were used to develop a proposed conceptual model for future research. Results of the EFA were found in chapter four.

The adapted CCAI™ questionnaire addressed the following objectives:

1. To identify which drivers were the most important in understanding the students’ cross-cultural adaptability.
2. To identify what aspects of students’ previous experiences further influenced the proposed conceptual model.

The following research questions centred on two themes which addressed these objectives:

Influence of cross-cultural mentoring experience

1. Did a cross-cultural peer-to-peer mentoring experience influence students' cross-cultural adaptability?
2. What aspects of the cross-cultural mentoring experience deepened the understanding of the results of the research and furthered our understanding of using peer-to-peer mentoring to develop cross-cultural adaptability skills in university graduates?

Influential aspects of students' previous experiences

1. Did gender, age, ethnicity and socio-economic factors influence cross-cultural adaptability?
2. Did socialising with others or having friends or family from other cultures influence cross-cultural adaptability?
3. Did previous private international experiences such as international holidays and foreign language learning at school influence cross-cultural adaptability?
4. Did external international academic experiences such as exchange, study tours and international internships influence cross-cultural adaptability?
5. Did internal international academic experiences such as internationalised subject content, cross-cultural group work and foreign language study at university influence cross-cultural adaptability?

This study focused on students' responses to a pre- and post-test that examined the influence of the cross-cultural mentoring experience on students' cross-cultural adaptability, offered an approach to the research questions posed, and a methodology for future research to apply and test the validity of the adapted measurement instrument in different higher educational contexts.

1.3 Context for this study

According to Australian government statistics, around 1.4 million Australian students were enrolled at Australian universities in 2017, one million of whom enrolled in an undergraduate program (Universities Australia (UA), 2019). At the same time, there were over 703,000 international students from 198 countries studying on a student visa in Australia, an increase of 10% from 2018 (UA, 2019). Four hundred and twenty thousand of these international

students were enrolled in higher education institutions (Department of Education (DoE), 2019b).

International education is worth \$35.2 billion to the Australian economy, making it the fourth-largest export industry (DoE, 2019a). These figures suggest that the Higher Education sector is highly competitive, with students able to apply to institutions globally. Universities' global rankings provide them with the opportunity to showcase their strengths and influence their recruitment of students and staff (Niland, 2016), effectively acting as promotion material. The focus of Higher Education is currently on graduate employability skills, which is a worldwide focus.

Numerous definitions of employability appear throughout academic literature. Yorke and Knight (2004, p.8), for example, define employability as “a set of achievements – skills, understandings and personal attributes – that make graduates more likely to gain employment and be successful in their chosen occupations, which benefits themselves, the workforce, the community and the economy”. Dacre-Pool and Sewell (2007, p.280) contend that it is “a set of skills, knowledge, understanding and personal attributes that make a person more likely to choose and secure occupations in which they can be satisfied and successful”.

Employability skills include those essential to obtaining a job such as interview, job-searching and resumé or curriculum vitae creation skills; generic skills such as teamwork, organisation and communication; personal attributes such as punctuality, self-confidence, discipline and adherence to deadlines, and discipline-specific skills (Freudenberg, Brimble & Cameron, 2009). Universities may not be able to guarantee employment for their graduates, but can, and are expected to, develop their employability skills, not only for initial employment but also for future career development (Pegg, Waldock, Hendy-Isaac & Lawton, 2012; Wilton, 2011; Helyer & Lee, 2014).

Employers' perceptions that there are gaps between graduate workplace performance and employers' expectations are well-documented, (Business, Industry and Higher Education Collaboration Council (BIHECC), 2007; Helyer, 2011), particularly in “critical thinking, decision making, conflict resolution, leadership and meta-cognitive skills” (Jackson, 2013 p.2). Universities are expected to develop these skills, as they are imperative, as is disciplinary knowledge in the workplace (Dacre-Pool & Sewell, 2007). Research concurs that there is

value in universities developing skills in their (business) graduates that enhance their employability. Professional, discipline-specific, generic, key and non-technical skills (Yorke & Knight, 2004; Jackson, 2013) are vital to strengthening graduate work-readiness and enabling graduates to differentiate themselves from others. Included within the critical generic skills is the ability of graduates to engage with people from different social, ethnic and religious backgrounds.

Universities have tried and trialled many ways to develop students' cross-cultural skills. Offshore experiences such as exchange, study tours and international internships are still a popular way to develop these skills. In 2017, 49,000 Australian university students undertook an off-shore program (Department of Education (DoE), 2019). Of these, around 11% were international undergraduate students, 60% (29,400) were domestic undergraduate students, and 29% were post-graduate students (DoE, 2019). Of the 14,000 post-graduate students, there was no current information on the breakdown between domestic and international students (DoE, 2019). Therefore, of the one million Australian students enrolled at a university, over 95% did not undertake an international academic experience (DoE, 2019), so universities are looking to internationalisation 'at home' programs to provide these students with the cross-cultural skills that businesses require.

Various approaches to connecting international industries, communities and students have been undertaken to prepare students for the global labour market, such as industry internships. There have also been discussions between the university and businesses on subject content and assessment. Virtual projects and others that are combined with short-term study abroad programs are also emerging. These projects offer an opportunity for students to work in cross-cultural teams and even collaborate on a global project in different countries, time zones and cultures, mimicking how global business operates (RMIT, 2015). Other approaches included internationalising the curriculum, working in cross-cultural groups and using international students as a resource. These students have been utilised in the peer-to-peer mentoring area, as many of the invited mentors are international students with excellent grades.

One major university in Melbourne, Australia (RMIT), puts the preparation of students for the globalised world of work at the centre of their strategic plan 2015-2020. Their strategy emphasises their global reach with programs across their global urban campuses and

partnerships and involving many international students and staff. RMIT states that by 2020, their students will have successfully developed cross-cultural skills and competencies so that as graduates, they are prepared for global labour markets. RMIT's strategy refers to pedagogy, digital tools, and students' mobility to achieve their global outlook (RMIT, 2015), and to enhance the cross-cultural competence and adaptability of their graduates. This type of strategy and the degree to which the graduate students are globally transformed, has come under question (Gregersen-Hermans, 2016; Hawanini, 2011). Leask (2016) concurs, stating that most university policy statements contain claims that their graduates will have global skills and perspectives, and be ready to make a positive difference in our global and connected world, but how their current internationalisation activities (such as internationalising the curriculum or student mobility) develop these skills remains unclear. These activities need to be directed at all students' learning; otherwise, these policies will not be effective in all students' attainment of these skills.

Peer-to-peer mentoring has successfully been used by universities to transition first-year students, from school to university. It is also used for academic mentoring for struggling students. For example, in the past ten years, major universities in Australia have offered peer-to-peer mentoring programs for student mentors to help mentees with any aspect of learning and assessment tasks in their current subject. (For example: Student Learning Advisory Mentors (*SLAMs*) at RMIT University, Melbourne; the Law students' Association Mentoring Program (*LAMPs*) at Griffith University in Queensland (Woods et al., 2013); the Higher Education Mentoring Program (*HEMP*) at William Angliss Institute (2019); The University of Melbourne, (2019); Australian Marketing Institute, 2019; University of South Australia, 2019). Peer mentors are usually selected as they are successful academically, and have excellent social, communication and leadership skills. As an outcome of this, a mentor provides a positive role model for the students while guiding them in social and academic success. Mentors tend to offer advice, support, and encouragement, in addition to friendship to students (Kemlo, 2010).

These types of peer-to-peer mentoring have been regularly researched (RMIT, 2010; Kemlo, 2010; Woods et al., 2013; Falchikov, 2001; Kram, 1985). Previous research has found that both domestic and international mentees were increasingly engaged with the university community. Additionally, both the mentors and the mentees displayed increased motivation and desired to achieve better results during their studies (Kemlo, 2010).

International student peer-to-peer mentoring experiences can be traced to Furnham & Bochner's (1982) assertion that if international students are welcomed into a new culture by friends from the host culture, they may encounter fewer problems than if they are alone. They posited that onshore international student problems came from the lack of local knowledge and that peer-to-peer mentoring between local and international students, may result in reduced attrition, increased academic performance and preference for spending time with local students (Westwood & Barker, 1990, as cited in Othred et al., (2013). Tan and Yates (2011, p. 389) found that many Asian students did not attend peer mentoring sessions, nor do they ask for help. To these students, this resulted in 'loss of face'. As struggling Asian students do not take up these opportunities, their results suffered, often from poor English skills (Tan & Yates, 2011). However, research shows that Australian students who did receive help from academic mentors typically achieved higher results for their assignments (Astin, 2012).

1.4 Contribution of this research

Underlying this study was the premise that developing generic skills in both business and undergraduate programs would enhance graduate employability. It extended the literature on graduate employability skills and considered the effects of a cross-cultural peer-to-peer mentoring experience on participants' cross-cultural adaptability skills. It also extended the literature on the cross-cultural generic skills development of higher education students involved in cross-cultural peer-to-peer mentoring. To date, there have been numerous studies on the effects of peer-to-peer mentoring (Johnson, 1989; Jacobi, 1991; Scandura, 1992; Allen, Poteet, & Burroughs, 1997; Allen, Poteet, Russell, & Dobbins, 1997a; Noe, 1988; Allen & Poteet, 1999; Fox & Stevenson, 2007; Kemlo 2010; Santos & Reigadas, 2002; Wanberg, Welsh, & Hezlett, 2003; Sanchez, Bauer & Paronto, 2006; Hall & Jaugietis, 2010; Thomas, 2012; Chester, Burton, Xenos & Elgar, 2013; Griffiths et al., 2018) but fewer studies on the effects of student dyads from different cultures and how these may contribute to students' cross-cultural skills development (Kram, 1983, 1985; Dreher & Ash, 1990; Dreher & Cox, 1996; Heilmann, 2012; Leong, 2007; Woods, Poropat, Barker, Hills, Hibbins & Borbasi, 2013; Arkoudis, Yu, Baik, Chang, Lang, Watty, Borland, Pearce & Lang, 2010; Caligiuri & Tarique, 2012; Mosey, Wright & Clarysse, 2012).

This study focused exclusively on the academic peer-to-peer mentoring group at a major university in Australia. The peer-to-peer mentoring area where the *Student Learning Mentors (SLMs)* were rostered was established to bring mentors and mentees together so that the mentee could receive help from the more experienced mentor. Moreover, it was conducted only on students who had experienced a cross-cultural experience. As there were only 20 students in the dataset who had experienced a non-cross-cultural experience, they were excluded from this study. Therefore, this thesis extended the literature on cross-cultural mentoring by addressing this gap in current research and it explored whether cross-cultural peer-to-peer mentoring influenced students' cross-cultural adaptability.

A significant contribution of this thesis was the adaptation of existing cross-cultural adaptability dimensions emanating from previous research by Kelley and Meyers (1987, 1992). Their Cross-cultural Adaptability Inventory (CCAI™) was developed in conjunction with businesses, expatriates, training personnel, and the Peace Corps. This well-used and extensively researched measurement instrument (for example Edwards, 1999; Black & Gergerson, 1999; Elmuti, Tuck & Kemper, 2008; DeWald, 2009; Goldstein & Smith, 1999) was adapted into a new measurement instrument which can be applied in a new research area; that of peer-to-peer mentoring. The new measurement instrument provided an original conceptualisation around the research area in an alternate context. The proposed conceptual model, and the new cross-cultural adaptability measurement instrument proposed in this study, can be used for future research in the burgeoning field of cross-cultural generic skills development of graduates. It can also be used in other contexts in the higher education setting to confirm whether different pedagogical methods influenced students' cross-cultural adaptability skills.

This study provided direction for university policy on programs that are effective (and those that are not) on graduates' cross-cultural skills development. Given university claims that students will broaden their cross-cultural skills and competencies, and while relevant research identified in existing literature provided a rationale for this study, the outcome of this research assessed whether indirect 'at home' methods of 'cross-cultural engagement' – via university peer-to-peer *SLM* mentoring – affected students' cross-cultural adaptability, or whether more targeted approaches needed to be undertaken to develop this skillset. This study also investigated whether covariates such as age, gender, ethnicity, socio-economic status,

socialising or previous international experiences influenced students' cross-cultural adaptability both before and after their peer-to-peer mentoring experience.

Universities need to know if they are graduating cross-culturally competent students and to understand what it means to be cross-culturally competent. Terminology further complicates this aspect of skill development. Researchers have used various terms such as inter-cultural readiness (Dodd, 2007), cultural intelligence (Earley & Mosakowski, 2004), global competencies (Willard, 2009), cross-cultural adaptability (Kelley & Meyers, 1987), inter-cultural sensitivity (Byram, 2003) and inter-cultural communication (Yu, 2012) interchangeably (Rosenbusch, 2014). There is extensive literature on cross-cultural competence and similar concepts, such as inter-cultural: competence, intelligence and sensitivity (Budworth & Degama, 2012; Engle & Crowne, 2014; MacNab, Brislin, & Worthley, 2012). Although not synonymous, these terms are all intrinsically linked (Lokkesmoe, Kuchinke, & Ardichvili, 2016).

This study provided evidence whether direct methods of intervention such as undertaking exchange, study tours or foreign internships may be more effective than cross-cultural peer-to-peer mentoring. Because of the requirements for graduates to have discipline-specific and generic skills, this research sought to provide an innovative theoretical perspective on whether cross-cultural peer-to-peer mentoring experiences influenced students' cross-cultural adaptability and thus influenced their cross-cultural skills development.

If students, both local and international are not receiving the cross-cultural experiences and development of the generic skills that they need in their years at university, then the international relationships and reputation of the home university may decline (Czinkota, 2005; Kehm, 2005; Marginson & Van der Wende, 2007). Employers may look elsewhere for their employees if they perceive that the graduates of these universities are not cross-culturally adaptable and work-ready.

Research of this nature has important implications for universities in a competitive global marketplace. It has the potential to:

- Support the university graduates' cross-cultural generic skills development and employability claims.

- Deliver practical support to the university marketing team, demonstrating that the university can provide students who (only) study ‘at home’ with the cross-cultural adaptability skills that employers are seeking.
- Add to the university's marketing strategies directed at prospective students. They and their future global employers are looking for tangible benefits of cross-cultural skills that will be in evidence at graduation.

1.5 Methodology

A between and within-subjects, quasi-experiment of two groups’ pre- and post-testing was applied using questionnaire data. The significant element of the quasi-experiment was the measurement of the dependent variables; in this case, the student’s change in their cross-cultural adaptability according to the four cultural dimensions developed using Kelley and Meyers’ (1987, 1992) Cross-Cultural Adaptability Inventory (CCAI™). Pre- and post-testing enabled changes to be gathered and analysed. This quasi-experimental design allowed for the control of the experience (peer-to-peer mentoring) but did not include random assignment of participants.

Data were collected via an online questionnaire from students studying different business degrees as well as from student learning mentors (*SLMs*). Preliminary data analysis involved undertaking a descriptive analysis which provided an understanding of the samples and their behaviour. Sample distributions of the various demographic, socio-economic levels, socialising, private international experiences, external international and internal international experience, as well as pre- and post-test changes in their cross-cultural adaptability, were analysed. Descriptive statistics were also analysed to assess how representative the samples were with respect to changes in students’ cross-cultural adaptability.

Repeated measures analysis of variance (ANOVAs) were employed to examine how students’ cross-cultural adaptability varied over time (pre- and post-test). Multiple measurements of that variable (each of the four cross-cultural dimensions) and repeated measures analysis of covariance (MANCOVAs) were then conducted to analyse any influence on the cultural dimensions as a result of the students’ pre-existing demographic and socio-economic levels as well as their pre-existing experiences (Statistics Solutions, 2013).

This study aimed to improve our understanding of the peer-to-peer mentoring experience in higher education and to strive for ways to understand and improve our educational practice and generic skills development (Floden, 1996). The field of investigation and methodologies adopted in this thesis reflected disciplines in mentoring, cross-cultural mentoring and cross-cultural adaptation. Even though these results were context-dependent, the adapted measurement instrument can be used in further research on whether other pedagogical experiences have a significant influence on students or others to develop their cross-cultural adaptability skills. Definitions of keywords are found in section 1.9 of this chapter, and abbreviations can be found in the Glossary on p.xiv.

1.6 Outline of this thesis

Chapter two contained a detailed literature review with a focus on students' employability skills, which included their cross-cultural skills development. Culture was discussed, with a focus on cross-cultural communication, cross-cultural competence and cross-cultural adaptability - terms that are often used inter-changeably in cross-cultural literature. A detailed discussion on cross-cultural adaptability, including its significant theories, followed. Research on the influence of students' demographics, socio-economic backgrounds, social relationships and previous private international experiences on their cross-cultural development was overviewed, alongside any influence of pre-existing international academic experiences. The next section of the chapter examined mentoring, peer-to-peer mentoring and cross-cultural peer-to-peer mentoring in Higher Education. The final part of the chapter discussed the measurement instrument investigated and utilised in this thesis - the Cross-Cultural Adaptability Inventory (CCAI™) - and its four cultural dimensions.

An adapted measurement instrument, the International Experience Cross-Cultural Adaptability (IECCA), was developed based on past literature and the drivers of cross-cultural adaptability as measured by the CCAI™ (Kelley & Meyers, 1987). The drivers of cross-cultural adaptability were identified, and these may be influenced by students' backgrounds and previous experiences. Each driver and influence were discussed in detail. Six sets of hypotheses were proposed. The chapter concluded by identifying a gap in the mentoring literature - whether a cross-cultural peer-to-peer mentoring experience influenced the cross-cultural adaptability of either the mentor or the mentee.

Chapter three introduced and discussed an appropriate methodology with which to investigate any changes in the cross-cultural adaptability of students after a cross-cultural mentoring experience. The theoretical foundations of quasi-experimental research, exploratory factor analysis and mixed between and within-subjects repeated-measures analysis of variance (ANOVA) and repeated measures analysis of covariance (MANCOVA) were used in this study. This chapter also incorporated descriptions of the data collection, early validation of the measurement instrument and the pre- and post-tests that were undertaken.

Chapter four presented the results of the analysis and findings of the student samples including the descriptive analysis and provided an understanding of the sample distributions of the various demographic, socio-economic, socialising, private international experiences, external and internal international academic experience covariates. This chapter assessed to what extent the samples were representative of students' cross-cultural adaptability. It profiled the student cohorts who represented both the *SLM* and mentees, as well as those respondents from these subjects who did not meet with a *SLM*. Student mentees seeking help were from the Faculty of Business. These students were enrolled in: Business Statistics, Macro Economics, Micro-Economics, Marketing Research, Econometrics, Financial Markets, Business Finance and Business to Business Marketing, at a University in Australia.

Kelley and Meyers' (1987) scales of cross-cultural adaptability - Emotional Resilience, Flexibility Openness, Perceptual Acuity and Personal Autonomy - and their indicators were then tested through exploratory factor analysis (EFA) and adapted to reflect the responses of the student cohort used in the study. At the conclusion of this chapter the descriptive analysis was found for the variables that were the most important for this study's respondents.

Chapter five presented the analysis for the proposed new measurement instrument and the adapted cultural dimensions evident after exploratory factor analysis was performed. The results and findings from pre- and post-test analysis used mixed model analysis of variance (ANOVAs) and repeated measures analysis of covariance (MANCOVAs) were then discussed. This chapter also identified the measurement properties (reliabilities and validities) of the observed and latent variables. The association amongst important constructs comparing the pre-test and post-test responses were examined. Chapter five concluded by demonstrating the suitability of the measurement instrument and the analyses to research questions considering the links between constructs. The proposed hypotheses developed from the model

were tested empirically. The results of the research were presented for the six sets of hypotheses.

Chapter six presented the discussion and conclusions of the research undertaken. The chapter summarised the aims and main arguments of this thesis, followed by the method used. It then presented an overview of the results of the six sets of hypotheses and reflected upon the contributions this thesis made to the literature, both at a conceptual and practical level in terms of the educational and employability implications for cross-cultural adaptability skills. Limitations of this thesis were discussed. Finally, the aim was to identify and suggest recommendations for opportunities for future research in this field of educational and cross-cultural mentoring research.

1.7 Delimitations of scope and key assumptions

The main objective of this thesis was to investigate whether mere exposure to a cross-cultural experience via peer-to-peer mentoring influenced ‘cross-cultural adaptability’ in university students. It specifically focused on the pre- and post-test responses by students who had either undertaken a cross-cultural peer-to-peer mentoring experience or not. It examined the influence of the cross-cultural mentoring experience on each of the adapted cultural dimensions that were developed based on the CCAI™. Important categorical segmentation covariates: demographics, socio-economic, socialisation experience, private international experiences, external academic experiences and internal academic experiences added fresh theoretical perspectives for the understanding of cross-cultural adaptability in this context.

This study took place in one university in one major city – Melbourne, in one state – Victoria, in Australia. It used a questionnaire which was sent to students studying Business subjects in Higher Education only and had no respondents from the business community. *SLMs* were high achievers as only those who had received a Distinction or High Distinction were invited to become mentors. They were also invited to be part of the research.

The overall response numbers ($n=234$), were consistent with other studies in this area (Prasad, Showler, Schmitt, Ryab & Nye, 2017; Hua, Fan, Walker, Hou, Zheng & Debode, 2018). A broad assumption was that students in each group were relatively similar. All the students in

the questionnaire were either studying or mentoring in the subjects that were chosen for this study, and they had all achieved high school results of a high enough standard for acceptance into university. This study made no association with individual respondents' results. Although many of the students who completed this questionnaire did not have English as their primary language, the assumption was that they were able to understand the questions and answer them correctly. Finally, this study assumed that respondents from each semester in 2017 were similar, as subjects and experiences were available to all students throughout the year, with off-shore experiences available at the end of each semester.

1.8 Conclusion

This chapter laid the foundations for this thesis. It introduced the research problem and research questions. The background of this thesis was discussed, including the current state of the Australian higher education market and its future direction. It also introduced the current needs of employers of Higher Education Business students, especially in terms of generic and cross-cultural adaptability skills. The research was justified, definitions were presented, the methodology was briefly described and justified, and the thesis chapters were outlined. On these foundations, the thesis proceeded with a detailed description of the literature.

1.9 Definitions of terms

It is important to note that terms such as cross-cultural, inter-cultural and cultural are used interchangeably in much of the literature. In the same way, global and international are used interchangeably. These were also used interchangeably in this thesis. Irrespective of the terms used, it appears consistent that future graduates require curricula that is more about cultural adaptability and competence to be able to work effectively in the global workforce.

Culture:

Values, beliefs, attitudes, preferences, customs, learning styles, communication styles, history/historical interpretations, achievements and accomplishments, technology, the arts, literature, etc.—the total of what a group of people has created together, share and transmit (Paige, 2006).

Culture shock:

“A form of anxiety which results from the misunderstanding of commonly perceived and understood signs of cultural interaction” (Adler, 1975, p. 13).

Cultural Adaptability:

“The motivation and ability to adapt one’s behaviour to the prevailing norms, values, belief, customs and expectations that function as a societal level prototype in a given geographical location” (Deal, Leslie, Dalton & Ernst, 2013, p.150).

Cultural Competence:

Knowledge about several dimensions of global and international cultures; appreciation of cultural, racial and ethnic diversity; understanding of the complexities of issues in a global context; comfort in working with people from different cultures (Morais & Ogden, 2010).

Cultural Intelligence:

An individual's ability to adapt to new cultures. It draws upon "cultural knowledge" about “both the facts that we hold about another culture as well as our knowledge of how things operate” (Earley et al., 2006, p 5-6).

Cultural Sensitivity:

“The ability to discriminate and experience relevant cultural differences” (Hammer, Bennett & Wiseman, 2003, p. 422).

Cultural Skills:

“Reflect behavioural ability and focus on communication skills “such as behavioural flexibility, interactional management, and verbal and non-verbal skills” in inter-cultural interactions” (Chen & Starosta. 1998, p.49).

Employability:

“A set of achievements – skills, understandings and personal attributes – that make graduates more likely to gain employment and be successful in their chosen occupations, which benefits themselves, the workforce, the community and the economy”. Yorke and Knight (2004, p.8).

External (Offshore) International experience:

Most often short-term (generally less than one year) international education experiences are undertaken as part of an Australian university degree into communities, workplaces and other experiential environments (Davis, Milne & Olsen, 1999).

Global (Cross) Cultural Competence

“The ability to be culturally empathic, adaptable, diplomatic. Positive in one’s attitude and able to demonstrate emotional stability and maturity”. Phatak (1992) as cited in Wallenberg-Learner (2013 p.29).

Globalisation:

Wallenberg-Learner (2013 p. 17) suggested that globalisation is “the intensification of worldwide social relations that link distant localities in such a way that events occurring on one side of the globe can have a significant impact on those localities existing on the other side.”

Internationalised curriculum:

“The incorporation of an international and inter-cultural dimension into the preparation, delivery and outcomes of a program of study” (Leask, 2009, p. 209).

Internal ‘at home’ international experiences:

“Internationalization at home is the purposeful integration of international and inter-cultural dimensions into the formal and informal curriculum for all students, within domestic learning environments” (Beelen & Jones, 2015, p 12).

Mentoring:

Mullen (1994) as cited in (Wanberg et. al. 2003, p. 39) defines mentoring as: “a one-on-one relationship between a less experienced (protégé/mentee) and a more experienced person (mentor) and is prototypically intended to advance the personal and professional growth of the less experienced individual”.

Peer-to-peer mentoring (P2P mentoring):

Mentorship which usually takes place between a person who has lived through a specific experience who is a peer mentor and a person who is new to such experience which is the peer protégé/mentee (Hall & Jaugietis, 2011).

Transnational Education/Sojourner/Offshore/International students:

Any teaching or learning activity in which the students involved are in a different country to where the institution providing the education is based (Lim & Shah, 2017, p.254).

Chapter 2

LITERATURE REVIEW

2.1 Introduction

Chapter one introduced the background to this thesis, including the current state of internationalisation in the Australian tertiary education market and the need for graduates to have employability skills. In our interconnected global economy, now more than ever, university students are required to graduate with a set of skills for current and future employability success. These skills are required to be both discipline-specific and generic (McArthur, Kubacki, Pang & Alcaez, 2017; Delpechitre & Baker, 2017; Deloitte Access Economics (DAE), 2017). Universities are expected to develop discipline-specific skills in their graduates by strengthening their core subject content to cover current practices in their field, as these skills are essential for applying disciplinary knowledge in the workplace (Dacre-Pool & Sewell, 2007). The specific generic skills that current literature discusses include: teamwork, organisation and communication; personal attributes such as punctuality, self-confidence, discipline, adherence to deadlines, and the ability to work with and interact with colleagues and others from many different social, ethnic and religious backgrounds, perhaps with different languages, whether in Australia or overseas (Reichard, Serrano, Condren, Wilder, Dollwet & Wang, 2015; Chang et al., 2013; Deardorff, 2006; Caliguiri, 2006; Turner, 2006; Bennett, 2004; Medenhall, Kuhlmann & Stahl 2001).

Cross-cultural skills are an additional requirement to professional, discipline-specific skills, generic, essential and non-technical skills that each graduate should be able to apply in the workplace (Yorke & Knight, 2004; Jackson, 2013). These are vital to enhancing graduate work-readiness and enabling graduates to differentiate themselves from other job seekers. Recent studies found that as competition increases for jobs globally (Brown, 2003; Brown & Hesketh, 2004; Brown & Tannock, 2009; Brown, Lauder, & Ashton, 2011), students need to develop their social capital to enhance their job applications by developing these skills (Tomlinson, 2008). There is almost a ‘global war’ for the most talented graduates from

anywhere in the world (Brown & Tannock, 2009; Brown et al., 2011; Bathmaker, Ingram & Waller, 2013).

Employers' perceptions that there are gaps between graduate workplace performance and employers' expectations are well-documented, particularly critical thinking, decision making, conflict resolution, leadership and meta-cognitive skills (BIHECC, 2007; Helyer, 2011). To address these concerns, many universities have implemented an international dimension into their strategic plans for their students to develop the cross-cultural skills necessary to remain employable into the future (for example RMIT, 2015; Monash, 2019; UNSW, 2018). Most Australian university strategies refer to curriculum design, digital tools, teaching strategies and opportunities for students' mobility through Study Abroad Programs (SAPs) - semester or year exchange, study tours and international internships, to reflect and embed their global outlook. There is a substantial body of literature on the critical need for employees to possess competence in cultural management, communication, global knowledge, cultural diversity and cultural adaptability. Development of these cross-cultural skills in students by graduation is no longer a choice, but a specific goal of higher education. (RMIT, 2015; Root & Ngampornchai, 2012; Paige & Goode, 2009; Hunter, White & Godbey, 2006; Hynes, 2008).

Universities in Australia have strategies that emphasise their global reach often with campuses, programs and partnerships across a network of global urban centres and a high number of international students and staff. For example, RMIT University in Melbourne states in their strategy that their students will have successfully developed cross-cultural skills and competencies so that their graduates are prepared for global labour markets (RMIT 2015). While cross-cultural skills are an essential capability for graduates to develop, they are rarely part of formal university education. Rather, it is usually assumed that these skills would be acquired through 'experience' or by formal or informal contact with international students on campus (Dimitrov, Dawson, Olsen & Meadows, 2014). Leask (2016) concurred, stating that most university policy statements declared that their graduates would have global skills and perspectives and be ready to make a difference in a globally connected world.

For students who did not undertake an offshore experience, Australian universities are offering various international 'at home' experiences in which students can engage. These experiences include internationalised curriculum, cross-cultural group work, foreign language learning and cross-cultural peer-to-peer mentoring.

This literature review discussed how global institutes of higher education developed these skills, as without the ability to be adaptable and able to work across cultures or with diverse colleagues, the chances of students being successful in their career are reduced significantly (Deardorff, 2006). Currently, there is a pertinent gap in cross-cultural mentoring research. To date, there is little research on the link between cross-cultural mentoring and the development of cross-cultural adaptability. One of the primary contributions of this thesis was to examine this link. The question was whether universities could confidently assert that they delivered and developed these cross-cultural skills in their students by the time they graduated.

This chapter contained a comprehensive review of the literature, summarised in Figure 2.1, relating to the impact of globalisation of the world's economies on higher education and the resulting skills that employers required in their graduates. It also examined the theories that underpinned the current knowledge on cross-cultural skills development, specifically Allport's (1954) Inter-group Contact Theory, Albert Bandura's (1977) Social Learning Theory, Kim's (2001) Cross-cultural Adaptability Theory as well as Kelley and Meyers' (1987) Cross-cultural Adaptability Inventory. The current approach to examining cross-cultural adaptability was reviewed, and the Cross-Cultural Adaptability Inventory (CCAI™) considered as a relevant tool to investigate the development of cross-cultural skills. From this foundation, current research into the following was discussed: culture, culture shock, cross-cultural communication, cross-cultural competence and cross-cultural adaptability of Higher Education students.

Within this sphere of research, this study examined academic peer-to-peer mentoring as an alternative way to develop cross-cultural skills. This chapter also presented the factors that have been noted in the literature as relevant in the examination of cross-cultural adaptability and skills, and started with demographic, socio-economic and socialising factors. These factors also included the increased mobility of students, with some suggestion that their private international experiences may have had a measurable impact on their cross-cultural skills. The different experiences that universities used to develop cross-cultural skills were discussed, including offshore international experiences and onshore international experiences. Cross-cultural skills development had not been investigated in the peer-to-peer mentoring area and was reviewed as part of the onshore international experiences. Justification for this study was outlined in chapter one, and the method utilised in this study can be found in chapter three.

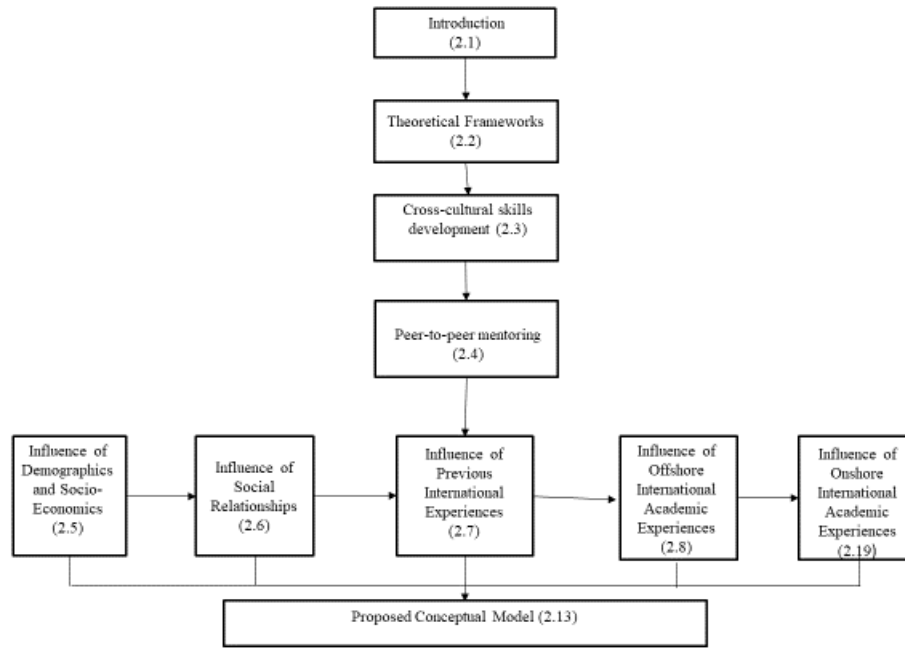


Figure 2.1 An overview of the literature review

2.2 Theoretical Frameworks

Many of the theories in this area of study related to international students' experiences when they enrol to study in a different country. As such, they were only one-way theories that concentrated on the international student's experience in the visiting country. In this study, Gordon Allport's (1954) Intergroup Contact Theory (ICT), Albert Bandura's (1977) Social Learning Theory (SLT), Kim's Cross-Cultural Adaptation Theory (CCAT) and Kelley and Meyers' Cross-Cultural Adaptability Inventory (CCAI™) were used, but this research proposed that the cross-cultural experiences and adaptations were a two-way experience that affected both international and local students. This approach was suggested by Allport (1954) and Bandura (1977), who argued that learning in group and social settings required interaction for purpose and needed to occur over time. Similarly, Hofstede (1980) argued that culture was inherent and developed over time from the primary environment where learning and development occur. This research suggested that cross-cultural adaptation was a combination of social learning with purpose, over time and exposure to another culture. In examining the current understanding of cross-cultural skills development, this chapter considered the development of cross-cultural skills in a variety of conditions as illustrated in Figure 2.2.

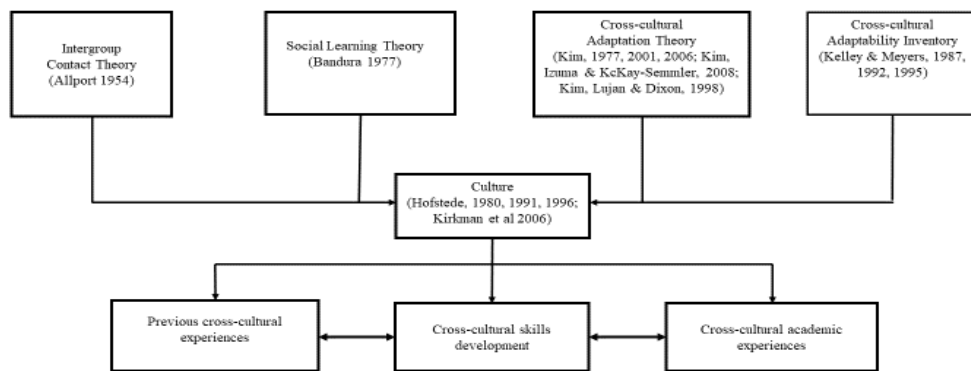


Figure 2.2 Theoretical components of cross-cultural learning

2.2.1 Intergroup Contact Theory

Gordon Allport’s (1954) ICT informed this study as it addressed an assumption of cross-cultural contact. It has long been posited that sending students to live in another culture would lead to a greater understanding of different people and they would gain the ability to develop international relationships (Smith, 2013). Allport (1954) agreed that contact with people from different cultures was critical for reducing stereotypes and prejudices. He posited that social contact must be managed, that people must cooperate, they should see themselves as equals, have support from leaders, and have personal and informal direct communication (Allport, 1954; Smith, 2013). Although he stopped short of saying that mere contact was enough to reduce prejudice towards a person from another culture, he thought that acquaintanceship could positively affect attitudes. Other earlier researchers also agreed with this idea that “merely coming into contact with students from different cultures may not improve tolerance and empathy” (Chickering & Reisser, 1993, p.154), but that the experience of getting to know someone different as a fellow student changed their rigid cultural stereotypes (Wilder, Sherrier & Berry, 1991 as cited in Chickering & Reisser, 1993).

The setting for this study provided the conditions required by Allport (1954). Students had a reason to work together and were equal in terms of educational attainment. Despite some having more mentoring experience than others, both mentors and mentees had equal support

from the university. The mentoring sessions were informal, and often students developed friendships outside of the mentoring area (Kemlo, 2018).

Both Allport's (1954) ICT and Wilder, Sherrier and Berry, (1991) suggested the mentoring experiences were related to the Flexibility Openness cultural dimension (Kelley & Meyers, 1987, 1992). The requirement was getting to know someone different as a fellow student and their ability to cope with unfamiliar people, ideas and tolerance towards other who were different. ICT also suggested that contact between students of a different culture in the mentoring experience was also related to the Personal Autonomy dimension as it was specifically related to respect for people from other cultures.

2.2.2 Social Learning Theory

Albert Bandura's (1977) Social Learning Theory (SLT) provided a theoretical foundation for understanding cross-cultural adaptability (Black & Mendenhall, 1990; Church, 1982; David, 1976). SLT (1977) explained human behaviour in terms of "a continuous reciprocal interaction between cognitive, behavioural, and environmental determinants" (p. vii). SLT also emphasised the importance of observing and following people from different cultures. People need to take note of their behaviours, attitudes, and emotional reactions. Fortunately, most human behaviour is learned observationally through modelling "from observing others, people form an idea of how new behaviours are performed, and on later occasions, this information serves as a guide for action" (Bandura, 1977, p. 22). Bandura (1977) formulated his findings in a four-step pattern combining a cognitive and an operant view of learning, namely:

1. Attention - the individual noticed something in the environment.
2. Retention - the individual remembered what was noticed.
3. Reproduction - the individual produced an action that is a copy of what was seen.
4. Motivation - the environment delivered a consequence that changed the probability the behaviour would be emitted again (reinforcement and punishment).

Bandura's work draws from both *behavioural* and *cognitive* views of learning. He believed that mind, behaviour, and the environment all play an essential role in the learning process (Bandura, 2001). Bandura (1986) also noted that "people must develop basic capabilities over

an extended period, and they must continue to master new competencies to fulfil changing demands throughout their life spans” (p. 20).

Bandura’s (1977) SLT resonated with the Emotional Resilience cultural dimension as this measured the ability of people to cope with any ambiguity and stress that may occur during the cross-cultural mentoring experience. SLT also related to the observation of others who were different from themselves as well as the ability to implement the behaviours that were observed. It also related to the Perceptual Acuity cultural dimension in that both the mentee and particularly the mentor, as the more experienced student, dealt with the interpersonal sensitivity of the mentee when they visited the *SLM*. The mentor also needed to perceive cues accurately between their culture and set the mentee at ease during the mentoring session. These experiences were related to the Personal Autonomy dimension as both the mentor and the mentee were expected to respect the traditions of the other culture.

SLT was particularly applicable when studying offshore programs. Previous research suggested that instead of cross-cultural understanding developing, stereotypes may actually be reinforced, unless there was intervention such as cultural mentoring (Bandura, 1977; Smith, 2013). As this study was interested in duplicating the cross-cultural adaptation effects for students without attending a study abroad experience, Bandura’s theory was an appropriate theory to underpin this research as it insisted that mind, behaviour and the environment are all critical and need to be addressed in local international experiences.

2.2.3 Theory of Cross-Cultural Adaptation

Kim and others (Kim, 1977, 2001, 2006; Kim, Izumi & McKay-Semmler, 2008, 2009; Kim, Lujan & Dixon, 1998) have offered cross-cultural adaptation theory to explain the process of adaptation experienced by international students, and suggested ways to reduce stress and increase the student’s ability to function (Kim et al., 2009). This theory claimed that the student experiences stress followed by adaptation and finally, growth. These steps took time, and the student gradually developed more significant adaptation and communication skills when interacting with local students (Sandel, 2013). They posited that initial interaction with other international students helped the incoming student adapt.

A weakness of Kim's theory was that it considered culture to be unimpacted by the presence of the international student who was becoming more adaptable (Kramer, 2000; Sandel & Liang, 2010). The theory ignored the possibility that cultures were dynamic, and that interaction between local and international students would result in changing cultural perspectives. This was relevant to this study as contact between domestic and international students impacted the cross-cultural adaptability of both.

2.2.4 Cross-Cultural Adaptability Inventory

Kelley & Meyers (1987, 1992, 1995) developed the CCAI™ to quantify the dimensions known to be associated with cross-cultural adaptability. Since the development of the measurement instrument in 1987, it underwent two revisions. The inventory consisted of 50 questions that comprised four subscales: Emotional Resilience, Flexibility Openness, Perceptual Acuity and Personal Autonomy. Emotional Resilience measured the degree to which a person could bounce back from negative emotions while maintaining a positive attitude towards new experiences. It was the largest of the four CCAI™ scales, containing eighteen items. Specifically, it measured coping with stress and ambiguity, rebounding from imperfections and mistakes, trying new experiences and interacting with new people in new or unfamiliar situations. Flexibility Openness consisted of fifteen items and assessed the respondent's willingness to be receptive and enjoy different ways of thinking and behaving in a new environment. It measured interest in unfamiliar people and ideas, tolerance towards others and flexibility regarding new experiences. Perceptual Acuity measured the respondent's interpersonal sensitivity and the ability to perceive cues accurately across cultures. The ten items of this subscale focused on communication skills, cross-cultural empathy and the accurate interpretation of nonverbal and social signals. Finally, the smallest but most complex scale, the seven items of the Personal Autonomy dimension, dealt with personal identity and adherence to a robust set of cross-cultural values, as well as respecting the values and traditions of the other culture (Kelley & Meyers, 1997).

There is a considerable body of literature which deals with the CCAI™. There have been over 45 studies using the CCAI™ in the cross-cultural arena, many of which took place in a Higher Education setting (Field, 1990; Remmert, 1993; Chen, 2015). It is an accepted tool for studies on developing cross-cultural adaptability and has shown a high degree of reliability across different settings. Kelley and Meyers (1992) reported overall reliability of 0.90 for the

CCAI™, 0.82 for the Emotional Resilience subscale, 0.80 for the Flexibility Openness subscale, 0.78 for the Perceptual Acuity subscale and 0.68 for the Personal Autonomy subscale. Kitsanis and Meyers (2001) also found that it had significant reliability. However, there was conflicting evidence about the construct validity (Montagliani & Giacalone, 1998). Davis and Finney (2006) administered the questionnaire to 709 higher education students in the USA. Confirmatory factor analysis indicated that the fit of the four-factor model was “very poor” (p.323), and there were high correlations among the four factors (0.87-0.98). Exploratory factor analysis on the same data indicated a one or two-factor solution (David & Finney, 2006). Nguyen, Biderman and McNary (2010) also found that the four-factor structure did not fit the data very well. Goldstein and Smith (1999) compared forty-two graduate students in the USA who had received inter-cultural training, with thirty-nine who had not. In that study, the training group had significantly higher scores than the control group. According to Majunidar, Keystone and Cuttress (1999), the CCAI™ has been tested on hundreds of participants from various cultures, with different ages and occupations. It had demonstrated high internal consistency and validity in many studies (Fukasawa, 1990; Goldstein, 1992; Elmuti, et al., 2008), and was considered a suitable measurement instrument for capturing the range of cognitive skills necessary to succeed in a cross-cultural environment (Kraemer & Beckstead, 2003).

Study abroad researchers have also utilised the CCAI™, and these studies were well represented in the literature. A study by Kitsantas and Meyers (2001) compared eleven students enrolled in graduate subjects to thirteen students enrolled in a SAP. T-tests before the offshore experience showed no difference between the groups, but t-tests after their experience showed a significant difference for the students who did complete the SAP, relative to those who did not. Study abroad was not the only area where the CCAI™ had been used. It had also been used in the foreign language arena where it explored the relationship between foreign language skills and the cross-cultural adaptability of the students. It was also used in Health Care Education and Dental hygiene (Connolly, Darby, Tolle-Watts, Thomson-Lakey, 2004; Kraemer, Takeuchi & Frese, 2003; DeWald, 2009).

The CCAI™ was chosen for this study as it had been used in business and study abroad areas and had tested the cross-cultural skills that universities were trying to instil in their graduates. As this study discussed the same skills that need to be developed in students from an international onshore experience, CCAI™ were considered appropriate.

2.2.5 The CCAI and Emotional Intelligence

Emotional intelligence involves the awareness of one's own and others' emotions and the ability to control them and to reason with others using emotions [effectively], (Goleman, 1995; Petrides, 2009a and 2009b; Salovey & Mayer, 1990). Seminal research provides an alternate definition: the ability to focus on the perception and expression of emotions accurately and adaptively; the ability to understand emotional knowledge; to use feelings, and to regulate emotions (Salovey, Mayer, Caruso, Loes, Lopez & Snyder, 2003).

Cultural researchers found that emotional intelligence contributed to cultural adjustment in global assignments (Dolan & Cerdin, 2005) and others suggested that it be incorporated in the training for international experiences (Ornstein and Nelson, 2006). Yamazaki and Kayes (2004) have found that living and working in other cultures developed the understanding of moods, emotions and personality, some of the components of emotional intelligence. The construct of emotional intelligence, a measure of emotional resilience, was identified by cross-cultural researchers as a requirement of successful cross-cultural adaptability (Cherbosque, Gardenswartz and Rowe, 2005; Tang, 2001). Furnham and Bochner (1986) considered the link between [cross] cultural adaptability (the focus of this study), as being able to participate in new situations and respond effectively to emotional experiences. Cui and Awa's (1992) study added to the literature and found that cross-cultural success required: empathy, flexibility, patience, role flexibility, tolerance for ambiguity and the ability to establish and maintain relationships. These characteristics were similar to those expressed in the Emotional Resilience and Perceptual Acuity cultural dimensions of the CCAI™

Emotional intelligence was considered a social and emotional skill that resulted in successful relationships. It involved interpersonal and intrapersonal sensitivity, impulse control, optimism, and empathy (Goleman, 1995; Bar-On, 1997b, 2000). Bar-On (1997a) found that emotional intelligence was characterised by intrapersonal functioning, interpersonal relationships, stress management, and mood regulation. He developed a self-report measure of Emotional Intelligence called the Bar-On EQI. These elements resonate with the Emotional Resilience, Flexibility Openness as well as Personal Autonomy.

Cherbosque, Gardenswartz, and Rowe (2005) expanded this definition of emotional intelligence, adding the capacity for [cross] cultural adaptation into their construct. They

developed the Emotional Intelligence and Diversity (EID) model of emotional intelligence which consisted of four constructs: Affirmative Introspection: the ability to understand one's reaction to others; Self-Governance: the ability to maintain a positive attitude and self-control in the face of upsetting emotions; Intercultural Literacy: the ability to empathise with other's cultural rules, norms and values; and Social Architecting: self-control and self-discipline to build productive relationships. These constructs were similar to those of Perceptual Acuity, Emotional Resilience and Personal Autonomy.

Research by Montaglini and Giacalone (1998) found that the CCAI™ correlated with impression management, empathy and social-emotional skills. These were all components of the construct of emotional intelligence (Bar-On, 1997a; Goleman, 1995). Tang (2001) also explored the relationship between emotional intelligence and cross-cultural adaptability using the CCAI™ (Kelley & Meyers, 1987, 1992) as a measure of cross-cultural effectiveness. In that study, emotional intelligence was characterised by empathy, communications of emotions and regulation of mood. The characteristics of both these studies correlated with the cross-cultural adaptability dimensions of Perceptual Acuity, Personal Autonomy and Flexibility Openness.

Further research was undertaken to investigate whether there was a relationship between cross-cultural adaptability and emotional intelligence (Meyers, Lewak, Stolberg & Savarese-Levine, 2008). They found that cross-cultural adaptability was related to extroversion, emotional poise and control, warmth, empathy and stress tolerance. These attributes were also aspects of emotional intelligence, therefore it was also posited that emotional intelligence was related to all of the cross-cultural adaptability dimensions: Emotional Resilience, Flexibility Openness, Perceptual Acuity and Personal Autonomy. Cross-cultural adaptability was then able to be assessed using measures of emotional intelligence, as well as the CCAI™ measures. Emotional factors clearly played a significant role in cross-cultural adjustment, confirming the link between emotional intelligence and cross-cultural adaptability suggested by Tang (2001). These findings also supported the use of a tool called Emotional Intelligence and Diversity (EID) for training, which emphasised the role of emotional intelligence in cultural adaptation (Tang, 2001).

The research by (Meyers et al., 2008) also suggested there were certain personality types who were inherently suited for the challenges of cultural adaptability. It suggested that individuals

could be taught the coping strategies that comprise the core of emotional intelligence. By training an individual in emotional intelligence, that person could increase their effectiveness in dealing with people from other cultures. The overlap between emotional intelligence and the CCAI™ questions was taken into account when the new cultural dimensions were developed from the original CCAI™ questions as a result of the Exploratory Factor Analysis undertaken.

2.2.6 Culture

The assumption as stated in this study concurred with the need for Higher Education (HE) students to develop cross-cultural skills (McArthur et al., 2017; Delpechitre & Baker, 2017; DAE, 2017; Chang et al., 2013). Spitzberg and Changnon, (2009) found that *culture* was concerned with enduring but evolving inter-generational attitudes, values, beliefs, rituals, customs and behavioural patterns into which people were born, but it was maintained by people's ongoing behaviours (Safta, 2011). Earlier, Hofstede in his seminal work (2001) defined culture as being “the collective programming of the mind distinguishing the members of one group or category of people from another” (p. 9). Hofstede's definition of culture referred to nations, regions, ethnicities, religions, occupations, organisations or genders (Hofstede, 2013), but he acknowledged that cultural learning was as crucial to a particular (human) group or sub-culture, as personality was in determining the uniqueness of an individual (Hofstede, 2001).

There has been some criticism of Hofstede's (1980) original work such as the study by Sivakumar and Nakata (2001), who argued that Hofstede's work has reduced culture to an overly simplistic six-dimension conceptualisation, and that results of his work were based on a limited sample due to his research being conducted at IBM only. Sivakumar and Nakata (2001) also suggested that the work did not capture the dynamic nature of culture and ignored within-country cultural differences. Further studies also questioned its theoretical basis, its methods and its definitions (McSweeney, 2002; Smith, 2002; Kirkman, Lowe & Gibson, 2016). The study by Kirkman et al., (2006) showed that Hofstede's cultural values framework had been applied in over 180 studies. Hofstede (1981; 2011) further found that cultural values in organisations were associated with (among others) individual behaviours related to personality and group processes (Kirkman et al., 2006). Hofstede also argued that societal,

national and gender cultures, which children acquire in their youth, were more established in their minds than cultures obtained at school [or university] (Hofstede, 2001; Hofstede, 2011).

A variety of cultures exist, including business, social, group, team, individual and fundamental cultural beliefs. Each person will most likely belong to more than one of these groups (EmamJomeh-Zadeh, Damirchi, Darban, & Sharifi, 2012). University graduates are born into a national culture, but also have cultural characteristics based on their ethnicity, occupation and gender. They also develop cultural skills and traits from the sub-cultures they belonged to, including those developed at university, work and home. Thus, developing an awareness of culture and each student's ability to adapt to cultural differences was key to future success (EmamJomeh-Zadeh et al., 2012).

Brislin and Yoshida (1994) suggested that culture covered expectations and values, Their study suggested that for HE students, their "ability to function effectively in any situation depends upon [their] skills in recognising and responding appropriately to the values and expectations of those around [them]" (Anderson, Lawton, Rexeisen & Hubbard, 2005, p. 47). In a later study, Landis and Bhagat (1996) took this contention further by arguing that *inter-cultural sensitivity* was crucial to enabling people to live and work with others from different cultural backgrounds.

Many people were exposed to cultural differences because of the ease of international travel either for personal or job-related reasons. Expatriation was the process where individuals lived and worked outside his or her country (Carpenter, Sanders & Gregersen, 2001; Inkson, Arthur, Pringle, & Barry, 1997; Reuber & Fischer, 1997; Sambharya, 1996; Takeuchi et al., 2005; Crowne, 2013). These studies on expatriates and expatriate failures were considered valuable, (Makela, 2007; Manev & Stevenson, 2001). In particular, these failures were a cost concern for many companies (Black & Gregersen, 1999; McNulty & Tharenou, 2004; Solomon, 1995; Welch, 2003). Some companies reported expatriate failure rates as high as 83% (McFarland, 2006). Employers were constantly searching for more effective methods to select employees who would have a lower chance of failure (Crowne, 2013). As previously highlighted, employers were looking to universities to develop cross-cultural adaptability skills in their graduates and were hopeful that this would directly reduce the cost of expatriate failures.

One of the significant areas of expatriate failure related to culture shock and the inability to adapt (Ward & Kennedy, 1996; Aryee & Stone, 1996; Shaffer, Harrison & Gilley, 1999; Selmer, 2002; Shi & Wang, 2014). Research completed by Windham International (1999) found that partner dissatisfaction, family issues and the inability to adapt were three critical causes for expensive expatriate failure. Students attending an offshore experience such as exchange, study tour or international internships may have experienced culture shock to a greater or lesser degree. This shock may have resulted in anger, frustration, depression or homesickness (Black & Gregersen, 1999). A study by Miller (1986) found that issues such as climate, dress rules, language, education, food, transport, housing, religion, entertainment, family life and friendships could all result in culture shock. Therefore, it was vital that students developed cross-cultural adaptability skills to counter these negative feelings.

2.3 Cross-cultural skills development

Cross-cultural understanding started from essential cultural awareness, through to cultural exposure. Students may have developed some cultural knowledge about differences and similarities between cultures through previous international exposure including friends or family from another culture, through private international holidays or participation in international academic experiences. Past research had found that cross-cultural adaptability developed the ability and willingness to adapt one's style of communicating, motivating, negotiating and managing teams in different cultures to achieve success in a cross-cultural environment (Eichenger, Leslie, Dalton, Ernst & Deal, 2015).

In this literature review, the term 'cross-cultural skills' had been used to define the list of skills discussed above, that graduates were expected to display at the commencement of their employment. Since as early as the 1970s, researchers had used various terms such as (inter) cross-cultural adaptability (Wiseman & Abe, 1986; Kelley & Meyers, 1997), (inter) cultural readiness (Dodd, 2007), (inter) cultural intelligence (Earley & Mosakowski, 2004; Engle & Crowne, 2014), experience of cultural difference (leading to) global (inter-cultural) competence (Hammer, Gudykunst & Wiseman, 1978; Willard, 2009; Bennett, 1993; Hammer et al., 2003; Budworth & Degama, 2012), inter-cultural sensitivity (Byram, 2003; Straffon, 2003; MacNab et al., 2012) and inter-cultural communication, (Yu, 2010; Chen & Starosta,

2000) virtually inter-changeably (Rosenbusch, 2014). Although these six constructs were not synonymous, they were intrinsically linked (Lokkesmoe et al., 2016).

2.3.1 Cross-Cultural Adaptability in Higher Education students

Australia is one of the most culturally diverse countries in the world as 29% of the population were born overseas, and 46% of Australians have at least one parent who was born overseas (Australian Bureau of Statistics (ABS), 2019). The globalisation of the business world demands an understanding of cultural diversity when dealing with people of different nationalities. Large intakes of international students from diverse backgrounds offer a starting point in evolving cross-cultural skills development. As cross-cultural adaptation is the process of responding to the demands of a new culture, students need to change their perspectives and come to terms with the beliefs of the new culture or country (Shi & Wang, 2014).

Cross-cultural adaptability is a diverse construct, developed from training literature from the United States Peace Corps, international religious missionaries, the diplomatic corps, the military, and the global business community (Grove & Torbiron, 1985; Torbiron, 1982). These institutions prepare people to work effectively in other cultures (Hannigan, 1990), and because of their diverse roles, each have developed different descriptions of cultural adaptability. Prior studies have found that the ability to adapt to different cultures was critical, especially for students (Kelley & Meyers, 1987; Bennett, 2004; Caligiuri, 2006; Simkhovich, 2009; Chang et al., 2013). Cross-cultural adaptability indicates the potential for cross-cultural effectiveness in the host country (Kelley & Meyers, 1995). Previous studies found that critical elements of adaptability were successful interaction with people from other cultures (e.g. communication, flexibility and openness), as well as maintaining emotional stability (Chang et al., 2013). Still other studies suggested that facing different customs, values, rules and assumptions (Caligiuri & Santo, 2001; Swagler & Jome, 2005; Chang et al., 2013) were skills necessary for students to be successful.

Students are expected to adjust, assimilate or adapt. Adaptation is concerned with the alteration of behaviour through interaction, where the action of one participant impacts the actions of others in each situation (Spitzberg & Changnon, 2009). These models were grounded in Allport's (ICT) (1954) as discussed above, but adaptation models tended to emphasise the process of cross-cultural adaptation itself as a criterion of cross-cultural

competence (Kim, 1988, 1995, 2001; Spitzberg & Changnon, 2009). According to Kim (2001), an individual's internal condition was based on their willingness to change, ethnic proximity, and whether they had an adaptive personality. The pressure of adapting to a different culture, compared to maintaining one's own culture, was one of the most powerful issues in the development of inter-cultural competence (Berry, Kim, Power, Young & Bujaki, 1989; Spitzberg & Changnon, 2009). Their previous research also argued that adaptability was foundational to achieving cultural competence, thereby supporting this study as it was looking for ways to influence a student's cross-cultural adaptability and ensure a student became more culturally competent.

2.3.2 Cross-cultural Enjoyment

Based on Csikszentmihayi's (1977) 'pleasure/enjoyment continuum', enjoyment was defined as non-repetitive automatic acts and involved more complex activities which required the use of a person's physical and intellectual potential (Winch, 2017). In addition to this, Blunsdon, Reed and McNeil's (2003) definition of enjoyment: "enjoyment is sometimes called 'interest' or 'expressed liking'" (Blunsdon, Reed & McNeil, 2003, p. 44). For other researchers, enjoyment consisted of high and low arousal positive states (Tsai, Knutson & Fung, 2006). They found that some people were "enthusiastic, excited, energetic" (Tsai, Knutson, & Fung, 2006, p. 290) and that pleasurable experiences may result in feelings of "joy" (Kuppens, 2008, p. 1054), whereas others were "calm, relaxed, serene" (Tsai, Knutson & Fung, 2006, p. 290), "content" (Kuppens, 2008, p. 1054) and "at ease" (Kuppens, 2008, p. 1057).

Differences in feeling enjoyment were claimed to be culture specific. According to Tsai, Knutson and Fung (2006), people from individualist cultures (e.g. American, British and Australian culture) (Hofstede, 1980), seem to prefer and value enthusiastic, excited, energetic people but people from collectivist cultures (e.g. Chinese and other East Asian cultures) (Hofstede, 1980) seemed to prefer and value calm, relaxed, serene characteristics (Tsai, Knutson & Fung, 2006). Global university students' cohorts consist of both individualist and collectivist cultures.

Other studies of enjoyment identify trait emotions and state emotions (Goetz, Nathan, Hall, Frenzel & Pekrun, 2006). Trait emotions take time to develop (Lumby, 2011) and involve cumulative enjoyment. State emotions on the other hand are experienced in the present time

(Lumby, 2011). According to Blunsdon, Reed and McNeil's (2003) study, "students are more willing to act on their feeling for the moment...enjoyment is experienced at the moment, while learning often occurs over a long period of time and one's appreciation of the learning experience (cognition) might occur at a much later point in time" (Blunsdon, Reed & McNeil, 2003, p. 52). This suggests that students usually experience state emotions first before they may experience trait emotions.

Resnik and Schallmoser (2019) found in a study in which students from an Austrian university were paired with others from Germany, that gaining first-hand experience of the others' culture gave the students on both sides' enjoyment. Interestingly, many established friendships which also added to the enjoyment of the cross-cultural experience. These findings resonate with other studies (Kim & Goldstein, 2005; Lin & Rancer, 2003; Zimmermann, 1995) who also found that successful communication with others while in another country resulted in future willingness to communicate in different cultures. This later study (Resnick & Schallmoser, 2019) confirmed that the experience of being paired with a student from another culture resulted in enjoyment by the students involved.

The prior study by Resnik and Schallmoser (2019) on enjoyment between students from two different countries working together resonated with this study as the CCAI™ showed similar themes which included: enjoying talking to others, enjoyment of people from different cultures and the enjoyment of new experiences, cultures, and people (Kelley & Meyers, 1987). As the *SLM* experience was informal and may have resulted in friendships forming, the experience may have been enjoyable for both the mentor and the mentee.

2.3.3 Cross-cultural Tolerance

Previous research in the areas of expatriation and globalisation asserted that tolerance for ambiguity had a positive influence on the development of cross-cultural skills (Arthur & Bennett, 1995; Jokinen, 2005; Mol, Born, Willemsen & Van Der Molen, 2005; Osland, 2008; Herman, Stevens, Bird, Mendenhall & Oddou, 2010). Tolerance for ambiguity was found to be necessary in the diverse global workplace as change created by globalisation created complexity and ambiguity (Lane, Maznevski & Medenhall, 2004). Tolerance for ambiguity is "the tendency to perceive ambiguous situations as desirable" (Budner, 1962, p.29). More recent research by McLain (1993) addressed the contextual meaning of ambiguity, describing

the construct as “a range, from rejection to attraction, of reactions to stimuli perceived as unfamiliar, complex, dynamically uncertain, or subject to multiple conflicting interpretations” (p.184).

A growing body of literature conceptually links tolerance of ambiguity to cross-cultural skills development (Medenhall, Osland, Bird, Oddou & Maznevski, 2008). It was proposed to impact cross-cultural communication (Kealey, 1996; Nishida, 1985; Ruben & Kealey, 1979), cross-cultural competence (Abbe, Gulick & Herman, 2007), expatriate success (Gregerson, Morrison & Black, 1998; Mol et al., 2005) and cross-cultural competence (Furuya, Stevens, Bird, Oddou & Medenhall, 2009).

Budner’s (1962) 16-item measurement instrument was used frequently in management and is therefore relevant to this study as employers want graduates with cross-cultural skills, of which tolerance for ambiguity is one. Other studies suggested that one of the major outcomes of higher education is to prepare a tolerant specialist in cross-cultural communication (Trius, 2011; Shyryaeva, Trius, 2013). Graduates also depend on cross-cultural communication competence and this may be in a foreign language (Shyryaeva & Trius, 2013). Universities around the globe need to educate university students to develop their tolerance among other skills that include inter-ethnic friendships and co-operation and respect for different cultures (Gorbunov, 2009; Shyryaeva & Trius, 2013). These issues are universal and therefore inter-cultural tolerance needs to be considered from a cross-cultural adaptability viewpoint. Researchers have been asking for experimental studies to be undertaken to fully establish the relationship between cross-cultural change and tolerance of ambiguity (Spencer-Rodgers, Williams & Peng, 2010).

In sum, prior studies on tolerance (Medenhall et al., 2008; Trius, 2011; Shyryaeva, Trius, 2013; Gorbunov, 2009; Budner, 1962) resonated with this study as the CCAITTM showed similar themes which included: the ability to cope with stress and the ability to keep an open mind (Kelley & Meyers, 1987). Students participating in the *SLM* experience as either the mentor or the mentee had stressful experiences. Both the mentor and the mentee developed tolerance skills to deal with these stressful situations.

2.3.4 Cross-cultural Personal Values

Previous researchers have defined values as desirable, abstract goals such as security or justice (Rokeach, 1973; Schwartz, 1992). Similar to needs, motives and goals, values motivate people to act (Rohan, 2000; Seligman, Olson & Zanna, 1996). However, values differ from specific goals (Emmons, 1989; King, 1995; Robert & Robins, 2001; Winnel, 1987) because values are not context specific. Unlike needs and motives (Bilsky, 1998; McClelland, 1985), values are understood in ways that enable people to communicate them to others. Schwartz (1992) developed the value theory, finding that the values were: power, achievement, hedonism, stimulation, self-direction, universalism, benevolence, tradition, conformity and security. Schwartz's theory (1992) has been tested in more than 200 samples from more than 70 countries and, the ten values have been verified (Davidov, Schmidt & Schwartz, 2008; Schwartz, 2006; Spini, 2003; Schwartz, 1992; Schwartz & Sagiv, 1995; Schwartz & Bardi, 2001).

Allport (1979), Bennett (2003), Erickson (1997), Gollnick and Chinn (2005) and Goodenough (1987) contend that cultural lenses are imprinted early in life and subconsciously continue to evolve over a lifetime. Banks (2001), Brown (2005b) and Howard, (1999) indicate that these develop our self-concepts and in turn, how we value, respect, accept and interact with others both within and outside of our cultures, and how we see ourselves with relation to others.. Therefore before we can develop strong cross-cultural skills, we should know our values (Banks, 2001; Bennett, 2003; Brown, 2005a; Goodlad & Mantle-Bromley, 2004; Howard, 1999). In many different countries, people think that benevolence values are most important whereas power, tradition and stimulation values are among the least important. However, people from different countries differ substantially: people vary in how important each value is for them.

In sum, prior studies on personal values (Banks, 2001; Brown, 2005b; Howard, 1999; Bennett, 2003; Brown, 2005a; Goodlad & Mantle-Bromley, 2004) resonated with this study as the CCAI™ showed similar themes which included: confidence in communication and judgement, the ability to lead a fulfilling life in other cultures and maintaining their own beliefs and values (Kelley & Meyers, 1987). *SLMs* more particularly required confidence in their communication skills and their judgment when dealing with mentees from another culture.

2.3.5 Cross-cultural Valuing Others

Values determine behaviour and as they are based on learning and individual experience, they are related to personal values that were discussed in 2.3.4. Values determine how we evaluate behaviour and what we deem appropriate (Kayes, Kayes & Yamazaki, 2005). Thus, behaviour must be consistent with the values of a culture. Valuing different cultures involves understanding complex cultural norms. Research presented by House, Javidan, Hanges & Dorfman (2002), suggested that culturally embedded values lay along nine dimensions: uncertainty avoidance, power distance, societal collectivism, in-group collectivism, egalitarianism, assertiveness, future orientation, performance orientation, and human orientation. In other words, valuing different cultures goes beyond simply knowing the differences between cultures to appreciating how these differences are expressed in day-to-day situations.

A variety of studies from diverse cultures showed that valuing different cultures is an important success factor. Cleveland, Mangone and Adams (1969) described how showing empathy for a host culture was positively related to successful US expatriate adaptation. Cui and Awa (1992) found similar experiences with expatriates from diverse cultures working in China. Building relationships within the host culture created the possibility of coming into contact and creating new experiences with others. Research on expatriates found that it had been easy for them to isolate themselves from the host culture and this seemed especially true for expatriates from the US and Britain. Living in western hotels or expatriate communities provided a sense of comfort and familiarity in a host culture. Yet, it was the relationships with individuals from the local cultures that seemed to provide the most opportunities for learning to understand others in different cultures (Kayes, et. al., 2005).

In sum, prior research on valuing others (House et al., 2002; Cui & Awa, 1992; Kayes, et al., 2005) resonated with this study as the CCAI™, showed similar themes which included: considering the impact of their actions in a new cultural environment, trying to understand other people's culture and feelings, deciding that people from other cultures are equally valuable and having an interest in learning about different people, (Kelley & Meyers, 1987). The *SLM* required these skills, as during the mentoring experience, they needed to understand their mentee's feelings and (perhaps) reluctance to ask questions. They also needed to have an interest in their mentee's cultural background to understand their needs.

2.3.6 Cross-Cultural Communication in Higher Education students

Communication is fundamental to the cross-cultural adaptation process. Inter-cultural communication competence was defined by Hammer, Gudykunst and Wiseman (1978) as having three interrelated components: the ability to handle psychological stress, to communicate effectively, and to establish interpersonal relationships. Adaptation tends to occur when people were willing to communicate in a new country (Kim, 2001). Willingness to communicate is defined as “one’s predisposition to initiate inter-cultural communication encounters” (Kassing, 1997, p. 400). This has been applied by Yashima, Zenuk-Nishide and Shimizu, (2004), to examine foreign language study, and showed that communicating in a second language increased self-esteem and participation in new activities. MacIntyre, Baker, Clement and Conrod, (2001) concurred, as they also found that students who communicated with people in the new country were more positive.

In contrast, if students were not confident with their second-language ability, they may have been unwilling to speak to local students (Mendenhall et al., 2008). They also suggested that students who acquired the skills necessary to communicate in a new culture would have a more comfortable and positive experience in communicating with members of the host country. He also stated that this also included “building relationships, handling stress, and switching communication styles when appropriate and acknowledgement of different skills and competencies about different situations and contexts” (Mendenhall, Osland, Bird, Oddou & Maznevski, 2008, p.20).

Similarly, favourable experiences communicating with others while in another country, as well as an overall positive experience, resulted in future willingness to communicate in other cultures (Kim & Goldstein, 2005; Lin & Rancer, 2003). Zimmermann (1995) also found that there was a positive relationship between a student’s ethnicity and the new culture if there was frequent communication with local students. International exchange students in a study by Surdam and Collins (1984) also found adjustment easier if they spent time talking and interacting with a student who was not part of their own ethnic or cultural group. A global issue in education was that student cohorts were becoming more culturally diverse and have differing literacy competence, but all would have to participate in an increasingly diverse workforce (Hartman, Renguette & Seig, 2018; Gardner & Perry, 2011; Chang et al., 2013).

As such, they found that it was crucial that language teachers had the skills necessary to provide both domestic and international students with the skills that were required to communicate in an increasingly diverse world (Hartman et al., 2018), however, whether foreign language study should be linked with cultural studies has been debated since the 1970s (Gerighausen & Seel, 1982; Gohring, 1980). In later studies understanding the history of the culture was developed and added to the foreign language studies curriculum. The term inter-cultural competence emerged in an article by Muller (1993) favouring the opinion that contemporary foreign language teaching must include inter-cultural competence.

In this study, inter-cultural communication was an integral part of the peer-to-peer mentoring experience. Without effective communication in the cross-cultural dyad, learning would not take place. In this research, the mentor needed to have significant communication skills from their training and from their previous experience in the subject they were mentoring. However, mentees, may not have had the same level of communication skills in the language of instruction. These studies suggested that the student who asked for help needed to be confident in the ability of the mentor to explain in straightforward language. Otherwise it might have been found that only those students who already had higher cross-cultural adaptability skills attended the *SLM* area.

2.3.7 Cross-Cultural Competence in Higher Education students

Bennett (1993) used the word inter-cultural sensitivity and warned in the early 1990s that it was not part of human history. He suggested that cross-cultural contact had historically been accompanied by bloodshed, oppression or genocide. However, in today's globally connected world, inter-cultural competency development is emerging as a central focus of higher education internationalisation efforts (Clifford & Montgomery, 2011; Caruana & Ploner, 2010; Sison & Brennan, 2012; Scharoun, 2016).

Cross-cultural competence reaches across many academic disciplines, including anthropology, education, management, psychology and sociology. There is still disagreement on what cross-cultural competence involves. Fantini (2005) found that inter-cultural competence required many traits, dimensions, and steps necessary for its development. Wiseman (2003) found that cross-cultural knowledge, motivation, and skills, together with

interactions among individuals of differing cultures, developed cross-cultural competence. Hunter (2004) enlarged the definition, by adding the need to be open while learning to understand the cultural norms and expectations.

Deardorff (2009) also extended the definition of inter-cultural competence as “ a cultural learning process in which one builds authentic relationships by observing, listening, and asking those who are from different backgrounds to teach, to share, to enter into a dialogue together about relevant needs and issues” (p.xiii). However, Fantini (2005) defined inter-cultural competence as “the complex set of abilities needed to perform effectively and appropriately when interacting with others who are linguistically and culturally different from oneself” (p.1). Another study by Chen and Starosta (1996) presented three perspectives that people embody when developing inter-cultural competence: inter-cultural competence: inter-cultural sensitivity, inter-cultural awareness, and the ability to think quickly in different cultural situations. Although there is disagreement about the definition that should be used, it is clear that inter-cultural competence involves developing knowledge, skills and abilities from people from different cultures by interacting, engaging, and learning.

More recently, a shift in the communication and psychology disciplines resulted in a focus on relationship development which led to more relationally focused research (Chen, 2002; Collier, 1996; Hecht, Larkey & Johnson, 1992; Hect & Ribeau, 1984; Hecht & Larkey, 1994). Cant (2004) agreed with this shift, suggesting that successful managers must have flexibility, resourcefulness, ability to articulate a vision for the organisation, and the ability to cope with contradictions and ambiguity. He discussed how these five competencies fit within the cultural contexts of cultural self-awareness; cultural competence; leading multi-cultural teams; negotiating across cultures; and having a global mindset, concluding that the goal of academic international business programs was to develop these cultural competencies (Cant, 2004).

An alternative approach was developed by Cohen (2007) for world-class success. His work extended the research already conducted by Kelley and Meyers (1995) on crucial personality traits required for cultural competence, including being open to new experiences, being curious about the world, being enthusiastic, energetic, and willing to listen and learn. He also found that being able to adapt readily and being willing to ask questions were important (Cohen, 2007).

Reimers (2008) agreed that students needed ‘global competency’ - the knowledge and skills – to work across disciplines, understand global challenges, especially when interacting with people from Asia, and respond to and resolve issues effectively. Reimers (2008) defined ‘global competence’ in an Eastern setting as having three interdependent dimensions:

1. A positive approach, active engagement with cultural differences; empathy with people from Asia, an interest in their history, and the ability to engage in constructive, respectful, and peaceful interactions.
2. The ability to speak, understand and think in foreign languages.
3. Knowledge of world history, geography, globalisation, healthcare, climate change, economics and international politics.

In this study, the ability to be flexible, open and willing to engage with students from another culture was an integral part of their time at university. If students maximised their time by interacting with international students and undertaking international experiences, they may have been better positioned for a more successful business career. Developing these skills was, therefore, of high importance.

2.4 Peer-to-peer mentoring

The term ‘mentor’ appears to have originated in Homer’s epic poem, *The Odyssey*, published in the eighth or ninth century. Odysseus entrusted his son, Telemachus, to his friend Mentor, while he was away. Mentor was a surrogate father, teacher, role model, protector, advisor, guide and counsellor to the inexperienced boy (Beye, 1976). The *use* of the word, mentoring, appears to have been used in America for the first time at the end of the eighteenth century when Murry (1778) authored one of the first books on mentoring. In the *Journal of Education* (1884), teacher-student relationships were discussed and ‘The Mentor’ was published by ‘The Mentor Association’ (Moffat, 1913). In 1973, Bradley and Adamson wrote about faculty mentors at Empire College in New York. This was followed by Collins and Scott (1978) publishing *Everyone Who Makes It Has a Mentor*. Levinson, Darrow, Levinson and McKee (1978) popularised the term mentor when they wrote about mentors being the most important relationships a man could have.

To date, there have been numerous studies on the effects of peer-to-peer mentoring in higher education settings since their inception in the eighteenth century that focused on graduate experiences, student adjustment and retention and student performance (Materniak, 1984; Johnson, 1989; Jacobi, 1989; Scandura, 1992; Allen et al., 1997a; Noe, 1988; Allen & Poteet, 1999; Fox & Stevenson, 2007; Kemlo 2010; Santos & Reigadas, 2002; Wanberg et al., 2003; Sanchez et al., 2006; Allen et al., 2008; Hall & Jaugietis, 2010; Thomas, 2012; Chester et al., 2013; Deakin University, 2010; Freeman & Kelton, 2004; Leung & Bush, 2003; Macquarie University, 2010; Monash University, 2009; University of British Columbia, 2010; University of Melbourne, 2010; Gershenfeld, 2014; Griffiths et al., 2018).

The issue of experience was a crucial factor in the success of the mentoring arrangement, but there must also be trust for the mentee to share fears and experiences with their mentor as it was intended to increase the personal and professional growth of the mentee (Mullen, 1994). In another study by Gardiner mentoring was defined as “primarily listening with empathy, sharing experiences and learning (usually mutually), professional friendship, developing insight through reflection, being a sounding board, encouraging” (Gardiner, 1998, p. 77), which introduced the notion of mutuality and professional friendship. Much of the existing research on traditional mentoring in business had addressed the following aspects: the outcomes, diversity (especially gender and ethnicity), individual characteristics, the dynamics of the relationship and the use of formal mentoring programs (Wanberg et al., 2003).

Peer-to-peer mentoring is the type of mentorship which usually was between a person who lived through an experience, and a person who had not (Hall & Jaugietis, 2010). In the field of higher education, peer mentoring has been used for several reasons, including:

- a. Advantages or benefits that were credited to traditional mentoring
- b. The absence or lack of academic volunteers or university administrators, as well as the higher availability of students to use as mentors. These were often second or later year students, from diverse cultures.
- c. As peer-to-peer mentoring services required a low budget to administer or develop, they were a cheap alternative to support students who were perceived as likely to withdraw or fail (Hall & Jaugietis, 2011; Griffiths et al., 2018).

For many years, universities have used student-to-student peer mentoring to help students make the transition to university from secondary school (Westwood & Barker, 1990; Asbee

& Woodall, 2000; Cross, 1998; Goodland, 1998; Hughes & Fahy, 2009; MATE, RMIT University, 2010; Collings et al., 2015; Fox et al., 2010; Heirdsfield, Walker & Walshe, 2008). The relationship between the mentee and the mentor offered the mentee a sense of connection where they might feel otherwise lost (Thomas, 2012).

2.4.1 Academic peer-to-peer mentoring in Universities

Programs have been created to help mentor students in their learning and assessment tasks, usually by a more experienced student assisting a less experienced student. Examples are the Student Learning Advisory Mentors (*SLAMs*) at RMIT (Kemlo, 2010); the Law students' Association Mentoring Program (*LAMPs*) at Griffith University in Queensland (Woods et al., 2013); the Higher Education Mentoring Program (*HEMP*) at William Angliss Institute (2019). The University of Melbourne, (2019); Australian Marketing Institute, 2019; Falchikov, 2001; Kram, 1985; University of South Australia, 2019). Peer mentors are usually selected as they were successful academically, and had excellent social, communication and leadership skills. As an outcome of this, a mentor provides a positive role model for the students while guiding them in social and academic success. Mentors tend to offer advice, support, and encouragement, in addition to friendship to students (Kemlo, 2010).

In addition to the elements described above, previous research found that student mentors should also be able to listen in a non-judgemental way. These mentors may not have been considered 'senior' but they have had more experience of the subject, having gone through it in a previous year or semester. The prior completion of the subject was vital, as it showed empathy and understanding of the subject-specific issues. Experience of the subject was more important than the age of the mentor (Kemlo, 2010).

A study by Tinto (1993), found that successful peer mentoring increased the retention rate of students. Chester et al., (2013) also argued that programs of peer mentoring were significant components in the strategy to increase the undergraduate experience, particularly in their first year. Hall and Jaugietis (2011) conducted a study in which they reported on a six-year research project about the development of a peer mentoring program where feedback was used to improve the program continuously. In their study, this process increased the level of overall participant experiences, and the benefits were enhanced throughout the life of the program. Participation in the program improved the leadership, organisational and communication

skills of peer mentors. In higher education, peer mentoring has been considered as one of the successful methods of engaging and retaining students for many years (Kemlo, 2010).

Peer mentoring has also been linked to other benefits across a variety of settings, but Kram (1983) and others (Dreher & Cox, 1996; Heilmann, 2012) raised the need to study cross-cultural mentoring relationships, to understand any unique attributes, and to enhance the generalisability of comparative analysis. Researchers have recognised that peer mentoring helps with student adjustment to university (Santos & Reigadas, 2002; Sanchez, Bauer & Paronto, 2006). However, few programs address the goals of improving inter-cultural interactions and facilitating the transition to university. These studies used ethnically matched peer-to-peer mentors and mentees, which made it impossible to determine whether it was ethnic matching or the mentoring experience itself, or some combination, that mentees found useful. It is imperative to extend the limited research on the effects of non-ethnically matched mentoring on the development of students' cross-cultural skills (Woods et al., 2013). Large international student cohorts are a feature of most business faculties in universities in Australia, but there is a lack of integration with the local student population. Together with the global expansion of education, there is the potential to create groups of disadvantaged students because of their lack of understanding of cross-cultural situations (Mosey et al., 2012).

Cross-cultural peer-to-peer mentoring in higher education includes ongoing, and often inspiring interactions with students from different ethnicity, race, gender, socio-economic background, or sexual orientation. A mentor who works across cultures guides the personal and intellectual development of the mentee (Arkoudis et al., 2010; Caligiuri & Tarique, 2012). Peer-to-peer mentoring in cross-cultural environments was developed based on virtues, values and vision. The determination of values that were held jointly across different cultures, resulted in the growth of both understanding and trust between students in the dyad. Previous research in educational settings has shown that mentors do not need to come from the same social or cultural backgrounds as their mentees (Arkoudis et al., 2010; Caliguri & Tarique, 2012; Griffiths et al., 2018). Each should take into consideration the differences between them. Because of the complexity of cross-cultural mentoring relationships, mentors required abilities or attributes: selflessness, active listening skills, non-judgemental attitude, honesty, patience, persistence, and appreciation for the diversity of their mentees (Crutcher, 2007).

University peer-to-peer mentoring and pastoral care services are frequently employed by universities to improve the international student experience (Russell, Rosenthal & Thomson, 2009; Monash University, 2009; RMIT University, 2010; Jones & Brown, 2007). Woods et al., (2013) conducted a study examining the effectiveness of short-term mentoring, to develop cross-cultural friendships at one university in Australia. The results of this study suggested that the mentoring program enhanced cross-cultural interactions for mentees. Further research reported that mentees spent more time with cross-ethnic friends than did the control group after the completion of the peer-to-peer mentoring program (Kemlo, personal communication, February 15, 2018). Woods et al., (2013) also revealed a significant positive association between the cultural empathy of the mentee and cross-cultural friendships.

Most research on international students' experience of peer-to-peer mentoring schemes involved a single country mentoring scheme in a Western education and values system. (Kram, 1983; Noe, 1988; Allen et al., 1997a; Allen & Poteet, 1999; Dreher & Ash, 1990; Scandura, 1992; Dreher & Cox, 1996; Allen et al., 2004; Heilmann, 2012; Leong, 2007; Woods et al., 2013; Arkoudis et al., 2010; Caligiuri & Tarique, 2012; Mosey, Wright & Clarysse, 2012; Griffiths et al., 2018). Future research is necessary to find whether these same effects would be evident in an Eastern setting.

Individuals who are different ethnically and racially have previously stated that they felt uncomfortable due to stereotypical expectations and historical race relations (Ferrari, 2004; Jacobi, 1991; Johnson-Bailey, Cervero & Baugh, 2004; Long, 1994; Ortiz-Walters & Gilson, 2005, Tenenbaum, Crosby & Gliner, 2001). Much of the literature has a very different viewpoint. Current research reports that cross-cultural peer mentoring is exceptionally successful when it does occur (Bova, 2000; Johnson-Bailey et al., 2004; Packard, Walsh & Seidenberg, 2004; Ragins & Scandura, 1997; Budge, 2014).

Theories of both inter-group contact and social learning underpin this study and they both suggest that contact between people from different cultures has an effect on respondents' cross-cultural skills development (Allport, 1954; Bandura, 1977). These theories suggest that a cross-cultural peer-to-peer mentoring experience may influence students' cross-cultural adaptability. Allport (1954) did not suggest that mere contact was enough to change attitudes towards a person from another culture, but he did posit that acquaintanceship such as that developed with a *SLM* could positively affect cultural attitudes. More recent research by

Pettigrew and Tropp (2006) as well as Soria and Triosi (2014), suggest that contact enabled conditions for positive contact outcomes to emerge which included learning about cultural diversity, which improved attitudes and reduced stereotypes. Bandura's (1977) SLT explained human behaviour in terms of "a continuous reciprocal interaction between cognitive, behavioural, and environmental determinants" (p. vii). His theory also emphasised the importance of observing and following people from different cultures to develop their cross-cultural skills. People need to take note of their behaviours, attitudes, and emotional reactions. These conditions are evident in academic peer-to-peer mentoring as the mentor and mentee meet and observe each other during the mentoring experience.

This study added to the research in the peer mentoring area, that had been asking for studies of different dyads, whether by age, gender or ethnicity (Kram, 1983; Woods et al., 2013; Arkoudis et al., 2010; Mosey et al., 2012). It also added a new dimension to the peer mentoring area by studying whether the peer mentoring contact had an influence on either the mentor or the mentee's cross-cultural skills development as measured by the CCAITTM (Kelley & Meyers 1987, 1992). This study also enabled universities to understand the effects of cross-cultural interaction by gathering evidence about which international programs had a significant influence on students' cross-cultural adaptability.

This study examined whether participation in the cross-cultural mentoring experience with a *SLM* influenced higher education students' cross-cultural adaptability relative to those students who did not seek help from a *SLM*. Therefore, it can be hypothesised that:

- H1: Having a cross-cultural experience with a *SLM* will have a significant influence on students' cross-cultural adaptability overall as *measured* by the dimensions developed as a result of exploratory factor analysis (EFA) of enjoyment, tolerance, personal values or valuing others relative to students who did not seek help from a *SLM*.
- H1a: Having a cross-cultural experience with a *SLM* will have a significant influence on students' cross-cultural adaptability for the dimension of *enjoyment*, relative to students who did not seek help from a *SLM*.
- H1b: Having a cross-cultural experience with a *SLM* will have a significant influence on students' cross-cultural adaptability for the dimension of *tolerance*, relative to students who did not seek help from a *SLM*.

- H1c: Having a cross-cultural experience with a *SLM* will have a significant influence on students' cross-cultural adaptability for the dimension of *personal values*, relative to students who did not seek help from a *SLM*.
- H1d: Having a cross-cultural experience with a *SLM* will have a significant influence on students' cross-cultural adaptability for the dimension of *valuing others*, relative to students who did not seek help from a *SLM*.

2.5 Demographics and socio-economic factors

Demographics have been beneficial in predicting behaviours as suggested by Rokeach (1973), who suggested that values have a direct relationship with demographics, such as culture and education. Shoham Florenthal, Rose and Kropp (1998) were in accord with Rokeach who asserted the importance of examining both values and demographics simultaneously, as both constructs were useful for segmentation purposes (Kopanidis, 2008). McCarty and Shrum (1993, p.78) noted academic researchers were “reluctant” to consider demographic variables when explaining behaviour, stating that the demographic factors (gender, age, income and education) were essential to understand the values-behaviour relationship.

Harris (1977) summarised twenty-four variables that differentiated highly successful from less successful international Peace Corps teaching volunteers, and found that these variables included facility with language, adaptability, responsibility, cultural sensitivity, interest in nationals, the realism of goals, agreement and compromise, inner strength, self-reliance, patience or tolerance, perseverance, initiative, reliability, argumentativeness, courteousness, cooperativeness, friendliness, and general maturity.

Several more recent studies in higher education show the importance of student interactions with others from different races, ethnicities, and social classes, which all develop the student's understanding of diversity, and may positively change the racial climate on campus (Hurtado, 1992; Hurtado, Carter, & Sharp, 1995; Soria & Triosi, 2014). Hurtado, Milem, Clayton-Pedersen, and Allen (1998) as well as Soria and Triosi (2014), demonstrated that interracial contact had a positive effect on students' views. Tierney (1992) also agreed and found that programs that encouraged contact and conversation produced cultural learning, support, and understanding.

In this study, it was postulated that adaptability was mitigated by foreign language ability and general maturity, for example. Socio-economic status was a broad concept which comprised three main dimensions: occupation, education and wealth (Carman, 1977). Parental occupational status was defined as the occupation of the parents with the highest occupational status. For this study, both parents were considered for their effect on the cultural adaptability of the students, as the baseline before the peer-to-peer mentoring experience. Family income was intentionally left out of the questionnaire, as previously, this question could have been intimidating to the respondents, even if they knew the answer (Jones, 2001).

Based on several recommendations that originated from a report commissioned by the University of Queensland (Western, McMillman & Dorington, 1998), each socio-economic factor was considered as a single item and measured with fixed choice questions. Siddique (1963) as cited in Sharma and Jung (1985) reported that there was no significant relationship between sex, religion, education of the father, occupation of the father and interaction with international students. He further implied that situational factors seemed to be crucial in determining the actual degree of interaction. Hassan's (1961) study showed that students who came from families of high status within their own country interacted with local (American students) more frequently than international students.

Through the use of repeated measures of analysis of covariance, (MANCOVA) analysis, this study examined whether participation in a cross-cultural mentoring experience influenced higher education students' cross-cultural adaptability relative to those who did not, after controlling for demographic and socio-economic factors. These factors may have had an influence on the four cross-cultural adaptability dimensions, which in turn might have influenced the overall cross-cultural adaptability of the student. Therefore, it can be hypothesised that:

- H2: Demographic and socio-economic factors will have a significant influence on students' cross-cultural adaptability in both the pre- and post-tests as measured by the dimensions of enjoyment, tolerance, personal values or valuing others for students who have a cross-cultural mentoring experience, relative to students who did not seek help from a *SLM*.
- H2a: Age will have a significant influence on students' cross-cultural adaptability in both the pre- and post-tests as measured by the dimensions of enjoyment, tolerance,

personal values or valuing others, for the students who had a cross-cultural mentoring experience with a *SLM*, relative to students who did not seek help from a *SLM*.

- H2b: Gender will have a significant influence on students' cross-cultural adaptability in both the pre- and post-tests as measured by the dimensions of enjoyment, tolerance, personal values or valuing others, for students who have a cross-cultural mentoring experience with a *SLM*, relative to students who did not seek help from a *SLM*.
- H2c: Ethnicity will have a significant influence on students' cross-cultural adaptability in both the pre- and post-tests as measured by the dimensions of enjoyment, tolerance, personal values or valuing others, for students who have a cross-cultural mentoring experience with a *SLM*, relative to students who did not seek help from a *SLM*.
- H2d: Mothers' education level will have a significant influence on their cross-cultural adaptability in both the pre- and post-tests as measured by the dimensions of enjoyment, tolerance, personal values or valuing others, for students who have a cross-cultural mentoring experience with a *SLM*, relative to students who did not seek help from a *SLM*.
- H2e: Fathers' education level will have a significant influence on their cross-cultural adaptability in both the pre- and post-tests as measured by the dimensions of enjoyment, tolerance, personal values or valuing others, for students who have a cross-cultural mentoring experience with a *SLM*, relative to students who did not seek help from a *SLM*.

2.6 Socialisation

The number of international students has grown globally (Organization for Economic Cooperation and Development, (OECD), 2017). Universities have the potential to serve as places of cross-cultural skills development, and for international friendship development. Having international students on local campuses provides many opportunities for direct and indirect cultural contacts for local students. This facilitates better cross-cultural social participation (Sharma & Jung, 1985), resulting in cultural adjustment. Allport's (1954) contact theory was used to understand how students gained inter-cultural competence by interacting with international students on campus, or while studying abroad. Proximity did not always lead to 'meaningful' interaction (Wessel, 2009).

Additionally, various studies showed that interactions between domestic and international higher education students rarely resulted in cross-cultural friendships (Trice, 2004; Gareis, 2012). Studies by Deutsch (1970), Kowcha (1970) and Matross, Page and Hendricks (1982) agreed that students who reported making friends were more understanding, accepting and respectful of different nationalities, ethnic backgrounds and races. Friendship was widely understood to be unconstrained by geography, ethnicity and culture (Blatterer 2015; Bunnell, Yea, Peaks, Skelton & Smith. 2012). Other studies on cross-cultural friendships between domestic and international students also had an optimistic view of friendship as a source of freedom and knowledge (McKenzie & Baldassar, 2017). A study by Bennett, Volet and Fozdar (2013) explored a cross-cultural relationship between a Vietnamese student and a domestic Australian student and highlighted the fact that friendships between domestic and international students were not the norm.

It is argued that cross-cultural friendships help to build students' cross-cultural competence (Jon, 2013). Building such relationships are now proposed as outcomes of university internationalisation 'at home' programs (Amit, 2010; Barnick, 2010; Leask, 2004, 2008, 2016), but although these programs provide opportunities for this interaction, these friendships remain uncommon, and literature is still divided. A meta-analysis completed by Pettigrew and Tropp (2006) confirmed the idea that inter-group contact typically reduced inter-group prejudice. According to Allport's Contact Theory (1954), mere contact was insufficient, but a study by Vogt (1997) hypothesised that the more frequent and in-depth the interaction of members of different social groups, the more likely they would be to get along.

In a study by Goldsen, Schuman and Williams (1956), personality characteristics and environmental factors influenced the development of relationships. They found that American students who scored highly on the social interaction scale, were more outgoing and friendlier, were involved on campus, and were not miscreants, isolated or dissatisfied with student life. Later, Deutsch (1970), Kowcha (1970) and Matross et al., (1982) agreed that students who reported making friends were understanding, accepting and respectful of different nationalities, ethnic backgrounds and races. A later study by Kets de Vries and Mead (1992) argued that early involvement in cross-cultural environments could be an essential factor in adults' ability to work cross-culturally. The effect of childhood cross-cultural socialisation was a contributing factor to how successful that person would be in dealing with cultural adaptability as an adult (Kets de Vries & Mead, 1992; Eichenger et al., 2015).

Ryan (2011) acknowledged that international students “provide an opportunity for the co-construction of new knowledge and more collaborative ways of working and thinking” (p. 631 & 642). If innovative ways could be developed to build meaningful and closer relationships and friendships between domestic and international students (Rose-Redwood & Rose-Redwood, 2018), then the international students gained more from their time at an international university and underwent a cross-cultural transformation. Universities have a responsibility to their international students to ensure they have the experience that they and their families expect. Otherwise, their reputations in the international education arena would diminish.

Interactions between domestic and international students in the home country, as well as the international student’s experience, have featured in academic research for some time (Tierney, 1992; Hurtado et al., 1995; Hurtado et al., 1998; Cooper, 2009; Arkoudis et al., 2010; Gothard, Downey & Gray, 2012). Some studies suggested that domestic students preferred to study with other local students because they were unsure of the level of linguistic proficiency of international students (Smith, 2006; Stone, 2006a, 2006b). Significant findings of Robertson, Line, Jones and Thomas (2000) and Volet and Ang (1998), in an Australian setting, supported previous assertions that there were low levels of interaction between local and international students, and that local students may spend more time in part-time work, and more time studying at home with technology-assisted learning, leading to even fewer opportunities for engagement between local and international students.

This low rate of inter-cultural interaction between international students and domestic students has concerned higher education academics and researchers for some time (Chapdelaine & Alexitch, 2004; Halualani, Chitgopekar, Morrison & Dodge, 2004; Pitts, 2009). Low inter-cultural interaction undermines the educational value of attending an international university for international students and fails to result in the potential for diversity awareness for locally born students (Halualani et al., 2004; Smart, Volet & Ang, 2000, Trice, 2004). At many universities, inter-cultural communication skills and confidence in communicating and interacting with students from different cultures remain undeveloped (Hibbins & Barker, 2011; Pitts, 2009; Ujitani & Volet, 2008).

Allport (1954) specified in his ICT, that fruitful intergroup contacts could be achieved *with: enforcement* of initiatives and taking ownership of participants' success; *meaningful interactions* rather than superficial contact; the *equal status* between individuals to reduce stereotypes and prejudices, and to have more interactions with individuals that are more cooperative rather than competitive. Allport's (1954) theory continues to be used in new studies as researchers consider new situations for better cross-cultural contact. In a study by Wagner and Machleit (1986) that extended contact theory, they found that positive contact required a common language, voluntary contact and a prosperous economy. Pettigrew (1998) noted that Allport's theory explained *when* contact resulted in positive change but not *how* and *why* the change occurred. Pettigrew and Tropp (2006) as well as Soria and Triosi (2014), suggested that Allport's criteria were not necessary for inter-group contact to be positive, but instead they enabled conditions for positive contact outcomes to emerge. Pettigrew (1998) also offered a broader theory of intergroup contact that explained how intergroup contact reduced prejudice. This included learning about cultural diversity, which improved attitudes and reduced stereotypes; which resulted in changes in behaviour, and changes in attitudes; which resulted in positive emotions, empathy, and intergroup friendships (Soria & Triosi, 2014).

Although ICT provided support for interpersonal interactions to lead to the development of inter-cultural competencies, Lewin's (1936) person-environment interaction theory suggested a different method to understand how the higher education environment promoted students' inter-cultural development. Lewin suggested that behaviour resulted from the interaction of the person and their environment. In higher education, curricular, co-curricular, and interpersonal activities could influence the student's cross-cultural competencies (Kuh, Shu, Witt, Andreas, Lyons & Strange, 1991). Early behavioural researchers believed that in certain situations, individual behaviour could be explained, predicted, and modified (Conyne & Clack, 1981). Therefore, well designed curricular and co-curricular international experiences expose students to people from diverse cultures, present opportunities for understanding international cultures, and situate students within a global context. Such activities provide students with opportunities to develop inter-cultural competencies. In Australia, international student recruitment has been a significant driver and a resource for internationalisation of the curriculum. A study by Ping (1999) also found that on-campus interactions with students from different cultures may have the potential to prepare students for future cross-cultural environments.

Kashima and Loh (2006) studied 200 international students in Melbourne, Australia. In their study, students with more social support from locals and students from their own country showed evidence of psychological adjustment, but they found that interactions with local students were essential. Results of their research showed that some students coped better than others; therefore, encouraging cross-cultural interaction might have benefited the student who found flexibility difficult. Factors that were positively correlated to socio-cultural adjustment were English speaking background, and the length of time the student had been studying in Australia. Research also suggested that being flexible resulted in happier international education experiences. Marginson and Sawir (2011) also found that those able to be more adaptable were more likely to succeed academically.

An increasing number of universities subscribe to the notion that inter-cultural understanding would develop when students from different cultures were enrolled on one campus (Weigl, 2009). Universities that had policies and procedures to encourage inter-cultural skills development urged teachers to select content and learning experiences that developed these skills among their students. To address the need for cross-cultural skills development, students could be encouraged to consider global issues from many perspectives and benefit from membership of a diverse community of learners (Phillips, 2011). With the increase in international students enrolled in higher education, even those who did not participate in an offshore experience had opportunities for contact with international students (Soria & Triosi, 2014).

Through the use of repeated measures of analysis of covariance, (MANCOVA) analysis, this study examined whether participation in a cross-cultural mentoring experience with a *SLM* influenced students' cross-cultural adaptability relative to the students who did not seek help from a *SLM*, after controlling for hours spent socialising, or having friends or family from another culture. These factors may have an influence on the four cross-cultural adaptability dimensions, which in turn might have influenced the overall cross-cultural adaptability of the higher education student. Therefore, it can be hypothesised that:

H3: Previous socialising factors will have a significant influence on students' cross-cultural adaptability in both the pre- and post-tests as measured by the dimensions of enjoyment, tolerance, personal values or valuing others for students for students who

have a cross-cultural mentoring experience with a *SLM*, relative to students who did not seek help from a *SLM*.

- H3a: The number of hours spent socialising will have a significant influence on students' cross-cultural adaptability in both the pre- and post-tests measured by the dimensions of enjoyment, tolerance, personal values, or valuing others, for the group who had a cross-cultural mentoring experience with a *SLM*, relative to students who did not seek help from a *SLM*.
- H3b: Having friends or family from a different culture will have a significant influence on students' cross-cultural adaptability in both the pre- and post-tests as measured by the dimensions of enjoyment, tolerance, personal values, or valuing others, for the group who had a cross-cultural mentoring experience with a *SLM*, relative to students who did not seek help from a *SLM*.

2.7 Previous private international experiences

Not every university student has the same experiences in their pre-university lives. Not all students come from a privileged background, but even if they do not, international travel costs have reduced significantly over the past twenty years, making international travel more affordable. A gap year after the end of high school has also continued to be undertaken by many Australian students, or if not a year, then some form of shorter-term travel. Students who were exposed to cultural differences early in their lives or careers would find different cultures more familiar if they had more exposure (Bornstein, 1989). They would not find other cultures challenging to relate to and therefore would experience less anxiety. The more cultural experience of international friends or family that an individual had before they travelled, the more flexible their personality would already be, and it would be easier to adapt to a new culture (De Verthelyi, 1995; Tomich, McWorter & King, 2000). Kets de Vries and Mead (1992) wrote that the impact of childhood cross-cultural socialisation was an essential factor in dealing with cultural adaptability as an adult.

Adults who had not mixed with culturally different people may have felt more threatened by people from other cultures, than adults who had positive experiences (Bornstein, 1989). These findings were not new, as Smith (1955) also found that people with more extensive inter-cultural experience adopted new ideas more quickly. Merryfield (2000) agreed and found that

those who travel internationally for an extended period developed an understanding of what it was like to be perceived as different.

A model for international encounters developed by Beamer (1995) suggested an explanation of the impact of cultural immersion on cultural learning. This model posited that when people met a person from a new culture, their pre-conceived ideas were usually different from reality. When cultural immersion increased, people modified their ideas and behaviours, which helped them alleviate culture shock, and developed their cultural competence (Nishida, 1999). The psychological theory of exposure to another culture (Zajonc, 1968) might also explain why some people are more culturally adaptable. According to this theory, if people were exposed to people who were different, they developed a positive attitude toward that person (Zajonc, 1968). De Verthelyi (1995) also suggested that an individual's motivation to experience a new culture depended on prior cultural experiences and whether these shaped them to be adaptable. Through this, individuals began to gain an understanding of the host intentions and actions, which made for a more straightforward adaptation to occur (Tomich et al., 2000). This supported Allport's (1954) findings that contact decreased prejudice against others who were culturally different from themselves.

In the discussion of cross-cultural communication, Reimers (2008) found the importance of being able to speak, understand, and preferably think in (several) foreign languages. Whether foreign language study should be linked with cultural studies had been debated since the 1970s (Gerighausen & Seel, 1982; Gohring, 1980); Byram, 1989, 1997; Byram, Gribcova & Starkey, 2002). An article by Moeller (2014) favoured the opinion that contemporary foreign language teaching must have included inter-cultural competence. Current language study at high school did include history and cultural discussions, and due to the possible impact on overall ATAR scores in year 12, (Victorian Tertiary Admissions Centre (VCAT), 2019), foreign languages were studied extensively at high school, but there was a considerable decrease in language study at university.

Through the use of repeated measures of analysis of covariance, (MANCOVA) analysis, this study examined whether participation in cross-cultural mentoring experience with a *SLM* influenced students' cross-cultural adaptability relative to the students who did not meet with a *SLM*, after controlling for students having previous private holidays or learning a foreign language at school. These factors might have an influence on the four cross-cultural

adaptability dimensions, which in turn influence the overall cross-cultural adaptability of the higher education student. Therefore, it can be hypothesised that:

- H4: Previous private international experiences will have a significant influence on students' cross-cultural adaptability in both the pre- and post-tests as measured by the dimensions of enjoyment, tolerance, personal values, or valuing others, for students who had a cross-cultural mentoring experience with a *SLM*, relative to students who did not seek help from a *SLM*.
- H4a: Having been on private holidays in countries different from that in which the student was born will have a significant influence on students' cross-cultural adaptability in both the pre- and post-tests as measured by the dimensions of enjoyment, tolerance, personal values or valuing others, for students who had a cross-cultural mentoring experience with a *SLM*, relative to students who did not seek help from a *SLM*.
- H4b: Having studied a foreign language at school will have a significant influence on students' cross-cultural adaptability in both the pre- and post-tests as measured by the dimensions of enjoyment, tolerance, personal values or valuing others, for students who had a cross-cultural mentoring experience with a *SLM*, relative to students who did not seek help from a *SLM*.

2.8 Offshore international academic experiences

To date, a review of cross-cultural literature related to cross-cultural skills development in universities revealed that the mechanisms for achieving these cross-cultural graduate skills have been the subject of considerable discussion. Study Abroad Programs (SAPs) have been extensively studied, but usually from the experience of a local student participating in an offshore study. Following companies who had sent employees abroad to increase their international experience or develop their cross-cultural training, (Suutari & Burch, 2001), increasing numbers of universities globally have implemented exchange programs that encourage students to undertake international travel to develop their cross-cultural skills (Weigl, 2009).

Studying abroad is also considered an important factor to enhance the student experience and employability, and for many universities, it is becoming a key component of their

internationalisation strategies. Many universities are moving towards shorter, high-influence experiences to help students strengthen their core skills and competencies (West, 2017). As an example, RMIT University positioned studying abroad as a central platform to its 2020 'Ready for Life and Work' strategic plan (RMIT, 2015). Although students are encouraged to expand their horizons past their national boundaries and undertake an off-shore international experience, only approximately three to ten per cent of Australian students participated in an offshore program; currently, most participated in overseas exchange programs (Universities Australia Data Snapshot, 2019). Despite the observed benefits of these programs, the connection between international offshore experiences and graduate employability skills remains an under-researched area (Crossman & Clarke, 2010; Cai, 2013). This study posited that both outbound exchange and inbound international exchange influenced these students' cross-cultural adaptability in the same way.

An early cross-cultural study by Oberg (1960) argued that travellers to a new country underwent a succession of steps starting with a 'honeymoon' period, where they felt fascinated, elated and optimistic. Hostility towards the new country may have occurred next, followed by a recovery phase where the traveller developed comfort with the language and then the culture. The final stage was where new customs were accepted and enjoyed (Oberg, 1960). In 1982, Church provided insights for students on the psychological adjustment of relatively short visits to new cultures. He found that previous studies tended to concentrate on sojourner experiences or cultural differences, which were specific to the example. He also stated that only one theory of adjustment was unlikely. He studied both communication and social interaction with locals and noted a positive relationship between these two factors. He suggested that there is a "notion of a multi-cultural sojourner able to adjust freely between multiple cultures" and commented on these students' development of self-reliance and self-awareness changes rather than changes in culture-based ideologies and norms (Church, 1982, p.558).

A number of other studies exist that indicate that students reap significant academic, personal benefits, gain knowledge of different cultures, gain a broader perspective and improve cross-cultural understanding and communication skills from offshore academic experiences, (Knight, 2004; Thomas & Inkson, 2004; Goodman, Jones & Macais, 2007; Vande Berg, Connor-Linton & Paige, 2009; Braskamp, Braskamp & Merrill,; Sison & Brennan, 2012; Harrison, 2012 as cited in Chang et al., 2013; Scharoun, 2016; Castro, Woodlin, Lundgren &

Byram, 2016) but other studies found that sometimes the opposite was true (Chang et al., 2013; Weigl, 2009; Bhaskar-Shrinivas, Harrison, Shaffer & Luk, 2005; Selmer, 2002). Despite the observed benefits of these programs, the connection between international offshore experiences and graduate employability remains an under-researched area (Crossman & Clarke, 2010; Cai, 2013).

A study in international academic experiences by Leong (2007) showed that students with international study experience became more inter-culturally effective. In that study, he followed two groups of Singaporean undergraduate university students. Both the control group (who stayed at home), and the second group (who attended either an international exchange program in western countries (EU, USA, Australia and NZ) or Asian countries (most non-English speaking), were sent a questionnaire before and after the exchange program, using the Multi-cultural Personality Questionnaire and the socio-cultural adaptation scale. After the exchange program, post-test scores indicated exchange students' higher ratings on most cultural dimensions (Leong, 2007). However, other studies were contradictory (Pederson, 2010), so more research is required to establish whether these international academic experiences have an effect on students' cross-cultural adaptability (Littrell & Salas, 2005; Anderson, Lawton, Rexeisen & Hubbard, 2005).

Work-integrated learning (WIL) is an extensive term for pedagogical experiences that gives students 'real world' work exposure (Patrick, Peach, Pocknee, Webb, Flether & Pretto, 2009). These placements are internationally recognised as a way for students' placements to enhance their graduate employability (Yorke & Knight 2004; Peach & Matthews, 2011). The experiences of (WIL) both inside and outside of the university, provides an approach that provides students with evidence of the development of their employability skills (Ferns & Moore, 2012; Smith, Ferns & Russell, 2016). Outcomes of previous research on WIL placements' employment-related skills development were reduced to a short-list, as reported in Ferns, Smith & Russell, (2014) and Smith et al., (2014). One of the six dimensions of employability that resulted from the work by Bollen (1989), that resonated with this study, was that graduates "can work with other people effectively, fairly and cross-culturally" (as cited in Smith et al., 2016 p. 201). This study specifically questioned students about their participation in international internships, as existing research such as this, found that enrolment in these international internships did not develop students' cross-cultural skills as

well as the ability to “develop a coherent approach to build workforce capability skills and individuals’ prospects (Universities Australia, 2015, p.1).

This study did not consider study abroad programs per se but did consider whether previous study abroad was a mitigating factor in students’ cross-cultural adaptability. It also looked at whether local international experiences gave students the equivalent experience received by those who attended a Study Abroad Program (SAP). Offshore experiences were expensive for the student to participate in; therefore, this type of study reduced students’ expenses if it found that experiences at home achieved similar results. Just as students who undertook an offshore academic experience such as exchange, study tour or international internship benefitted from the cross-cultural interaction, private international experiences were also posited as influencing a students’ pre-existing cross-cultural adaptability.

Through the use of repeated measures of analysis of covariance, (MANCOVA) analysis, this study examined whether participation in cross-cultural mentoring experience at *SLM* influenced students’ cross-cultural adaptability relative to the students who did not meet with a *SLM*, after controlling for participation in offshore academic experiences: exchange, study tour or international internship. These factors may influence the four cross-cultural adaptability dimensions, which in turn might influence the overall cross-cultural adaptability of the higher education student. Therefore, it can be hypothesised that:

- H5: Off-shore international experiences will have a significant influence on students’ cross-cultural adaptability in both the pre- and post-tests as measured by the dimensions of enjoyment, tolerance, personal values, or valuing others for students who have a cross-cultural mentoring experience with a *SLM*, relative to those who did not seek help from a *SLM*.
- H5a: Having been on an exchange program will have a significant influence on students’ cross-cultural adaptability in both the pre- and post-tests as measured by the dimensions of enjoyment, tolerance, personal values or valuing others, for students who have a cross-cultural mentoring experience with a *SLM*, relative to those who did not seek help from a *SLM*.
- H5b: Having enrolled in an international study tour will have a significant influence on students’ cross-cultural adaptability in both the pre- and post-tests as measured by the dimensions of enjoyment, tolerance, personal values or valuing others, for

students who have a cross-cultural mentoring experience with a *SLM*, relative to those who did not seek help from a *SLM*.

H5c: Having completed an international internship will have a significant influence on students' cross-cultural adaptability as measured by the dimensions of enjoyment, tolerance, personal values or valuing others, for students who have a cross-cultural mentoring experience, relative to those who did not seek help from a *SLM*.

2.9 At home international academic experiences

Although travel abroad has long been considered a means of acquiring cross-cultural skills, there is support for the suggestion that inter-cultural skills could be achieved through education and training, without the need for international travel (Altschuler, Sussman & Kachuer, 2003; Bennett, Bennett & Allen, 1999; Paige, 1993; Pruegger & Rogers, 1994). There was some concern that travelling abroad may not achieve cultural sensitivity. Kelly (1963) posited that a student could participate in a SAP without *experiencing* the culture that they visited. While study tours and exchange programs will continue to remain significant global experiences for a limited number of students, universities are now seeking to scaffold inclusive, universal 'globalised' pedagogical experiences situated in local contexts, also known as 'internationalisation at home' (Nilsson, 2000; Osfield, 2008; Otten, 2000; Paige et al., 2003; Kimmel & Volet, 2012; Leask & Carroll, 2011; Jon, 2013; Leask, 2011; Leask & Bridge, 2013). These experiences aim to benefit all students, as not all study abroad opportunities are accessible or affordable for all (Brown & Jones, 2007; Burnett & Huisman, 2010; Lee, Poch, Shaw & Williams, 2012; Soria & Triosi, 2014; Lenhart, 2017).

Many of these 'at home' experiences are being implemented in universities around Australia as part of programs such as the Global Canopy Program (Mills et al., 2016). Universities agree that they must develop integrated, coordinated strategies and curriculum for all students, whether they travel abroad or not. Unless the gains in cross-cultural skills development arising from alternative programs are assessed, it is difficult to determine which 'at home' academic experiences are most effective in producing the equivalent outcome (Anderson, Lawton, Rexeisen & Hubbard, 2005).

Although the previously discussed theories and previous research in this area presented diverse perspectives in the development of inter-cultural competency, they did contribute to a framework from which we could gain an understanding of the many ways in which internal ‘at home’ internationalisation experiences, or offshore international experiences such as study abroad, could enhance university students’ inter-cultural competencies. In response to the global world of work, universities are continuing to internationalise their curriculum to develop students’ inter-cultural skills. These skills are necessary to be successful in a multi-cultural and global workforce (Lee et al., 2012; Soria & Triosi, 2014). Universities are finding new ways of connecting international industry to communities and students, to prepare them for the global labour market. For this to happen, universities are developing industry placements, where the university and companies are partners on program design and assessment. Virtual projects and virtual mobility projects, or ones that are combined with short international study experiences are also emerging. These projects offer an opportunity for students to work in multinational teams and collaborate on global projects across countries, time zones and cultures, which mimic how a global business operates (RMIT, 2015b). Measuring whether these activities were effective in helping students to acquire international and inter-cultural competencies are relatively unexplored (Soria, 2015).

The higher education study programs that do make efforts to monitor the learning outcomes of their internationalisation ‘at home’ activities, applied various testing methods. Self-evaluations aimed at measuring students’ acquisition of specific competencies were often used as part of their international experience (Castro et al., 2016; Teichler, 2004; Harari, 1992). More objective methods, such as feedback from fellow students or academics, are not commonly applied. Some subjects apply certain specific qualitative assessment methods (interviews, self-evaluations, peer assessment), and in some other cases, efforts to accurately measure inter-cultural learning outcomes may involve the use of standardised tests. While some institutions are outwardly committed to the acquisition of inter-cultural competencies by all students, they tend to facilitate this process through elective subjects. As a result, only a minority of their student population have an opportunity to acquire such cross-cultural competencies.

Leask (2009) argued that an internationalised curriculum should “engage students with internationally informed research and cultural and linguistic diversity and purposefully develop their international and inter-cultural perspectives as global professionals and citizens”

(Leask, 2009, p.209). The suggested alternatives range from presentations on different cultures in a domestic classroom, to actual involvement with different cultures in foreign locations. In a 2012 study, Brewer and Leask suggested four distinct strategies for internationalising the curriculum. Firstly, to recruit international academics, secondly for these academics to develop cross-cultural skills through collaboration with international students. These academics should also teach abroad or take students to study abroad as part of a subject they teach. They should also attend international seminars and conferences. The third strategy was recruiting international students, and the final strategy was for students to complete university study abroad programs. Nilsson (2003) defined international 'at home' experiences as "any internationally related activity except outbound student mobility" (p. 31). This study did not include study abroad programs as 'at home' activities but instead considered them an important factor as part of students' previous external international academic experiences. The skills that students developed on study abroad experiences were the same that 'at home' activities sought to develop.

In recent years, there has been a significant increase in universities' international student population in both Australia and globally (DoE, 2019; Jon, 2013; Stronkhorst, 2005; Wachter, 2003). International students now make up around 29% of university students in Australia (DoE, 2018). These international students were either enrolled in a university in another country, participated in an exchange program in a foreign country, or participated in a short or longer-term study tour (McKenzie & Baldassar, 2017). Brown and Jones (2007, as cited in Coryell et al., (2012) noted: "international students are now seen to be at the heart of the university and a valuable source of cultural capital" (p. 79). International students study together with domestic students, who may have been from the city or state where the university is located, or they may also have come from rural, regional or interstate locations. They also may be international migrants with national citizenship or permanent resident status (McKenzie & Baldassar, 2017).

Domestic students may be from many different ethnic backgrounds but consider themselves to be local students. In many cases, local students already had friendship groups at university from prior schooling, from having met other local students in earlier years at university, through workplaces, or by having similar social experiences either in person (such as clubs or societies), or online through social media (McKenzie & Baldassar, 2017). In many cases, international students socialise with each other due to language barriers, cultural differences,

and because university social events are often arranged for international students separately (such as Asian nights) (McKenzie et al., 2017). Segregation and lack of enthusiasm on the part of domestic students to making friends with international students are significant, according to research (Woods et al., 2013). In their study at an Australian university that examined whether short-term mentoring programs built cross-cultural student friendships, they found that mentees and international students did develop friendships, but domestic students did not develop friendships with mentors (Woods et al., 2013). Bennett et al., (2013) found that when international students had no link to local students' friendship group, cross-cultural friendships were unlikely to occur (McKenzie & Baldassar, 2017; Blatter, 2015; Bowman & Park, 2014; Lee, 2006). However, when international students were from the same ethnic background as domestic students, or when domestic students had similar backgrounds to exchange students studying in Australia, then cross-cultural friendships were possible. There were also exceptions where foreign language learning was included, where the domestic student befriended international students who already spoke the foreign language (McKenzie & Baldassar, 2017).

A large body of research explored the domestic and international students' self-imposed segregation. Peacock and Harrison (2009) found that the main reason why domestic and international students in the UK created silos of isolation, was that domestic students felt that interaction with international students required them to give extra thought to everything they communicated, and to explain the meaning of colloquial English. They declared this to be exhausting. Summers and Volet (2008) also interviewed international students, most of whom claimed they were homesick, which was intensified by the lack of interaction with domestic peers. In Australia, there is also a lack of interaction between Australian and international students from Asian backgrounds, who make up considerable numbers at Australian universities. These students do not have the opportunity to develop their cross-cultural awareness and an understanding and acceptance of each other (Nesdale & Todd, 1993; Volet & Ang, 2012).

Academics have the power to bring international and domestic students together through formal and informal exercises, projects, assignments and group work, as they are the means for fully internationalising the curriculum and enhancing student cross-cultural learning (Leask & Beelen, 2009, as cited in Brewer & Leask, 2012). Coryell et al., (2012) asserted that academic staff must offer international subject content with the opportunity for inter-cultural

skills development. Other researchers found that academics could connect their students with international students and could promote cross-cultural friendships outside the classroom and beyond one semester, and thereby influence students' acquisition of inter-cultural skills (Soria & Triosi, 2014). They also discovered that domestic students who were friendly with an international students were significantly more likely to develop inter-cultural skills than those who had not developed these friendships.

There is a lack of theoretically based research on learning and instruction that concerns international and multi-cultural student groups at university. While there are many reasons why international and domestic students do not mix, a study by Volet and Ang (2012) did address both international and domestic students' group formation as being two-way and interactive. That study found that both domestic and international students preferred working with similar people due to their perceptions of "feeling more comfortable, thinking along the same wavelength, and sharing a similar communication style and sense of humour when interacting with peers from the same cultural background" (Volet & Ang, 2012, p. 25). Also, their study found the reluctance from both sides was inflated by language problems, pragmatism and negative stereotypes. Many of the students in that study said that coming from the same culture and having many things in common made group management easier. These findings agreed with Tan's (1997) study of Singaporean students and Volet and Tan-Quigley's (1995) study of social interactions between staff and international students. Another study by Volet (1999) also found that Australian students had negative attitudes towards culturally mixed groups in comparison with the students who originated from Singapore and Malaysia. Their position of making no effort to mix with students from other cultures defeated one of the primary purposes of internationalisation in higher education.

Waistell (2011) wrote that multi-cultural group work was an essential workplace skill, and that if students developed inter-cultural competence that may have alleviated future workplace concerns about working with an international team. As researchers continued to promote internationalisation 'at home' through multi-cultural group assignments and projects, they hoped this work promoted inter-cultural sensitivity and competence development. Domestic students believed working with international students would lower their subject average, but De Vita (2002) researched this myth, and found that multi-cultural groups earned higher marks than monocultural groups. In contrast, Summers and Volet's (2008) research led to discouraging findings. They concluded that the further students advanced in their program of

study, the less favourable their attitudes became towards working in a multi-cultural group. They found that regardless of merit or proof to the contrary, international and domestic students did not voluntarily work together in an academic setting (Summers & Volet, 2008, 2010). Cross-cultural group work does present an opportunity for inter-group contact, which relates to Allport's (1954) contact theory. It provides opportunities for more positive attitudes to develop and provide both groups perception of equal status in the work-group context. This leads to the enhancement of cross-cultural skills on both sides.

Some scholars recommend that multi-cultural groups be compulsory, to overcome domestic and international students' aversions to mixed cultural groups, within or outside of the classroom (Briguglio, 2007; Crose, 2011; Deardorff, 2006; De Vita, 2002; Krajewski, 2011; Leask, 2009; Summers & Volet, 2008; Volet & Ang, 2012; Waistell, 2011). Crose (2011) and Leask (2009) made specific and complementary suggestions, such as using the first-class sessions as 'ice breakers', to allow the students to get to know one another; organising and communicating directions for project completion and using in-class small group discussions to encourage collaboration. Peacock and Harrison (2009) recommended grouping domestic and international students evenly to avoid 'swamping', which occurs when there were too many international students in a group. Krajewski's (2011) student interviews produced a list of activities which encouraged interaction, the most successful of which included preparing and giving group presentations and teamwork or interaction in small group activities. Unfortunately, domestic and international students working together to complete an academic project was not easily achieved, and the desire to continue working together later was challenged by additional research. These results coincided with later research by Volet and Ang's (2012). They conducted a qualitative study concerning Australian and international students' desire and willingness to form multi-cultural groups for class projects. They concluded, "students not only preferred to work with peers from similar cultural backgrounds but [they] remained reluctant to mix after a successful cross-cultural experience is of concern" (Volet & Ang, 2012, p. 33). These results raised a critical question: even though students lacked the desire to work in multi-cultural groups in an academic setting, after working in multi-cultural groups did their inter-cultural competence change?

Guided by previous research and through the use of repeated measures of analysis of covariance, (MANCOVA) analysis, this study explored whether students' engagement in an internationalisation 'at home' experience of peer-to-peer mentoring influenced students' self-

reported development in cross-cultural adaptation. In summary, internationalising the curriculum, including multi-cultural group projects and assignments in a formal academic setting and, hence increasing domestic and international student interaction, or learning a foreign language at university are strategies for developing students' cross-cultural adaptability. Therefore, it can be hypothesised that:

- H6: International experiences 'at home' will have a significant influence on students' cross-cultural adaptability in both the pre- and post-tests, as measured by the dimensions of enjoyment, tolerance, personal values or valuing others, for students who have a cross-cultural mentoring experience with a *SLM*, relative to those who did not seek help from a *SLM*.
- H6a: Completing a subject with internationalised content will have a significant influence on students' cross-cultural adaptability as measured by the dimensions of enjoyment, tolerance, personal values or valuing others, for students who have a cross-cultural mentoring experience, relative to those who did not seek help from a *SLM*.
- H6b: Working in cross-cultural groups will have a significant influence on students' cross-cultural adaptability as measured by the dimensions of enjoyment, tolerance, personal values or valuing others, for students who have a cross-cultural mentoring experience with a *SLM*, relative to those who did not seek help from a *SLM*.
- H6c: Studying a foreign language at university will have a significant influence on students' cross-cultural adaptability as measured by the dimensions of enjoyment, tolerance, personal values or valuing others, for students who have a cross-cultural mentoring experience with a *SLM*, relative to those who did not seek help from a *SLM*.

This study linked many of the theories and previous research discussed above. It used students in an informal peer-to-peer mentoring experience where interaction was necessary. According to Allport (1954) as well as Pettigrew and Tropp (1998, 2006, 2008, 2011), this contact may have had an impact on students' cross-cultural adaptability. It considered whether demographics, socio-economic factors, socialising with others, having either private, offshore or onshore international experiences were extenuating factors in developing cross-cultural adaptability. The number of items/questions per construct can be found in Table 3.2 in chapter three, which is found on page 80). It examined whether an on-campus international experience of cross-cultural peer-to-peer mentoring influenced the students'

cross-cultural adaptability, and whether this cross-cultural mentoring experience was considered equivalent to a study abroad program.

2.10 Conclusion

This chapter analysed previous literature in the area of cross-cultural adaptability, cross-cultural communication and cross-cultural competence skills development in university students. It then discussed mentoring and peer-to-peer mentoring in a higher education setting. It acknowledged the possible effects of private international experiences, previous international academic experiences, students' socialisation factors, demographics and socio-economic factors. This chapter laid the literature out and found that there are gaps in the cross-cultural adaptability literature, as it did not address cross-cultural peer mentoring dyads as a possible tool for cross-cultural skills development. It also used the often cited CCAI™ in a different area than business, training, the military and health care, where it had been used extensively. In this study, the CCAI™ was used in the higher education sector, in an entirely new area of peer-to-peer mentoring. In addition, it provided future employers as well as current universities, with another possible way to show that these graduates had the cross-cultural adaptability skills that employers were looking for. These skills were necessary for the present and future global workforce. The review of the literature enabled the research questions to be considered in the hypotheses that were described in each section. Chapter three discussed the methodology utilised in this study.

Chapter 3

RESEARCH METHODOLOGY

3.1 Introduction

Chapter one introduced the research questions, objectives and contribution of this thesis. Chapter two presented an overview of the relevant literature, provided a conceptual frame of reference, a consolidation of a set of underlying constructs, pertinent guidelines for the formation of the empirical research and the hypotheses that were tested. The literature review chapter recognised the limited research on the application of the CCAI™ in an education context and whether peer-to-peer mentoring was an effective method for a cross-cultural experience.

Chapter three considered the research methodology used to support this study. The context of this study was discussed, and the research paradigm introduced. The literature review contained several research questions and hypotheses, which in turn provided direction for the construction of the research approach. As the stated hypotheses identified critical constructs and proposed relationships between these variables, this thesis leaned toward employing quantitative methodology. The remainder of this chapter considered the study's quantitative research approach, the justification for the questionnaire approach and the selection of specific questions and scale items in the development of the online data collection questionnaire employed for the main study. The implementation process in the data collection was provided. The sample design was considered, as well as an overview of the data analysis approach.

This thesis investigated whether exposure to a cross-cultural peer-to-peer mentoring experience influenced the cross-cultural adaptability of university students. The influence of background experience covariates on respondents' cross-cultural adaptability was also examined.

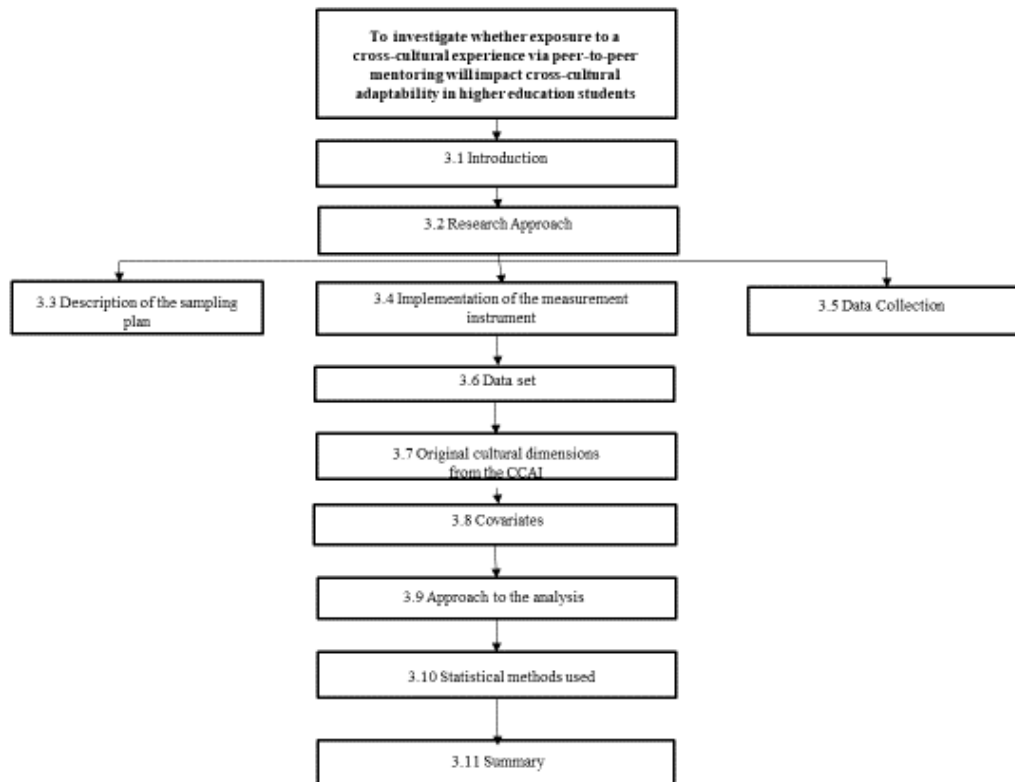


Figure 3.1 Overview of Methodology

3.2 Research Approach

In terms of selecting a relevant research design, both a descriptive and causal research approach facilitating quantitative data analysis were considered. Quantitative research had several goals: to make predictions about relationships between variables and to gain insights into these relationships, validate any existing links and to test multiple hypotheses regarding these relationships (Lukas, Hair, Bush & Ortinau 2004; Hair, Black, Babin, Anderson & Tatham, 2006). Consideration of the research approach also demanded the identification of dependent, independent variables and covariates and the examination of the relationships between them. Inferences were then drawn “about differences in populations based on measurements made on samples of subjects” (Tabachnick & Fidell 2007, p. 7). A quantitative approach was related to descriptive and causal research rather than exploratory designs. This type of research usually required an interrelationship between descriptive and causal research (Kopanidis, 2008; McCauley, 2014). Malhotra, Hall, Shaw and Oppenheim (2008) acknowledged that differences between research designs were not absolute, and research may incorporate more than one type of research design. In this thesis, causal and descriptive

research were combined. The descriptive analysis was used in the preliminary stage of establishing the conceptual model.

3.2.1 The research paradigm

The positivist research paradigm was employed in this study. Positivism extended the methods of natural sciences to the exploration of human life (Gudykunst & Nishida, 1989; Hasan, 2016). Positivism was described as a “belief system arising out of practices in the natural sciences which assume that matters that are the subject of research are susceptible to being investigated objectively and that their integrity is established with a reasonable degree of certainty” (Brand 2009, p. 432). Objective verification required the “application of the scientific method either through analysis in the case of those matters which are capable of internal verification (e.g. mathematical equations) or through the gathering of data in the case of those things which cannot be verified from their terms” (Crotty, 1998, p.25).

This paradigm was used by social scientists who sought to understand patterns of behaviour within social relationships. Typically, the approach that social scientists had taken was characterised using sizeable data sets that were subject to quantitative analysis (Hasan, 2016). Positivism was particularly relevant to this study as it sought to form an objective understanding of the relationship between the variables that were included within the CCAI™ as well as their interface with the backgrounds of the sample of higher education student respondents ($n=214$). Further, pre-existing demographic and socio-economic factors, socialisation, private, offshore academic and on-shore academic experiences were investigated to determine their capacity to influence the students’ existing cross-cultural adaptability. In this study, the educational and managerial implications for university policy were outlined in chapter one and were further discussed in chapter six.

3.2.2 The *SLMs* Experience (the manipulation)

Students who chose to visit the *SLM* during the semester received academic support and guidance with their assessment pieces from a mentor who had previously completed the subject and received either a Distinction or a High Distinction. Meetings were arranged through the administrators who considered the availability of mentors according to their agreed mentoring availability during the week. In this study, assignment to groups was on a

random basis as student mentees self-selected into the groups of either using the *SLM* service or not using the service. Half the group participated in the experience (cross-cultural peer-to-peer mentoring at the *SLM* service), and half did not. Within the *SLM* area, students were randomly assigned a mentor who had been appointed for the subject the mentee required, but within the consideration of timetabling of the mentoring session according to which mentor was available.

Those students who self-selected to visit the *SLM* and were the group who had participated in a cross-cultural experience were considered from previous research to have experienced incidental contact. According to Allport's (1954) ICT and Pettigrew and Tropp's (2006) later research, which underpinned this study, this informal contact and getting to know someone from another culture was hypothesised to have an influence on the participants' cross-cultural adaptability.

In addition, Bandura's (1977) SLT provides an alternative theoretical framework for understanding cross-cultural adaptability in that changes in human behaviour can occur from learning from others and that there must be an intervention such as cultural mentoring to break down any rigid cultural stereotypes (Wilder, Sheerier & Berry, 1991 as cited in Chickering & Reisser, 1993).

The cross-cultural dyad experience and the cross-cultural adaptability of the participants in the mentor or mentee relationship with the *SLM* was hypothesised to have an influence on their cross-cultural adaptability according to the four cultural dimensions of the CCAI™. As this measurement instrument had been utilised in a Higher Education setting (Field, 1990; Renmert, 1993; Chen, 2015), albeit in a different pedagogical area, all responses to the 50 questions from the CCAI™ were related to the interaction of the mentor and the mentee, and had relevance to their peer-to-peer mentoring experience with a *SLM* from another culture.

3.2.3 Quasi-experimental design

The research design used for the study was quasi-experimental, i.e. an experimental design that did not meet all the requirements which were necessary for controlling the influences of extraneous variables, and when random assignment of participants was not possible (Rossi & Freeman, 1985; Kidder & Judd, 1986; Rossi, Henry, Lipsey & Freeman, 2004; Dinardo,

2008). The quasi-experiment was referred to by Cook and Campbell (1979) as an "untreated control group design with pre-test measures at more than one-time interval" (p. 117-118). Although they classified an untreated control group design with pre- and post-measures as a "generally interpretable non-equivalent control group design" (p. 103), they posited that the design became stronger when additional pre-tests were added. A quasi-experiment applied to the study being undertaken because it used 'pre-post testing' which meant that there were tests done before any data were collected to see if there were any confounding factors in the responses (Morgan, 2000).

As such, a within and between subjects' quasi-experimental design was used, featuring the inclusion of the treatment to one group, but not the other. The students who did not participate in the experiment were called the *NoSLM* group and did not use the *SLM* service at all. The students who did use the *SLM* service and had a cross-cultural mentoring experience (either as a mentor or a mentee) were called the *SLM* group. The non-equivalent control group design was commonly used in studies such as this, when a pure experimental design was not possible and when the research required working with pre-formed groups (Krathwohl, 2004). The quasi-experimental design reduced the reactive effects of the experimental process and improved the external validity of the design. This design was more sensitive to internal validity problems due to the interaction between such covariates as selection and maturation, selection and history, and selection and pre-testing (Dmitrov & Rumrill, Jr, 2003).

In a pre-test, post-test design, the dependent variables – the four cross-cultural adaptability dimensions from the CCAI TM – were measured once before the cross-cultural peer-to-peer mentoring experience was implemented and once afterwards. The same respondents participated in both the pre- and post-tests. The question then was not whether respondents who received the treatment's cross-cultural adaptability improved, but whether they improved relative to participants who did not receive the treatment. Also, possible influences of previous demographic, socio-economic, socialising, private international experience and external and internal academic international experiences before the peer-to-peer mentoring experience were tested.

3.3 Description of Sampling Plan

Ethics approval for this study was given and can be found in Appendix A. Emails seeking permission to contact students and ask them to participate in the study were initially sent to the Head of School of the School of Economics, Finance and Marketing (EFM) and can be found in Appendix B) and the *SLM* manager, which can be found in Appendix C. All emails were accompanied by a copy of the Plain Language Statement, which can be found in Appendix D, and the questionnaire. The CCAI™ questions were unable to be reproduced in this thesis due to copyright. The permission email from the CCAI™ authors can be found in Appendix E. Upon receiving permission and consent from the Head of School and the *SLM* manager, subject coordinators of subjects in Table 3.1 were approached for their agreement, which was given. These subjects were chosen as they traditionally had a significant percentage of students who were identified as using the services of the *SLMs*.

Table 3.1
Selection of students for this study

Subjects chosen	Name of Subject
ECON1010	Macroeconomics
ECON1020	Prices and Markets (microeconomics)
ECON1030	Business Statistics
ECON1066	Basic Econometrics
BAFI1002	Financial Markets
BAFI1008	Business Finance
MKTG1045	Marketing Research
MKTG1065	Business to Business Marketing

3.4 Implementation of the Measurement Instrument

This section provided definitions and the theoretical background to the demographic, socio-economic, social relationships, private international experiences, external and internal international academic experience covariates that influenced the students' cross-cultural adaptability. Two constructs functioned as independent variables; they were the cross-cultural mentoring or non-mentoring experiences, and time (pre- and post-test). The dependent variables were the cross-cultural adaptability dimensions emotional resilience, flexibility openness, perceptual acuity and personal autonomy. The covariates were demographic and socio-economic factors, socialising, private international experiences, external international academic experiences and internal international academic experiences. The post-test questionnaire was designed to filter out respondents who did not fulfil the criteria of having

completed the pre-test. Subsequently, respondents were prompted screen by the screen on their device to answer each question.

Data for this study was collected via the use of a questionnaire - a commonly applied process for social science research (De Vaus, 2014) – which provided consistent measurement of the research variables and produced information not available elsewhere. A questionnaire was best suited for this study due to the considerable initial population size. Questionnaires also had the advantage of cost-effectiveness, efficiency, speed of data collection and ease of completion (Babbie 1998; Zikmund, 1997). Further benefits accrued as a result of the online administration of the questionnaire: additional cost reduction by eliminating the need for data entry; avoidance of input errors (Malhotra et al., 2008); and readily available information in a form that facilitated the type of statistical analysis required for this study. Also, the questions and the response formats were standardised, ensuring that all respondents faced the same stimuli.

The research questionnaire was hosted online on the university website utilising Qualtrics software. Three main principles of question design and development were used in determining the questions - necessity; clarity; and the collection of the information required for the analysis that followed (Alreck & Settle, 1995; Burns & Bush, 1995; Churchill & Iacobucci, 2002; Cooper & Emory, 1995; Dillman, 1978, Malhotra et al., 2008).

3.4.1 The Content

This section described the content of the questionnaire used for this study and the process of its development. The questionnaire contained six sections and utilised a combination of closed-ended questions and Likert-type scales. The summarised questionnaire format can be found in Appendix F. In total, 15 covariates were subject to analysis. These variables were demographic and socio-economic factors, socialising, private international experience, offshore international experiences and onshore international experiences. The cultural dimensions that were developed using all 50 CCAI™ questions were the dependent variables.

The pre-test questionnaire commenced with items designed that explored the socio-demographic attributes of the respondents and then posed questions relating to the

respondents' previous international experiences. The final sequence of questions in both the pre- and post-test questionnaire explored the respondents' cross-cultural adaptability, as suggested by the four cultural dimensions of the CCAI™.

Part A: *Socio-demographic analysis* was designed to assess the demographic and socio-economic characteristics of the sample, including age, gender, ethnicity, mothers' and fathers' highest education level. This section included six questions of nominal and ordinal data.

Part B: *Socialising* details were recorded here. Two questions were included on hours spent socialising per week during the semester as well as if the student had friends or family from different cultures. These questions were developed in consideration of Allport's (1954) ICT where he posited that contact with people from different cultures could increase cultural development. Refer to chapter two for a full discussion on ICT. This section included three questions of nominal and ordinal data.

Part C: Information on *previous private international experiences* was requested. The first question related to information on their previous private international holidays either undertaken with their family, with friends or on their own. The second question requested details of questions students' prior language study in high school and the details of which languages they had studied. A prior study by Kets de Vries and Mead (1992) suggested that cross-cultural exposure at an early age could be a significant covariate in how successful a person could be in later life, dealing with different cultures. The total number of weeks spent offshore was included, but not reported on in this study. This section included five questions of nominal and ordinal data.

Part D: The students' *previous offshore international academic experiences* were requested. These included time on exchange in a different country, attendance on an international study tour or completion of an international internship. Study tours were the domain of upper-class gentlemen from 1660-1820 and were called 'The Grand Tour' (National Gallery UK, 2019). However, as travel became cheaper and more accessible, and with the advent of the railway, travel was no longer only for the elite. In the early 1900s, Harlow Gale also discussed "the necessity of international travel in creating a cosmopolitan citizen" (Mobley & Dorfman, p.153). Later studies also concurred that one of the ways that these skills could be developed

was by early international experience (Kets DeVries & Mead, 1992). As such, this section was included. This section included six questions of nominal and ordinal data.

Part E: This section asked questions about the student's *onshore international academic experiences*. Information on any subjects with an internationalised content was requested. This topic had been extensively researched by Leask and others since 1999 and had been found in numerous studies to be influential in giving students cross-cultural experience, which in turn affected their cross-cultural skills development. The second question related to whether they had experienced any group work with any students from another culture. This topic also fell under the ICT of Allport (1954), which suggested that people who interacted with people from different cultures would become more culturally aware. The final question asked details on their learning of a foreign language at university, which had been previously found to be significant as an essential part of the extensive research on international communication. Previous research reported that foreign language learning did affect students' cross-cultural skills. It enabled strangers to access the host culture and in turn, bring empowerment to the speaker (Lewis, 1948; Clement, Noels & Karine, 1994; Kim, 2001). This section included three questions with nominal and ordinal data.

Part F: The final section of the questionnaire asked for responses to the 50 questions from the CCAI™. This measurement instrument was developed together with the military, the Peace Corps, missionaries, business people and trainers (Kelley & Meyers, 1987). The CCAI™ was chosen for this study due to its reported value as a culture-general measurement instrument that assessed cultural adaptability and helped individuals understand the covariates or qualities, which could enhance cross-cultural effectiveness (Kelley & Meyers, 1995). It had long been used as a learning tool in a variety of settings including academia, for cultural diversity training, cultural awareness and to assess travel-abroad readiness. In academia, users had applied the CCAI™ to individual groups of medical, pharmacy, dental hygiene, teaching and business students over many years and after global experiences (Kraemer & Beckstead, 2003; Kitsantis, 2004; Williams, 2005; Shaftel, Shaftel & Ahluwalis, 2007; Chang et al., 2013; Hayward & Charrette, 2012; Glickman, Olsen & Rowthorne, 2015). As this study was built around the same skills development of students who did undertake an offshore experience, this questionnaire was deemed appropriate.

With a maximum score of six for each of the 50 questions, the maximum overall score was 300. The CCAI™ (Kelley & Meyers, 1987) combined the questions to reflect four cross-cultural dimensions – 1) Emotional Resilience – the ability to rebound and react positively to new experiences; 2) Flexibility/Openness – enjoying different ways of thinking and behaving; 3) Perceptual Acuity – paying attention to and accurately perceiving various aspects of the environment; and 4) Personal Autonomy – the evolution of a personal system of values and beliefs while respecting others and their value systems.

In a study by Kraemer and Beckstead (2003), Kelley and Meyers' CCAI™ (1987, 1995) was reported that its internal reliability was 0.9, with 653 respondents from diverse cultural and occupational backgrounds with 288 entry-level Master of Therapy Students. It was reported to have a high face, content and construct validity (Kelley & Meyers, 1995). However, there have since been criticisms on aspects of its validity by authors whose own research analyses had limitations, such as the tools used for this study (Ngyen et al., 2010) and sample homogeneity bias (Davis & Finney, 2006), according to CCAI™ researchers.

Before the release of the final version of the complete questionnaire to the students, it was shared with four experienced academics to be pilot tested. They each had input into the wording of the questions for understanding, flow and duplication. After this test, the order of the questions was changed to place all demographic and socio-economic questions first, followed by the questions relating to socialising, private international experiences, external (offshore) international academic experiences and internal (onshore) international academic experiences. The third section of the questionnaire contained questions related to students' participation in the peer-to-peer mentoring experience. In the final part, the CCAI™ questions on their cross-cultural adaptability were positioned. After this feedback was given, the questionnaire was updated for their suggestions. Only then was it scheduled for release to the students.

The desired question content was chosen to ensure that respondents clearly and quickly understood the objectives of the research and thus, what was expected of them (Churchill & Iacobucci, 2002). For example, each question was examined in light of the overall study. Ordinary words were used, and ambiguous words were avoided. Generalisations and estimates were not used, rather concrete numbers or choices were required to be completed,

and all questions had to be completed; no question could be left out by the respondent; however, any questionnaire could be discontinued at any time. Table 3.2 provides a description of each of the questions on the questionnaire and that question's relationship with each of the research hypotheses outlined in chapter two.

The number of questions under each heading asked in either the pre- or post-test questionnaire can be found in Table 3.2. Background information on demographics, socio-economic factors, socialising and previous private, external (offshore) and internal (onshore) international academic experiences were only asked in the pre-test questionnaire as students would not usually undertake these experiences during the semester, only on breaks between semesters after the post-test questionnaire was completed.

Table 3.2
Variables, coding and corresponding number of questionnaire items

Pre-test questionnaire only – Background questions			
Question	Information	Number of Items	Coding of variables
1	Screening information	2	Ordinal, 1 = yes 2 = no
2	Gender	1	Ordinal 11 = male 12 = female
3	Age group	1	Ordinal 1 = 1994-1999 2 = 1991-93 3 = 86-90 4 = 1970-1985
4	Ethnicity	1	Ordinal 1 = Australian born 2 = Other country born
5	Mothers Education	1	Ordinal 1 = Primary school 2 = High school 3 = Diploma 4 = Undergraduate degree 5 = Post graduate degree
6	Fathers Education	1	Ordinal 1 = Primary school 2 = High school 3 = Diploma 4 = Undergraduate degree 5 = Post graduate degree
7	Socialisation - hours spent with friends during semester	1	Ordinal 1 = 30 hours or more 2 = 20-29 hours 3 = 10-19 hours 4 = less than 10 hours
		1	23 = yes

	- having friends or family from another culture		24 = no
8	Private international experiences- - - holidays overseas - language study at school	1 1	Ordinal 23 = yes 24 = no
9	External international experiences - exchange - study tour - international internships	1 1 1	Ordinal 23 = Yes 24 = No
10	Internal international experiences - internationalised content - cross-cultural group work - foreign language study at university	1 1 1	Ordinal 23 = yes 24 = no
11	Use of SLM	1	Ordinal 1 = yes 2 = no
12	Cross-cultural mentor	1	Ordinal 1 = yes 2 = no
CCAI™ 50 questions – contained in both the pre- and post-test questionnaires			
Question	Information	Number of Items	All questions the same: Scale
13	Emotional Resilience	18	1 = Definitely true 2 = True 3 = Tends to be true 4 = Tends to be not true 5 = Not true 6 = Definitely not true
14	Flexibility Openness	15	
15	Perceptual Acuity	10	
16	Personal Autonomy	7	
17	Voluntary monetary incentive after completion	2	Would you like to go into the draw for \$100 cash 1 = yes 2 = no
Post-test questionnaire only – whether peer-to-peer mentoring experience took place			
Question	Information	Number of Items	
1	Screening information	2	Ordinal 1 = yes 2 = no
2	Use of <i>SLM</i> and <i>SLM</i> responses	1 = group 1 = meet with different culture	Ordinal 1 = yes 2 = no
3	Cross-cultural mentoring experience	1 = meet with different culture	Ordinal 1 = yes 2 = no

Proceeding from the development of the additional questions, a pilot study was carried out to test the questionnaire's content validity (Zaltman, LeMasters & Heffring, 1982) to determine whether the scale items were representative of the constructs to be measured. A questionnaire content pre-test was conducted on a sample of students from these subjects in semester one, 2016. The wording, the ease of completing the questionnaire, the order of the questions and the applicability of the background questions were all checked after the completion of this student pilot. Feedback and comments from the respondents resulted in minor changes to the layout, and some questions were reworded to increase clarity).

Data was collected through the development and distribution of an online questionnaire. The population of interest for this thesis consisted of both *SLMs* and students from the subjects listed in Table 3.1 found on page 77. Respondents were sent the link to the questionnaire from an email sent directly to them using their student email account, from the Manager of the *SLM* area, Ms Kemlo. They were asked to click on a link if they opted to participate after reading the Plain Language Statement. This acceptance activated the questionnaire. Participation in the research was voluntary, and participants remained anonymous. If they agreed to participate at the start of the online questionnaire, they were directed to the main body of the questionnaire. The questionnaire itself was hosted using the Qualtrics software available to university staff and students. After the amendments to the questionnaire content had been made, the questionnaire was distributed to students in 2017 as detailed in the following section.

3.5 Data Collection

The *SLM* mentoring service was available for all students from week four until week eleven each semester. During that time, the invited and then appointed mentors were available for students to make appointments to receive help from the mentor/s for the subject for which they needed help. This study only involved students who sought help from the list of subjects in Table 3.1 on page 75.

3.5.1 Semester 1, 2017 Pre-Test

The data collection process for the pre-test in semester one, 2017, commenced in week four of the semester and was open for two weeks. The questionnaires were distributed online to both the *SLMs* themselves and the students from the chosen subjects (see Table 3.1 which can be found on page 75). The questionnaires were not sent to students who had previously completed them in 2016. This was arranged through their student number being matched by Qualtrics in the email sent by Ms Kemlo. The administration of the questionnaire began with another brief description of the project and instructions on how to complete the questionnaire. Students were advised that their participation was voluntary, and confidential. In total, 4269 questionnaires were distributed online, and 607 responses were received.

3.5.2 Semester 1, 2017 Post-test

The data collection process for the post-test in semester one, 2017, commenced in week twelve of the semester and was again open for two weeks. The 607 respondents from the pre-test received the second questionnaire, containing only the 50 questions from the CCAI™, and 233 responses were received. After merging the files using SPSS v25 and cleaning the file for respondents who had completed the pre-test but who did not complete the post-test questionnaire, 135 useable responses were used in this thesis. These provided information for both the pre- and post-tests for semester one, 2017.

3.5.3 Semester 2, 2017 Pre-Test

The data collection process for the pre-test in semester two, 2017, commenced in week four of the semester and was open for two weeks. In total, 4460 questionnaires were distributed to both the *SLMs* themselves and students from the subjects detailed in Table 3.1 (see page number 75). The questionnaires were not sent to students who had previously completed them in either the previous semester or in 2016. This was arranged through their student number being matched by Qualtrics in the email sent by Ms. Kemlo. The administration of the questionnaire began with another brief description of the project and instructions on how to complete the questionnaire. Students were advised that their participation was voluntary, and confidential. The questionnaire was administered online and was open for responses from week four of the semester for two weeks. Of the 4460 self-administered questionnaires that were sent out, 478 responses were received (10.7%). After cleaning the file for incomplete responses, 347 were useable (72.4% of final responses).

3.5.4 Semester 2, 2017 Post-test

The same 347 students who had responded in the pre-test were sent the post-test questionnaire in week 12 of the semester. The questionnaire contained only the 50 questions from the CCAI™ and was open from week 12 for two weeks. Of the 347 questionnaires sent out, 150 responses were collected, representing a 43.2% response rate. After cleaning the file for incomplete responses and removing responses from students who had not completed the pre-test, 137 were useable (84.7% of final responses). Across both semesters, there were 234

useable responses. These provided information for both the pre- and post-tests for semester two, 2017.

The students in semester one and semester two 2017 who had used the services of a *SLM* but did not have the experience with a mentor/mentee from another culture amounted to 20 students, so for this study, this group was removed to give useable results and not skew the data analysis. The total responses relating to the students who had participated in a cross-cultural mentoring experience was 214.

Once data collection was finalised, Statistical Processing for Social Science software (SPSS) v25 was used to analyse the data. Frequency and cross-tabulations were produced first and then inspected for possible errors and to screen the data for missing cases — this ensured the accuracy of the data. Outliers were identified and profiled to ensure extreme values did not influence results. The decision was made not to remove the outliers.

3.6 Data Set

The multi-item questions from the CCAI™ presented in the questionnaire utilised a six-point Likert scale to record the students' responses. These responses ranged from 1= very strongly disagree to 6= very strongly agree. This response protocol followed the CCAI™ precisely so that results in this study could be compared with other studies on this and other related subjects. It was also employed throughout the questionnaire to promote consistency and lessen the impact of potential respondent fatigue (Dillman, 2000). The Likert scales were either ordinal interval scales or continuous scales and showed whether respondents agreed or disagreed with the statements in the questionnaire. In this thesis, the four hypothesised drivers were the cultural dimensions measured by the CCAI™. The final data set consisted of metrically measured variables.

3.6.1 The Independent Variables

The peer-to-peer mentoring experience, for those students who participated in cross-cultural mentoring with a *SLM*, as well as the students who did not meet with a *SLM* (the *NoSLM* group), were the independent variables in this study, as were the time-related pre- and post-

tests. Students from the subjects found in Table 3.1 (see page number 75) were chosen from subjects where traditionally, they were heavier users of *SLMs*. Both mentors and mentees were grouped for this study as the topic of interest was the cross-cultural adaptability change from either side, not a study of mentor and mentee experiences.

3.6.2 The Dependent Variables

The measurement tool that was used in this study for the level of cross-cultural adaptability was the CCAI™ (Kelley & Meyers, 1987; 1992; 1995). Designed solely as a self-selection measure, i.e., for personal use, the questionnaire consisted of 50-items. The CCAI™ was not developed to predict success or failure in cross-cultural interactions; instead, it measured the individual potential for cross-cultural adaptability. The 50 cross-cultural adaptability inventory questions were not altered for this research as they had been used in numerous studies. The CCAI™ questionnaire was relevant in assessing readiness to adapt to working in companies with diverse employees, and across countries, regions or globally as required (Kelley & Meyers, 1995; McPherson & Szul, 2008; Griffiths et al., 2018) and the results of this study could be compared to previous studies. Additional questions were added to the original measurement instrument developed by Kelley and Meyers (1987, 1992), covering the background of the respondent. The four cultural dimensions based on the CCAI™ were the dependent variables used in this study.

All questions were prefaced by “These questions are about your adaptability to living/working in another country”. “Please read each statement carefully and choose the response that best describes you right now”. Respondents rated their level of agreement to each item using a 6-point Likert scale (1= not true, 6=Definitely true). In the next section, the original cultural dimensions, as determined by Kelley and Meyers (1987, 1992, 1995) are described. It is essential to note that in this study, these dimensions were adapted to reflect the responses of the cohort of students in this study and are discussed in more detail in chapter five.

3.7 Original cultural dimensions from the CCAI™

3.7.1 Emotional Resilience

Emotional Resilience assessed the degree to which a person self-regulated his or her emotions, maintained emotional equilibrium amidst a new or changing environment and rebounded from and deal constructively with the negative feelings which were a normal part of the cross-cultural experience (Kelley & Meyers, 1987; Griffiths et al., 2018). The eighteen items that measured the level of emotional resilience asked respondents how they responded in unfamiliar situations. For example, respondents were asked if they liked to try new things. Respondents rated their level of agreement to each item using a 6-point Likert scale (1= not true, 6=Definitely true).

3.7.2 Flexibility/Openness

Flexibility/Openness measured the extent to which people were open to different ways of thinking and interacting with diverse situations which were usually a part of the cross-cultural experience. In this construct, preparedness to learn from things and people different from oneself was likely to result in a change in flexibility/openness (Kelley & Meyers, 1987; Griffiths et al., 2018). The fifteen items that measured the level of flexibility/openness asked respondents how they enjoyed interacting with people who were different from them. For example, they were asked if they liked to be with all kinds of people. Respondents rated their level of agreement to each item using a 6-point Likert scale (1= Definitely not true, 6=Definitely true).

3.7.3 Perceptual Acuity

Perceptual Acuity assessed the extent to which a person was attentive to and accurately perceived verbal and nonverbal communication in interpersonal relationships with people from different cultures (Kelley & Meyers, 1987; Griffiths et al., 2018). The ten items that measured the level of perceptual acuity asked respondents if they paid attention to and accurately perceived various characteristics of the environment. For example, they were asked if they believed all cultures had something worthwhile to offer. Respondents rated their level

of agreement to each item using a 6-point Likert scale (1= Definitely not true, 6=Definitely true).

3.7.4 Personal Autonomy

The last subscale, *Personal Autonomy*, measured the extent to which people made their own final decisions. This person had evolved a personal system of values and beliefs which he or she felt comfortable and confident enough to act on amidst diversity (Kelley & Meyers, 2003; Griffiths et al., 2018). In this construct, personal identity and confidence in one's values and beliefs resulted in a change in personal autonomy (Kelley & Meyers, 1987). The seven items that measured the level of personal autonomy asked respondents if they had evolved a personal system of values and beliefs that made them feel comfortable acting in strange settings and also to what extent they were able to respect others' values and beliefs. For example, they were asked if they believed that all people, no matter what race, were equally valuable. Respondents rated their level of agreement to each item using a 6-point Likert scale (1= Definitely not true, 6=Definitely true).

3.8 Covariates

An overview of the covariates listed below was hypothesised to affect the cross-cultural adaptability of the students' pre-test scores.

3.8.1 Demographic and Socio-economic factors

Demographic variables based on a respondent's gender, age and country of birth as well as socio-economic variables of mothers' and fathers' highest level of education provided a descriptive profile of the student cohorts. Demographic and socio-economic covariates were hypothesised to influence a student's cross-cultural adaptability.

3.8.2 Socialising

The number of hours that the respondent spent socialising with others from different cultures during the semester was collected. Details of whether the student had family or friends from

another culture were requested. Socialising was hypothesised to influence a student's cross-cultural adaptability.

3.8.3 Previous Private International Experiences

Respondents were asked about their previous international experiences. These included whether they had been on any private international holidays, which were with family, friends, by themselves or at school and whether they learned a foreign language at high school. Previous private international travel or high school foreign language learning was hypothesised to influence a student's cross-cultural adaptability.

3.8.4 External International Academic Experiences

Respondents were asked about their previous experience participating in either an international exchange, study tour or internship. This study hypothesised that participation in an external international experience would influence a student's cross-cultural adaptability.

3.8.5 Internal International academic experiences

Respondents were asked about international experiences they had participated in at a major university in Melbourne, Australia. These included whether they had completed any subject with an internationalised curriculum, whether they had participated in any group work with students from another culture or had studied a foreign language at university. This study hypothesised that completion of a subject with internationalised content or working in cross-cultural groups on assignments influenced a student's cross-cultural adaptability.

3.9 Approach to the Analysis

Data analysis of describing, summarising and grouping the data led to completing both descriptive and exploratory factor analysis (EFA). These results were found in chapter four. Many studies typically utilised descriptive research and the use of EFA (McCauley, 2014; Kopanidis, 2008; Whitehead, Raffan & Deane, 2006; Veloutsou, Paton & Lewis, 2005; Joseph & Joseph 1998; 2000, Kimweli & Richards 1999; Scott & Lamont 1977). After EFA,

further analysis can be found in chapter five which addressed the hypotheses set out in chapter two, using a quantitative approach that was tested in two distinct stages, the pre- and post-tests.

3.9.1 Descriptive Statistics

Descriptive analysis was undertaken to provide an understanding of the sample. Descriptive analysis entailed profiling the respondents to give a snapshot of who responded to the questionnaire. This section aimed to assess the sample concerning data gathered outside the specific conceptual model as well as the demographic, socio-economic, socialising, private, external and internal international academic experiences of the respondents. Another aim of the descriptive statistics using numerical measures of central location and dispersion, was to assess how representative the sample was concerning the same variables just listed, and the students who either did use a *SLM* and had a cross-cultural experience or did not meet with a *SLM* at all. A summary and description of the results were available in chapter four.

3.9.2 Exploratory Factor Analysis

Factor analysis is a term used to describe several methods designed to analyse inter-relationships within a set of variables resulting in the specification of new factors. In multivariate statistics, Exploratory Factor Analysis (EFA) is a statistical method used to uncover the underlying structure of a set of variables. “EFA explores the data and provides the researcher with information about how many factors are needed to best represent the data” (Hair et al., 2006, p. 773). EFA can be used when the researcher does not have a priori hypothesis to work with on factors or patterns of factors measured. It is commonly used by researchers when developing a scale and serves to identify a set of latent constructs underlying an assortment of measured items. In this research, items were adapted and examined in terms of a different context (cross-cultural adaptability), and thus, EFA was applicable. EFA procedures were more accurate when each factor was represented by multiple measured variables in the analysis. All variables applied to the conceptual model contained at least three distinct items (McCauley, 2014).

EFA required the researcher to make several important decisions about how to conduct the analysis because there was no one accepted approach. Researchers were faced with numerous

choices when conducting factor analysis, and in general, the literature provides inconsistent and inconclusive information in terms of these decisions (Schmitt, 2011). In the case of this study, EFA was used as a tool to provide operational definitions for descriptive statistics and subsequent analysis using mixed methods ANOVAs and repeated measures MANCOVAs, as well as to test the validity and reliability of the proposed measurement instrument. The general purpose of factor analytic techniques was to define the underlying structure of the variables, and the primary purpose of EFA was to determine the underlying structure among the variables in this study (Hair et al., 2006). The EFA provided the mechanism for developing the constructs to produce the measurement variables for further model analysis and testing.

The Bartlett test of sphericity tested the null hypothesis that there are no correlations amongst the variables. If the observed significance was small (<0.05), then the test provided evidence that the correlation matrix had significant correlations between at least some of the variables (Hair et al., 2006). The Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) was used to compare the magnitude of the observed correlations about the magnitudes of the partial correlation coefficients. Measures less than 0.5 were not suitable for further analysis. All variables were examined using the Varimax rotation method, and KMO as “rotation of the factors improves the interpretation by reducing some of the ambiguities that often accompany initial unrotated factor solutions” (Hair et al., 2006, p. 123). Varimax rotation was chosen as it was usually the default rotation method. There was no compelling analytical reason to choose one method over another (Hair et al., 2006; McCauley, 2014).

While factor loadings within the range from 0.30 to 0.40 could be considered with a sample size over 300, this study had a sample size of 214. Loadings higher than 0.5 were significant (Hair et al., 2006) and were considered for further evaluation in this study. When the underlying factors were not well understood, lack of a prior specification in EFA was a strength (Gerbing & Hamilton 1996). In the case of this study, although the number of factors per construct was already known and specified, EFA was undertaken to examine underlying patterns or correlations. The development of a measurement model developed in concert with EFA was undertaken. Full details of the EFA analysis are in chapter four.

3.10 Statistical Methods used

Statistical methods that were traditionally used in comparing two groups with pre-test and post-test data included paired-sample T-tests, Mann Whitney U tests, univariate, bivariate or mixed designs ANOVAs, and repeated measures MANOVA or MANCOVA (Pallant, 2016). The use of pre-test scores helped to reduce error variance, which thus produced more powerful tests than designs with no pre-test data (Stevens, 2009). For research question one that hypothesised that either meeting with a *SLM* or not would influence a student's cross-cultural adaptability for any or all four cultural dimensions, four separate mixed-design ANOVAs were used, one for each dependent variable. Also, due to this study having fifteen covariates, multivariate analysis of covariance (MANCOVA) was chosen to analyse research question two. The power of MANCOVA was that it analysed the probability of finding differences between the two groups when they existed. MANCOVA was also used to adjust the post-test means for pre-test differences within the two groups (Garson, 2015). If the pre-test scores were not reliable, the treatment effects could be severely biased, particularly with non-randomised designs such as in this study (Dmitrov & Rumrill, Jr., 2003). However, MANCOVAs only showed the influence of the covariate on the four cultural dimensions. They were not directional.

Covariates were added in the MANCOVA analysis so that errors could be reduced and so that the analysis eliminated the covariates' effect on the relationship between the two groups and the dependent variables (Statistics Solutions, 2018). MANCOVA was an extension of ANCOVA for cases such as in this study where there was more than one dependent variable and where the control of covariates was required. As for all tests in the ANOVA family, the primary aim of the MANCOVA was to test for significant differences between group means. The covariates were additional covariates for each group, thus reducing the error term in the model (Garson, 2015) as each covariate represented a source of variation that had not been controlled in the quasi-experiment and was believed to affect the dependent variable (Kirk, 1982). MANCOVA aimed to remove the effects of such uncontrolled variation, to ensure an accurate measurement of the actual relationship between the group and the four dependent variables. Planned comparisons and post-hoc comparisons to see which values of a variable contribute the most to the explanation of the dependent variables were used in the mixed design ANOVAs for research question one. These were not available in Repeated Measures

designs. Repeated measures analyses of covariance were conducted for the analysis of research question two. As all tests in the ANOVA group had the same assumptions, the discussion of these is part of the analysis that can be found in chapter five.

3.11 Summary

Data analysis for this study was focused on four key steps which were summarised in Table 3.3. These included descriptive analysis of the data, exploratory factor analysis, mixed designs analyses of variance (ANOVA), and repeated measures analyses of covariance (MANCOVA), to further check any covariates that had a significant influence on students' cross-cultural adaptability.

Table 3.3
A summary of the data analysis strategy.

Analysis strategy	Purpose	Analysis Activity
Preliminary data analysis	Ensuring a clean data file to commence exploration and statistical techniques to address key research questions. (Pallant, 2016)	Preliminary examination: 1.Data preparation 2.Identification of missing data 3.Identification of outlying data 4.Multicollinearity testing 5.Non-response error 6.Respondent profiling
Exploratory factor analysis	To determine the extent to which scale items measured intended covariates. (Reymont and Joreskog, 1993, Yong & Pearce 2013)	Identification of covariates and constructs: EFA of all questions for all cultural dimensions of the CCAIT TM
Pearson Chi-square	To assess the statistically significant relationships between variables (Pallant, 2016)	Pearson Chi-square was utilised for categorical variables
Mixed design ANOVAs and Tukey's post hoc tests	Assessing the influence of each of the two groups on the four dependent variables. (Tabachnick & Fidell, 2013; Peng et al., 2002)	Mixed design ANOVAs for each of the adapted four cultural dimensions developed from the EFA analysis
Repeated measures MANCOVAs	Assessing the influence of each of the covariates on students' experiences of the mentoring experience and their effect on students' pre- and post-test responses for each of the adapted cross-cultural dimensions developed as a result of the EFA	Repeated measures MANCOVA used to control for each of the covariates on their effect on the modified cultural dimensions after EFA

This study employed a causal approach to testing the proposed hypotheses central to this study. It was hypothesised that a series of factors may influence the dependent variables, which were the student's cross-cultural adaptability as defined by the four cultural dimensions (Kelley & Meyers, 1995). This chapter justified the use of a questionnaire as a research tool in this study. The design of the questionnaire was outlined, including the aims, question

content, wording, structure, composition and minimisation of errors. The administration of the questionnaire and the sample size and sampling issues were detailed. The sequence of the structured steps taken to implement both the pre- and post-tests were described. The actions taken to ensure that data were accurately processed through descriptive statistics were discussed as well as the use of mixed model ANOVAs and repeated measures MANCOVAs. Chapter four to follow was dedicated to assessing the main measurement tools used in this study. It provided the results of the descriptive statistics which described, summarised and grouped the data and the analysis that occurred in exploratory factor analysis. Chapter five then discussed the data analysis about the research questions addressed in chapter one. Empirical findings were also discussed.

Chapter 4

ANALYSIS OF STUDENT SAMPLES

4.1 Introduction

This chapter presented the results of the descriptive analysis as well as an analysis of the findings about the student samples. The aim of this section was to assess how representative the samples were with respect to students' cross-cultural adaptability and to provide an understanding of the samples through examining distributions of the demographic and socio-economic factors, private international experiences, external international academic experiences, internal international academic experience variables and their cross-cultural adaptability before and after the peer-to-peer mentoring experience. Furthermore, the description of the sample entailed an exploratory discussion of similarities and differences of suggested relationships between the variables and the use of the *SLM* service.

The results of the analysis in this chapter informed the discussion and implications in chapter five. Chapter four is organised around seven major topics.

1. Topic one profiled the respondents in terms of their demographic and socio-economic factors.

2. Topic two profiled the respondents in terms of their socialising factors.

3. Topic three profiled the respondents in terms of their previous private international experiences.

4. Topic four profiled the respondents in terms of their previous external international (offshore) academic experiences.

5. Topic five profiled the respondents in terms of their previous internal international (onshore) academic experiences.
6. Topic six profiled the respondents in terms of their cross-cultural adaptability using the four cultural dimensions of the Cross-Cultural Adaptability Inventory (CCAI™).
7. Topic seven examined and test the properties of the cultural dimensions of the CCAI™ and establish the domain of the theoretical constructs to be used in chapter five and their indicators through exploratory factor analysis (EFA).
8. Topic eight profiled the respondents in terms of their cross-cultural adaptability in terms of the re-configured cultural dimensions after EFA has been undertaken. These cultural dimensions are those used in chapter five and their indicators through exploratory factor analysis (EFA).

4.2 Profile of Questionnaire Respondents

As discussed in chapter three, business students who were *SLMs*, as well as students from subjects within Economics, Finance and Marketing who were traditionally higher users of the *SLM* service, constituted the population of interest for this study were found in Table 4.1. The students were from the following subjects:

Table 4.1
Respondents by subject and Bachelor of Business degree program

Subjects	Degree Program
ECON1010 Macro Economics	Common Core - all Business students
ECON1020 Prices and Markets	Common Core all Business students
ECON1030 Statistics	Common Core - 1 Business students
ECON1066 Basic Econometrics	Economics/Finance
BAFI1008 Business Finance	Economics/Finance
MKTG1045 Market Research	Marketing
MKTG1065 B2B Marketing	Marketing

A reminder from chapter three, that at the start of semester one 2017, 4269 self-administered questionnaires were sent to all the enrolled students in the subjects above, as well as all the currently enrolled *SLMs*. These *SLMs* changed slightly during the year, and the *SLM* area

often had many new mentors at the start of the next year. Both the *SLMs* and the enrolled students were from the Faculty of Business. In total, 607 responded (14.2%). At the end of semester one, 2017, the 607 respondents from the pre-test were sent the second questionnaire, and 233 responded. After removing incomplete questionnaires, there were 107 useable responses. All these respondents had completed both questionnaires (18.8%). In total, this was 2.7% of the initial questionnaires sent out at the start of semester one, 2017.

At the start of semester two 2017, 4460 self-administered questionnaires were sent to all the enrolled students in the same subjects as in semester one 2017, as well as all the newly enrolled *SLMs*. These *SLMs* changed slightly during the year, and the *SLMs* area often had many new mentors at the start of the next year. They were all students from the Faculty of Business. In total, 324 responded (7.3%). At the end of semester two 2017, the 324 respondents from the pre-test were sent the second questionnaire, and 127 (37.0%) responded. After removing incomplete questionnaires, there were 120 useable respondents. These respondents had completed both questionnaires (37.0%). In total, this was 2.7% of the total initial questionnaires sent out in semester two.

The total respondents across both semesters who completed both the pre- and post-test were 234. There were 20 students who did visit the *SLM* area but did not have a cross-cultural experience. As this group was small and did not fit the parameters of this study, they were excluded from the analysis. There were 214 students in the final data set. Half this number of students did not visit the *SLM* area at all and did not identify a cross-cultural experience with a mentor. Consequently, 107 students had visited the *SLM* area and had a cross-cultural mentoring experience as either a mentor or a mentee. These two groups were used as a basis for introducing the descriptive analysis as well as the analysis following in chapter five.

The covariates in this study are latent variables as these are inferred rather than being directly observed. One common set of definitions of latent variables considers them as “hypothetical variables.” For instance, Harman (1960, p. 12) refers to factors as “hypothetical constructs.” Similarly, Nunnally (1978, p. 96) defines a construct as something that scientists put together out of their imaginations (see also Bartlett 1937, p. 97). Latent variables provide a degree of abstraction that permits us to describe relations among variables that share something in common, rather than making highly concrete statements restricted to the relation between more specific, seemingly idiosyncratic variables. In other words, latent variables permit us to generalise relationships (Bollen, 2002).

The covariates of age, gender, country of birth, socio-economic factors, socialising and having friends or family from other cultures, previous private international experiences such as international holidays and languages studied at school, were used to profile respondents. After profiling their private details, variables such as external (offshore) international academic experiences such as student exchange, study tours, and international internships were described. Finally, variables included in their internal (onshore) international academic experiences were profiled. These were the study of a foreign language at university, studying a subject with internationalised content and working in groups with students from another culture.

4.3 Demographic and Socio-economic Factors

Demographic variables based on a respondent's age, gender and ethnicity, provided a descriptive profile of the student cohort and are outlined in Table 4.2. Socio-economic status is a broad concept, with multiple parts, one of which is parental education. Parental educational level relates to the parent with the highest educational level (Carman, 1977). For this thesis, both parents' education levels were considered, and the highest one was used in the analysis.

Table 4.2
Demographic and socio-economic factors

		<i>No SLM</i>		<i>SLM</i>		Total	Percentage of Total Cohort
Respondents		No.	%	No.	%	No.	214
Age	17-20	25	23.4	33	30.8	58	27.1
	21-25	73	68.2	68	63.6	141	65.9
	26-29	8	7.5	6	5.6	14	6.5
	30+	1	0.9	0	0.0	1	0.5
Gender	Male	54	52.9	48	47.1	102	47.7
	Female	53	47.3	59	52.7	112	52.3
Ethnicity	Australian born	74	69.2	33	30.8	107	50.0
	Born overseas	52	48.6	55	51.4	107	50.0
Mothers Education	Primary/Secondary	47	50.0	41	43.6	88	41.2
	Diploma	20	18.7	16	18.8	36	16.8
	Tertiary	40	41.6	50	52.2	90	42.0
Fathers Education	Primary/Secondary	35	47.9	33	45.3	68	31.8
	Diploma	29	27.1	27	25.2	56	26.2
	Tertiary	43	42.6	47	46.5	90	42.0

Overall, the respondents were born between 1970 and 2000 - aged from 17 to 47. The mean age was 22, the median age was 20, and 27.1% of the students fell into the '17-20' age bracket, 65.9% into the '21-25' age bracket, 6.5 % into the '26-29' age bracket and the remaining

0.5% were classified in the '30+' age bracket. The students who had undertaken a *SLM* experience represented 56.9% of the '17-20' age bracket and those who had not undertaken a *SLM* experience 43.1%. For the '21-25' age bracket, students who did not meet with a *SLM* represented 51.8% with those who had visited *SLM* the remaining 48.2%. The group who had not visited a *SLM* had the only student who was over 30. There were no mature age students in the group who had visited *SLM*.

In exploring the question "*Is there a relationship between age and whether to use the SLM academic support service?*" A chi-square test for independence indicated that age was not related to the decision to attend *SLM* or not to attend *SLM*, $\chi^2 (3, n = 214) = 2.566, p = 0.463$, Cramer's $V = 0.110$.

There was an almost equal gender distribution, with approximately 48% male and 52% female. Of the respondents, 52.9% and 43.7% of females did not use the services of a *SLM* for academic help. Of the students who did use the services of a *SLM* as either a mentor or mentee, 47.1% were male with the remaining 52.7% female.

In exploring the question "*Is there a relationship between gender and whether to use the SLM academic support service?*" A chi-square test for independence (with Yate's Continuity Correction) indicated no significant association between gender and whether the respondents chose to use the *SLM* service or not, $\chi^2 (1, n = 214) = 0.469, p = 0.494, \phi = 0.056$. The Yates' Correction for Continuity was used as it compensates for the over-estimate of the chi-square value when used with a two by two table.

Most respondents (58.9%) were born in Australia, with 41.1% of the respondents being born in a country other than Australia. The group who had not used *SLM* contained 69.2% of students born in Australia with the remaining 30.8% being non-Australian born. Of the *SLM* experience group, 48.6% were born in Australia with the remaining 51.4% being non-Australian born.

In exploring the question "*Is there a relationship between ethnicity and whether to use the SLM service or not?*" A chi-square test for independence (with Yate's Continuity Correction) indicated that students who were Australian born were more likely to use the *SLM* service than students who were born overseas, $\chi^2 (1, n = 214) = 8.511, p = 0.002, \phi = 0.209$.

In terms of measuring the socio-economic background, James et al., (1999, as cited in Kopanidis, 2008) chose the highest parental education as an appropriate measure. Socio-economic status (SES) subgroups were defined as follows:

1. *Lower SES*: parents who attended primary school and may have completed secondary school.
2. *Medium SES*: parents who had completed a vocational qualification, diploma or associate diploma (e.g. TAFE).
3. *Higher SES*: parents who had completed an undergraduate or post-graduate university degree.

According to the above banding, mothers were almost equal in the *Higher SES* band (42%) and the *Lower SES* band (41.2%) with those in the *Medium SES* band the remaining 16.8%. Within the *Higher SES* band, respondents with mothers with an undergraduate or postgraduate degree were more likely to have visited the *SLM* service for academic help (52.2%). For mothers within the *Medium SES* band, the respondents were equally likely to use the service of *SLMs* or not (18.8% each). Respondents with mothers from the *Lower SES* band were less likely to have used the *SLM* service (50%) than those who did not (43.6%).

In exploring the question “*Is there a relationship between mothers’ education and whether the respondents used the services of the SLM area?*” A chi-square test for independence (with Yate’s Continuity Correction) indicated that overall mothers’ education levels did not affect whether they used the services of *SLM*, $\chi^2 (4, n = 214) = 5.369, p = 0.251$, Cramer’s $V = 0.209$.

According to the above banding, most fathers of the respondents were in the *Higher SES* band (42%). Within the *Higher SES* band, 46.5% of respondents had used the service of *SLM*, but 42.6% had not. Within the respondents with fathers in the *Medium SES* band, they were equally distributed between the two groups (25.2% each). Within the *Lower SES* band, 46.5% of respondents utilised the *SLM* service while 42.6% did not.

In exploring the question “*Is there a relationship between fathers’ education and whether the respondents used the services of the SLM?*” A chi-square test for independence (with Yate’s Continuity Correction) indicated no significant association between fathers’ education levels and whether they used the *SLM* services, $\chi^2 (4, n = 214) = 1.416, p = 0.841$, Cramer’s $V = 0.081$.

The typical respondent was a female aged 21-25. She was most likely to have been born in Australia. The average respondent's mother had either finished high school or had a university degree, either undergraduate or postgraduate. Her father usually had a post-graduate degree, as well as an undergraduate degree.

4.4 Socialising

One of the significant theories utilised in this study was Allport's Intergroup Contact Theory (ICT) (1954). The theory posited that contact between people ultimately influenced their cross-cultural skills development. As such, the topic of socialising was included in the questionnaire and the two questions used in the analysis were relevant independent variables. This information can be found in Table 4.3.

Table 4.3
Socialising

		No SLM		SLM		Total	Percentage of Total Cohort
Respondents		No.	%	No.	%	No.	214
Hours socialising Per semester	<10	26	24.3	43	40.2	69	32.2
	10-19	43	40.2	44	41.1	87	40.7
	20-29	24	22.4	13	12.1	37	17.3
	30+	14	13.1	7	6.5	21	9.8
Friends or family from other cultures	Yes	97	90.7	100	93.5	197	92.1
	No	10	9.3	7	6.5	17	7.9

It was expected that higher contact with people from different backgrounds would increase students' cross-cultural adaptability, which would confirm this theory. The construct of socialisation had two parts. The first was the number of hours spent socialising in the semester, and the second was whether the respondent had friends or family from different cultures with which they spent time. Most students (40.7%) spent an average of 10-19 hours per week socialising with others during the semester. The second highest group consisted of those who spent less than 10 hours (32.2%) during the semester, possibly reduced by their need to study or work. A combined 27.1% of students responded that they spent over 20 hours per week socialising with friends and or family during the semester. The group who did not use a *SLM* indicated that 24.3% socialised for less than 10 hours per week in the semester and 35.5% socialised for 20 hours or more. Of those who did use the services of a *SLM*, 18.6%

socialised for 20 hours or more, 40.2% socialised for less than 10 hours during the semester and 41.1% fell into the 10-19hour bracket.

In exploring the question “*Is there a relationship between the number of hours spent socialising and whether the respondents used the service of the SLM area?*” A chi-square test for independence indicated that the number of hours spent socialising during the semester and whether they did or did not use the *SLM* service was related, $\chi^2(3, n=214) = 9.804, p=0.020$, Cramer’s $V=0.214$.

Most respondents (92.1%) stated that they have friends or family from a different culture, leaving only 7.9% of respondents who stated that they did not have any friends or family from another culture. The group who did not utilise the services of a *SLM* stated that 90.7% of them have friends or family from another culture. The group who had a *SLM* experience was also high at 93.5%.

In exploring the question “*Is there a relationship between having friends and family from another culture and whether or not the respondents used a SLM?*” A chi-square test for independence (with Yate’s Continuity Correction) indicated that there was no significant association between having friends and family from another country/culture and whether they used the *SLM* service, $\chi^2(1, n=214) = 0.256, p=0.613, phi=0.056$.

As Allport (1954) found while developing his ICT, when people spent time together, they developed their cross-cultural skills. The average respondent spent ‘10-19’ hours per semester socialising with others and had friends and or family from other cultures, confirming the application of contact theory in this study. Contact can also be incidental and may have influenced the student in developing their cross-cultural skills (Pettigrew & Tropp, 2006).

4.5 Private international experiences

The distribution of questionnaire respondents to the questions related to private international experiences can be seen in Table 4.4. These were whether the student had studied a foreign language at high school or whether they had been on private international holidays.

Table 4.4
Private international experiences

		<i>No SLM</i>		<i>SLM</i>		Total	Percentage of Total Cohort
Respondents		No.	%	No.	%	No.	214
Studied a foreign language at High School	Yes	56	52.3	76	71.0	132	61.7
	No	51	47.7	31	29.0	82	38.3
Private International Holidays	Yes	92	86.0	81	75.7	173	80.8
	No	15	14.0	26	24.3	41	19.2

Most students (63.2%) studied a foreign language at high school, but few of these now studied a language at university. In many cases, students studied a foreign language at high school to increase their ATAR score (VCAT, 2019). The respondents who did not use the *SLM* service confirmed that 52.3% of them had studied at least one foreign language at high school. The group who used *SLM* reported that 71% of them had also studied at least one foreign language at high school.

In exploring the question “*Is there a relationship between studying a foreign language at high school and using the SLM service?*” A chi-square test for independence (with Yate’s Continuity Correction) indicated a significant association between studying a foreign language at school and utilising the services of a *SLM*, $\chi^2 (1, n=214) = 7.137, p=0.008, \phi=-0.192$.

The majority (81.1%) of students reported having been on a many private international holidays. The group who did not use the *SLM* service reported that 86% of them had been on at least one private international holiday. The group who had used the *SLM* service reported that 75.7% of them had been on a private holiday at least once. According to Allport (1954), these international trips are invaluable to create possibilities for intercultural contact and the development of cross-cultural skills.

In exploring the question “*Is there a relationship between respondents’ private international holidays and whether they had used the SLM service?*” A chi-square test for independence (with Yate’s Continuity Correction) indicated no significant association between travelling on private international holidays and their use of the *SLM* service, $\chi^2 (1, n = 214) = 3.017, p=0.082, \phi=0.131$.

An average student had at least one private international holiday and may have been on holidays totaling more than a year.

4.6 External International Academic experiences

The distribution of questionnaire respondents' external international academic experiences was shown in Table 4.5. These questions included those who had been on an exchange program, who had been on a study tour, or who had completed an international internship.

Table 4.5
External international academic experiences

		No SLM		SLM		Total	Percentage of Total Cohort
Respondents		No.	%	No.	%	No.	214
Exchange	Yes	4	3.7	8	7.5	12	5.6
	No	103	96.3	99	92.5	204	94.4
Study Tour/s	Yes	6	5.6	15	14.0	21	9.8
	No	101	94.4	92	86.0	203	90.2
Internship	Yes	4	3.7	11	10.3	15	7.0
	No	103	96.3	96	89.7	199	93.0

Only 5.6% of the cohort had undertaken an international exchange experience. This was consistent with previous findings that most students in Australia did not undertake an international academic experience (DoE, 2019). Each of the groups was similar, in that the group who did not use the *SLM* service reported that only 3.7% had been on exchange, and the group who did use the *SLMs* had only 7.5% of respondents who had been on exchange.

In exploring the question “*Is there a relationship between international exchange experience and whether the respondents used the service of a SLM?*” A chi-square test for independence (with Yate’s Continuity Correction) indicated no significant association between undertaking an international exchange and whether the respondents utilised the *SLM* service, $\chi^2 (1, n=214) = 0.795, p=0.373, phi=0.081$.

Of the respondents, 9.8% had participated in an international study tour, almost double the percentage of students who had undertaken a semester or a year’s exchange. Each of the groups was low. The group who had not used the *SLM* service reported that only 5.6% had been on a study tour. The group who had used the *SLM* service reported that 14% of their cohort had been on a study tour.

In exploring the question “*Is there a relationship between study tour attendance and whether or not the respondents used the SLM service?*” A chi-square test for independence (with Yate’s Continuity Correction) indicated no significant association between study tour participation and whether they used the *SLM* service, $\chi^2 (1, n = 214) = 3.379, p = 0.066, \phi = -0.141$.

Only 7% of the total cohort had participated in an international internship, with a few more in the group who had used the *SLM* service. The group who had not used the *SLM* service had 3.7% who had gone on an international internship, but the group who had used the *SLM* service had more than double at 10.3%. The numbers are too low to draw any meaningful inferences.

In exploring the question “*Is there a relationship between undertaking an international internship and using the services of a SLM?*” A chi-square test for independence (with Yate’s Continuity Correction) indicated no significant association between undertaking an international internship and whether the respondents used the *SLM* service, $\chi^2 (1, n = 214) = 2.581, p = 0.108, \phi = -0.128$.

The respondents in this study confirmed current and past research that most university students did not take up opportunities to participate in international exchange, international study tour or international internships. As seen in the literature review, the reasons for this are many, but from the Australian students' perspective, many have part-time jobs that they may have to resign from to attend such an experience and do not see the value in an offshore opportunity (James et al., 2007).

Twelve of the respondents had undertaken an exchange, only 21 respondents had undertaken a study tour, and 15 had undertaken an international internship. The total number of respondents who had undertaken an international offshore experience of any type was 48, but when the students who had gone on multiple experiences were removed, this figure dropped to only 38 of the 214 who had undertaken an international offshore experience. Although this represented 17.7% of the total cohort, only 12 were in the group who had not utilised the *SLM* service, (5.6% of the total respondents) and 26 students in the group who did use the *SLM* service (6.5% of the total respondents).

To date, offshore academic experiences such as exchange were the significant vehicle that universities used to develop cross-cultural skills in their students (Weigl, 2009; West, 2002). Assuming the cohort in this study was a representative sample, past research suggests that those participating in external international experiences were the exception (Universities Australia, 2019). Cross-cultural skills need to be developed for the student majority who do not participate in any form of external international academic travel experience. Potentially, this could be achieved via internal international academic experiences – ‘at home’ activities that expose students to other cultures and foster their cross-cultural skills (Altschuler et al., 2003; Bennett et al., 1999; Paige, 1993; Pruegeer & Rogers, 1994; Kimmel & Volet, 2012; Jon, 2013; Leask & Bridge, 2013).

4.7 Internal International Academic Experiences

Internationalisation of the curriculum, that had been used by universities for many years to increase the cross-cultural skills development of all students, was mainly aimed at the majority who did not undertake any form of offshore academic experiences. Table 4.6 illustrated the distribution of the 214 questionnaire respondents and showed whether they had completed any subjects with specific international content before they completed the questionnaire in 2017.

Table 4.6
Internal international academic experiences

		<i>No SLM</i>		<i>SLM</i>		Total	Percentage of Total Cohort
Respondents		No.	%	No.	%	No.	214
International Content	Yes	30	28.0	52	48.6	82	38.3
	No	77	72.0	55	51.4	132	61.7
International group Work	Yes	101	94.4	106	99.0	207	96.7
	No	6	5.6	1	1.0	7	3.3
Study of a foreign Language at University	Yes	0	0.0	23	21.5	23	10.7
	No	107	100	84	78.5	191	89.3

The group who did not use the *SLM* service reported that 28% of them had completed a subject with internationalised content, the group who had used *SLM* reported a higher level (48.6%). Of the total cohort, 38.7% reported studying subjects with specific international content.

In exploring the question “*Is there a relationship between experiencing any subject with internationalised curriculum and whether or not the respondents used the SLM service?*” A

chi-square test for independence (with Yate's Continuity Correction) indicated a significant association between international subject content and the users of the *SLM* service, $\chi^2 (1, n = 214) = 8.719, p = 0.003, \phi = -0.211$.

The number of international students on Australian university campuses continued to be a significant source of cross-cultural contact for those from Australia (Allport, 1954). Almost all (97%) reported having participated in a subject where cross-cultural groups were formed. The group who had not used the *SLM* service reported that 94.4% of them had completed at least one group project with a student from another culture while 99% of students in the group who had used the *SLM* service reported group work with others from another culture.

In exploring the question "*Is there a relationship between participation in cross-cultural group work and the use of the SLM service?*" A chi-square test for independence (with Yate's Continuity Correction) indicated no significant association between cross-cultural group work and whether the respondents had used the *SLM* service, $\chi^2 (1, n = 214) = 2.363, p = 0.124, \phi = -0.131$.

The majority (88.9%) of students reported that they were not studying a language at university. All students (100%) of the group who did not meet with a *SLM* reported not studying a foreign language at university. In the group who did attend the *SLM* area, 75% of them reported that they were not studying a foreign language at university.

In exploring the question "*Is there a relationship between studying a foreign language at university and utilising the SLM service?*" A chi-square test for independence (with Yate's Continuity Correction) indicated there was a significant association between foreign language study at university and using the *SLM* service, $\chi^2 (1, n = 214) = 23.578, p = 0.000, \phi = -0.347$.

4.8 Profile Summary of all Respondents

The typical undergraduate student in this study who participated in the *SLM* service, either as a mentor or a mentee, was an Australian born female, aged 17- 20 years old. This student's mother completed at least high school education but was equally likely to have a university degree, either undergraduate or postgraduate. She typically spent between 10 and 19 hours

per week socialising during the semester and has friends or family from other cultures. She did study a foreign language at high school but did not study a language at university. She had been on private international holidays with either her friends, family or alone, and may have spent a gap year overseas. She had not undertaken an exchange, study tour or international internship, nor had she studied any subjects with an internationalised curriculum. She had, however, participated in group work with students from another culture.

The chi-square tests of independence between the variables and students' use of the *SLM* academic service suggested overall that there was very little significance between the composition of the group who had used the service and those respondents who did not use the service. The significant results from these tests for relatedness between the respondent's likelihood to use the services of *SLM* were for ethnicity, hours spent socialising, studying a foreign language at university and completing a subject with international content.

The influence of completing a foreign language either at high school or at university may have encouraged respondents to use the *SLM* service as they may have had difficulty if English was not their first language. This study found that completing subjects with international content may be considered difficult for some students, which may have encouraged students to use the *SLM* service.

4.9 Respondents' top questions from the CCAI™

The CCAI™ identified questions as reflecting respondents' cultural dimensions such as Emotional Resilience, Flexibility Openness, Perceptual Acuity, and Personal Autonomy. Respondents were asked to rate on a six-point Likert-type scale (1= strongly disagree to 6 = strongly agree) each of the questions on the CCAI™ showing the extent to which the respondent agreed with the statement in the questionnaire. Analyses of the top-ranked questions for each cultural dimension were performed to indicate which questions rated as the most important for respondents across the four dimensions. As the actual CCAI™ measurement instrument's questions were subject to copyright protection, the specific questions cannot be detailed in this thesis.

These highest ranked questions were the questions that had the highest level of agreement both for each of the groups relating to *SLM* attendees as well as for those respondents who did not meet with a *SLM*. They were then used to identify the themes that emanated from the EFA as again the actual questions were prevented from being included in this thesis.

All graduates were expected to develop cross-cultural skills while at university (Dacre-Pool & Sewell, 2007). An analysis of the mean and standard deviation was performed for all respondents across the two groups (either those who did not use the services of the *SLM* service or those who did use the *SLM* academic service). The questions associated with each dimension indicated the overall means were high for all questions analysed across the four dimensions, ranging from 4.62 through to 5.66.

4.9.1 Emotional Resilience: The Top Questions

The results of the mean and standard deviation analysis for all respondents, as well as by group, were shown in Table 4.7. This table also showed the highest ranked questions with the highest level of agreement both for each of the groups relating to *SLM* attendees as well as for those respondents who did not meet with a *SLM*.

Table 4.7
Top Questions - Emotional Resilience

	NO SLM		SLM		TOTAL	
	Mean	Std Dev	Mean	Std Dev	Mean	Std Dev
Q13	5.11	0.984	5.08	0.902	5.1	0.942
Q29	4.92	1.029	5.10	0.921	5.01	0.979
Q16	4.97	0.985	-	-	4.98	0.947
Q7	4.94	0.970	-	-	4.82	1.042
Q42	-	-	-	-	4.76	0.897
Q26	-	-	4.82	1.008	-	-
Q48	-	-	4.96	0.834	-	-
Q1	-	-	4.74	0.883	-	-
Q24	-	-	4.74	0.915	-	-

For the top emotional resilience questions from the eighteen in the CCAI™, several themes emerged from the highest-ranked questions: enjoyment of new experiences, the belief that all cultures have something to offer and the confidence and tenacity to continue if a failure occurred and not be disheartened. These themes were summarised as ‘the ability to cope with stress’, ‘enjoyment of new experiences, cultures, and people’, ‘confidence in my communication and judgement’. Concurring with (Kelley & Meyers 1987, 1992) these themes

highlighted that emotionally resilient people were likely to be more positively inclined, resourceful and able to control any negative feelings. These top-ranked questions related to being resilient in the face of stress, the enjoyment of different cultural experiences and having a positive attitude to all cultures.

4.9.2 Flexibility Openness: The Top Questions

The results of the mean and standard deviation analysis for all respondents, as well as by group, are found in Table 4.8. This table also showed the top flexibility openness questions that emanated from the fifteen in the CCAI™.

Table 4.8
Top Questions - Flexibility Openness

	NO SLM		SLM		TOTAL	
	Mean	Std Dev	Mean	Std Dev	Mean	Std Dev
Q8	4.93	1.110	5.03	0.863	4.98	0.993
Q40	4.84	0.973	5.00	0.765	4.92	0.877
Q5	4.89	1.110	4.73	1.06	4.80	1.080
Q43	4.67	1.062	4.79	0.836	4.73	0.955
Q11	4.78	1.039	-	-	4.69	1.05
Q2	-	-	4.73	1.042	-	-

Several themes emerged from these highest-ranked questions. These were: people from a different culture, learning about different people and having a positive attitude. These themes can be summarised as ‘enjoyment of people from different cultures’, ‘ability to have a fulfilling life in other countries/cultures’ and ‘enjoying talking to others’. Concurring with the flexibility openness factor (Kelley & Meyers 1987, 1992), the themes highlighted that flexible and open people were likely to enjoy diverse approaches to behaviour and thinking. These top-ranked questions related to having an openness to learning about people from different cultures and enjoyment of communicating with different people.

4.9.3 Perceptual Acuity: The Top Questions

The results of the mean and standard deviation analysis for all respondents, as well as by group, were found in Table 4.9. This table also showed the top perceptual acuity questions that emanated from the ten in the CCAI™. Several themes emerged from these highest-ranked questions.

Table 4.9**Top Questions - Perceptual Acuity**

	NO SLM		SLM		TOTAL	
	Mean	Std Dev	Mean	Std Dev	Mean	Std Dev
Q24	5.31	0.975	5.43	0.881	5.37	0.929
Q3	5.13	0.880	5.12	0.761	5.13	0.821
Q33	4.86	1.023	4.99	0.916	4.93	0.971
Q44	4.80	0.985	4.95	0.782	4.88	0.890
Q15	4.65	1.029	4.69	1.041	4.62	1.003

For the top perceptual acuity questions from the ten in the CCAI™, several themes emerged from the highest-ranked questions. These were: relating to people from a different culture, learning about different people and having a positive attitude.

The themes can be summarised as ‘trying to understand other people’s culture and feelings’, ‘keeping an open mind’ and ‘consider my impact in a new cultural environment’. Concurring with the perceptual acuity factor (Kelley & Meyers 1987, 1992) the themes highlighted that perceptive people were likely to examine the ability to perceive cues across cultures accurately. These top-ranked questions related to being perceptive of the feelings of people from another culture, and they had the ability to keep an open mind.

4.9.4 Personal Autonomy: The Top Questions

The results of the mean and standard deviation analysis for all respondents, as well as by group, were found in Table 4.10. This table also showed the top personal autonomy questions that emanated from the seven in the CCAI™. Several themes emerged from these highest-ranked questions.

Table 4.10**Top Questions - Personal Autonomy**

	NO SLM		SLM		TOTAL	
	Mean	Std Dev	Mean	Std Dev	Mean	Std Dev
Q12	5.54	.872	5.66	.824	5.60	.848
Q47	5.08	.982	4.91	.947	5.00	.967
Q25	5.05	.955	4.96	.921	5.00	.937
Q41	4.91	.957	4.77	.977	4.84	.967
Q6	4.96	1.045	4.75	.891	4.75	.969

For the top personal autonomy questions, several themes emerged from the highest-ranked questions. These were: relating to people from a different culture, learning about different people and having a positive attitude. These themes were summarised as ‘people from other cultures are equally valuable’, ‘maintain my own beliefs and values’ and ‘interest in learning

about different people'. Concurring with the personal autonomy factor (Kelley & Meyers 1987, 1992), the themes highlighted that personally autonomous people were likely to have a strong personal identity and a sense of empowerment in the context of an unfamiliar cultural situation. These top-ranked questions related to being autonomous when dealing with a new culture while maintaining values and beliefs.

4.10 Measurement scale examination

Given the CCAITTM scale had not previously been tested in a peer-to-peer mentoring higher education context, Exploratory Factor Analysis (EFA) was undertaken to investigate underlying relational patterns between variables and to test the questions' applicability. The constructs were then reformulated based on the outcomes of these procedures. The following measurement process recommended by Pallant (2016) was followed to conduct the factor analysis:

1. An assessment of the suitability of the data for factor analysis using Principal Component Analysis
2. A review of component matrices and pattern matrices to assess the strength of loadings of each of the components of the scales, followed by:
3. An investigation into communalities to determine how well items in each scale linked together.
4. Oblique factor rotation (using the Direct Oblimin Technique) to analyse correlations and KMOs to determine which type of rotation is appropriate.
5. Orthogonal factor rotation (using the Varimax Technique) to produce Rotated Factor Matrices to reveal how items are clustered together.
6. An assessment of reliability by reviewing the Cronbach Alpha scores of the scales with factors extracted.
7. The final Factor Groupings

Factor analysis is a term that is used to describe several methods designed to analyse interrelationships within a set of variables resulting in the specification of factors (Kopanidis,

2008). In multivariate statistics, EFA is a statistical method used to uncover the underlying structure of a set of variables and explores data to provide the researcher with information about “how many factors are needed to best represent the data” (Hair et al., 2006 p. 773). As a methodology, EFA is commonly used by researchers when developing a scale and serves to identify a set of latent constructs underlying an assortment of measured items.

4.10.1 Assessing the suitability of the data for Exploratory Factor Analysis (EFA)

EFA requires the researcher to make several important decisions about how to complete the analysis because there is no one set approach. Researchers are faced with numerous decisions when conducting factor analysis, and, in general, the literature provides inconsistent and inconclusive information in terms of these decisions (Schmitt 2011). EFA was used as a tool to provide operational definitions for descriptive statistics and to test the validity and reliability of the proposed measurement instrument. The purpose of factor analytic techniques is to “define the underlying structure of the variables, in order to define the underlying structure among the variables in the analysis” (Hair et al., 2006, p104). The goal was to reduce “the dimensionality of the original space and to give an interpretation to the new space, spanned by a reduced number of new dimensions which are supposed to underlie the old ones” (Rietveld & Van Hout, 1993, p. 254), or to explain the variance in the observed variables in terms of underlying latent factors” (Having, 2003, p.2). Thus, factor analysis offered not only the possibility of gaining a clear view of the data, but also the possibility of using the output in subsequent analyses (Field, 2000: Rietveld & Van Hout, 1993).

The 50-item CCAI™ was examined to determine its underlying structure, assessing students’ cross-cultural adaptability. Final data was based on 214 students who answered all questions (demographic and background questions as well as the CCAI™ questions) and identified themselves as either not attending *SLM* or as attending *SLM*.

Before performing EFA, the suitability of the sample for factor analysis was assessed using the Bartlett test of sphericity (Bartlett, 1954). If the observed significance was small (<0.05), then the test provided evidence that the correlation matrix had no significant correlations between all or most of the variables (Hair et al., 2006) The strength of inter-correlations among the questions was reviewed to determine whether coefficients of greater than 0.3 could be found as recommended by Tabachnick and Fidell (2013). In this study, the correlation

matrix for all 50 questions was found to have observed significances of less than 0.5 and 0.3 and above and can be found in Appendix G, suggesting that at least some questions were correlated and suitable for factor analysis.

While factor loadings in the range of 0.30 - 0.40 can be considered with a sample size over 300, this study had a sample size of 214. The sample size was less than a common rule of thumb of 10-15 respondents per item/question (Tabachnik & Fidell, 2013). Factor analysis could have been excluded from this dataset. The Kaiser-Meyer-Olkin value was also used to assess the suitability of the sample for EFA and can be found in Table 4.11 (Kaiser, 1970, 1974).

Table 4.11
KMO and Bartlett's Test – all questions

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.844
Bartlett's Test of Sphericity	Approx. Chi-Square	4816.800
	df	1225
	Sig	0.000

The KMO measure compares the magnitude of the observed correlation coefficients against the magnitude of the partial correlations. The values range between 0 and 1, with .6 considered the minimum value for proper factor analysis (Tabachnick & Fidell 2013; Hair et al., 2006). In this study, the original Kaiser-Meyer-Olkin value was 0.844, exceeding the recommended value of 0.6 (Kaiser 1970; 1974) and considered meritorious (Hutcheson & Sofroniou (1999).

4.10.2 Review of component and pattern matrices using Principal Factor Analysis (PCA)

The 50 items of the Cross-Cultural Adaptability Inventory collected at the pre-test were subjected to principal components analysis (PCA) using SPSS v25 to explore the underlying factors associated with the four cultural dimensions of the CCAI™. The component and pattern matrices were reviewed using PCA to determine the strength of the loadings of each component and consequently assess how many factors exist for each scale. The Component Matrices are provided in Appendix H, and the Pattern Matrices in Appendix I. A factor with four or more loadings more significant than 0.6 "is reliable regardless of sample size" (Field, 2009, p.647), and Hair et al., (2006) also suggested that loadings greater than 0.5 were

practically significant. With these in mind, EFA was conducted, and component and pattern matrices were analysed to ensure that these requirements were found in the final output.

4.10.3 Review of communalities - PCA

An investigation into communalities determined how well items in each scale linked together. As Pallant (2016) describes, items of a value of < 0.3 may indicate that the item does not fit well with others. In this first instance, the lowest communality value was 0.462 for question 11. Full details of the communalities can be found in Appendix J. It can be interpreted that all items in the questionnaire fitted well together as the value was > 0.3 .

4.10.4 Review of Total Variance

A decision was taken to apply a more stringent standard about the relationships between items and consequently, SPSS v25 was programmed to display only loadings that were above 0.4. PCA revealed the presence of 12 factors with eigenvalues exceeding 1, explaining 22.7, 8.2, 5.3, 4.7, 3.8, 3.4, 2.9, 2.8, 2.6, 2.4, 2.2, 1.1 of the variance respectively, a total of 63.38% the total variances can be found in Appendix K. An inspection of the Catell's scree plot in Appendix L, revealed a break after the fifth component. It was decided to retain the five components for further analysis. This was further signified by the results of Parallel Analysis (Watkins, 2000). The Parallel Analysis results were presented in Appendix M. It showed six components with eigenvalues exceeding the corresponding criterion values for a randomly generated data matrix of the same sample size of 214, together with 50 variables (the same as the 50 questions from the CCAI) and 100 random replications. Pairwise deletion of cases was then used with any missing values (Zhao and Gallant, 2012).

4.10.5 Oblique factor rotation

Oblique factor rotation (using the Direct Oblimin Technique) was used to analyse correlations and KMOs to determine which type of rotation was appropriate. When the analysis forced five factors and eigenvalues over 0.5, there was still an adequate sample size based on the KMO score of 0.844 found in Table 4.11 – a score higher than the recommended 0.6 and referred to as Meritorious (Hutcheson & Sofronious, 1999), and Bartlett's test of

Sphericity demonstrated statistical significance. The decision to force a five-factor solution was also supported by the assertion of Beavers, Lousbury, Richards, Schuyler, Skolitis & Esquivel (2013) who contend that an item's conceptual significance should be examined as theoretical knowledge provides more profound and more relevant insight than a statistical measure. They go further to explain that, "...if an item is not significantly correlated to any of the factors and does not provide a conceptually vital dimension to the measure the item should be removed". (p.11). The five-factor solution is presented in Appendix N. It explained a total of 44.6% of the variance with the components contributing 22.7, 8.2, 5.2, 4.7, 3.7, and 3.7, respectively.

4.10.6 Orthogonal factor rotation

As the Correlations Matrix showed that none of the factor components was greater than 0.5, this suggesting an orthogonal matrix, the factor analysis was re-run switching the rotation to Varimax and the extraction was run as Principal Axis Factoring. Results can be found in Table 4.12. The Rotated Factor Matrix showed many questions that did not load. These were 11, 13, 14, 21, 30, 31, 45, 46, 47, 49, 50. These were removed, and factor analysis was re-run without these questions.

Table 4.12
KMO and Bartlett's test - PCA and Varimax

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.855
Bartlett's Test of Sphericity	Approx. Chi-Square	3558.287
	df	741
	Sig	0.000

When these questions were removed, there was still an adequate sample size based on a KMO score of 0.855– a score higher than the recommended 0.6, and considered meritorious (Hutcheson & Sofronious, 1999) and Bartlett's test of Sphericity demonstrated statistical significance.

The Rotated Factor Matrix showed two questions that did not load. Results can be found in Table 4.13. Questions 29 and 39 were removed, and the Factor Analysis was re-run. When these questions were removed, there was still an adequate sample size based on a KMO score of 0.848, which is still considered meritorious (Hutcheson & Sofrominous,

1999). Question 7 did not load, was removed, and the Factor Analysis was re-run with a KMO of 0.848, which was still meritorious and above 0.6.

Table 4.13
KMO and Bartlett's Test - questions removed

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.848
Bartlett's Test of Sphericity	Approx. Chi-Square	3245.992
	df	666
	Sig	0.000

An assessment of reliability was performed by reviewing the Cronbach Alpha scores of the scales with the five factors extracted. The internal consistencies of the subscales were assessed with the use of Cronbach's α for each of the five components. Factor one was 0.875 and would not increase with the deletion of any questions. Factor two was 0.725 but would increase to 0.811 with question 17 deleted. Factor three was 0.136 but would increase to 0.769 with Q35 deleted. Factor five was 0.576 and would not increase with any question deleted. Four factors exceeded the 0.70 criteria (Nunnally & Bernstein, 1994). The fifth factor was <0.7 , therefore the EFA was re-run with the four factors > 0.7 to develop a new rotation. The following questions did not load: Q11, 13, 14, 20, 21, 28, 30, 31, 38, 45, 46, 47, 49, 50 and were removed, and factor analysis was re-run. The Rotated Factor Matrix showed that question seventeen and seven did not load, so they were removed, and the EFA was re-run. The Rotated Factor Matrix can be found in Appendix O. The four-factor rotated solution revealed the presence of a simple structure. Thurstone (1947) contended that a component matrix should be rotated until it produced items that only loaded onto one factor (Pett, Waldock, Hendy-Isaac & Lawton, 2013).

As recommended by Pallant (2016), a review of whether three or more items loaded on each component was conducted, and each factor did have at least three items loaded. These results can be found in Table 4.14.

Table 4.14
KMO and Bartlett's Test - questions removed

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.847
Bartlett's Test of Sphericity	Approx. Chi-Square	3144.206
	df	630
	Sig	0.000

After the factors loaded, there was still an adequate sample size based on a KMO score of 0.847, which is still considered meritorious (Hutcheson & Sofrominous, 1999). By

running a separate analysis for each component to establish a single eigenvalue more significant than one, convergent validity was verified.

4.10.7 Final assessment of reliability

A final assessment of reliability was performed by reviewing the Cronbach Alpha scores of the scales with the four factors extracted. The internal consistencies of the subscales were assessed with the use of Cronbach's α for each of the four components. Factor 1 was 0.875, Factor 2 was 0.811, Factor 3 was 0.769 and Factor 4 was 0.798. All four factors exceeded the 0.70 criteria (Nunnally & Bernstein, 1994).

4.10.8 Final Factor Groupings

A thematic analysis of the questions that underlie each factor as a group was undertaken to identify the overarching attributes of each factor. Refer to Table 4.15.

Table 4.15
Final factor loadings

Enjoyment		Tolerance		Personal Values		Valuing Others	
Question	Previous Dimension	Question	Previous Dimension	Question	Previous Dimension	Question	Previous Dimension
Q1	Emotional Resilience	Q19	Flexibility Openness	Q25	Personal Autonomy	Q12	Personal Autonomy
Q2	Flexibility Openness	Q22	Flexibility Openness	Q26	Emotional Resilience	Q24	Perceptual Acuity
Q3	Perceptual Acuity	Q23	Emotional Resilience	Q35	Personal Autonomy	Q29	Emotional Resilience
Q4	Emotional Resilience	Q27	Flexibility Openness	Q41	Personal Autonomy	Q33	Perceptual Acuity
Q5	Flexibility Openness	Q32	Flexibility Openness	Q42	Emotional Resilience	Q40	Flexibility Openness
Q6	Personal Autonomy	Q34	Emotional Resilience	Q48	Emotional Resilience		
Q8	Flexibility Openness	Q37	Flexibility Openness				
Q9	Perceptual Acuity						
Q15	Perceptual Acuity						
Q16	Emotional Resilience						
Q18	Emotional Resilience						
Q36	Emotional Resilience						
Q39	Emotional Resilience						
Q43	Flexibility Openness						
Q44	Perceptual Acuity						

Factor one displayed themes of 'ability to deal with stress', 'enjoyment of life and communication', 'understanding different peoples' thoughts and feelings' and 'confidence'. A number of these themes were the same as the original emotional resilience factors relating to 'coping with stress', 'enjoying life in new cultures' and 'confidence'. This factor also displayed themes similar to the original flexibility openness dimension of 'enjoying talking to others' and 'enjoyment' relating to the final theme of 'the ability to have a fulfilling life in another country'. This factor is also related to the original themes in the perceptual acuity dimension 'understanding others' culture and feelings' like 'understanding different peoples' thoughts and feelings', 'keeping an open mind' and 'considering my impact in a new culture', together being related to 'confidence'. Finally, this factor was related to the original personal autonomy dimension was 'interest in learning about different people' and 'people are equally valuable'. Both related to 'understanding different people's thoughts and feelings'. Consequently, factor one was termed 'enjoyment'. This label is relevant to students in the higher education system, who enjoyed their private and international experiences that were essential to their cultural skills development.

The themes that arose from analysing factor two were 'understanding myself', 'being tolerant of new experiences and people' and 'having a positive attitude'. This factor was similar to the original emotional resilience cultural dimension. 'Enjoying new cultural experiences' relates to 'being tolerant of new experiences', perhaps with a different emphasis of 'tolerance'. They do not relate to the other themes from emotional resilience. This factor was dissimilar to the original flexibility openness cultural dimension as it was inwardly related to the person, whereas the flexibility openness themes related to outward experiences of talking and having a fulfilling life in other countries. This factor's themes of 'tolerance' and 'having a positive attitude' were similar to the original perceptual acuity themes of 'keeping an open mind' and 'trying to understand other peoples' culture and feelings'. Finally, this factor's theme of 'people from another culture are equally valuable' is related to the original theme of 'having a positive attitude' in the original personal autonomy cultural dimension. The theme 'understanding myself' relates to the 'maintaining my own beliefs and values' theme. Accordingly, factor two was termed 'tolerance'. This new name related to higher education students being tolerant of international students with whom they work within cross-cultural groups, and it related to living and studying in Melbourne, a multi-cultural city.

The themes of factor three were ‘maintaining personal values’, ‘trusting my ability’, and ‘making decisions from my attitudes’. Some of these themes were similar to the original emotional resilience cultural dimension relating to ‘confidence in my own judgement’ but were different from the remaining emotional resilience themes of ‘the ability to cope with stress’, and ‘enjoyment of new cultural experiences’. This factor also had some similarity to the original flexibility openness theme of being able to trust my ability’. This theme influenced a person in being able to ‘make decisions from my attitudes’. This factor is also related to the original themes in the perceptual acuity dimension, which related to the new factor themes of ‘deciding from my attitudes’ and ‘trusting my ability’. They both reflected the theme of ‘confidence in my judgement’. Finally, this factor is related to the original personal autonomy dimension where the original cultural theme of ‘maintain my own beliefs and values’ was similar to the new factor theme of ‘maintain my personal values.’. Subsequently, factor three was termed ‘personal values’. This label was relevant in the context of higher education as students are encouraged to maintain their value system as well as conforming to behaviours expected in a multi-cultural university and society.

The themes of factor four are ‘people from other cultures are valuable’, ‘I consider my impact on others’ and ‘learning about different people’. This factor had similarities with the original cultural dimension of emotional resilience with relation to both the ‘enjoyment of new experiences, cultures and people’ being related to the ‘learning from different people’ dimension in the new factor. Also, ‘confidence in my communication and judgement’ was related to the new theme of ‘considering my impact on others’. This factor was also similar to the theme of ‘enjoying talking with others’ from the original flexibility openness dimension which can be related to ‘learning about different people’. This factor was also related to the original themes from the perceptual acuity cultural dimension. ‘Trying to understand other peoples’ culture and feelings’ again resonates with ‘learning about different people’. The theme of ‘keeping an open mind’ is related to the new factor theme of ‘people from other cultures are valuable’, and the theme of ‘considering my impact in a new cultural environment’ relates to the new factor theme of ‘considering my impact on others’. Finally, the original personal autonomy theme ‘people from other cultures are equally valuable’ was the same as that of the new factor ‘others are equally valuable’ and ‘interest in learning about different people’ was also brought about by considering other people to be ‘equally valuable’.

Therefore, factor four was termed ‘valuing others’. This label was relevant to this study as previous research found that opportunities for interaction between local and international students needed to be expanded. Studies by Allport (1954) and Pettigrew and Tropp (2006) found that if contact were increased then both local and international students who met and communicated with diverse students, would increase their cross-cultural skills and tolerance for people from another culture. For the rest of the analysis in this study, these factors were created and were used.

4.10.9 The ETPV conceptual model

The relationships between the empirical concepts and their abstract counterparts in this study are reflective. The four cultural dimensions are determined by the peer-to-peer mentoring experience and then by the previous experiences of the 15 covariates in the study.

The covariates in this study are latent variables as these are inferred rather than being directly observed. One common set of definitions of latent variables considers them as “hypothetical variables.” For instance, Harman (1960, p. 12) refers to factors as “hypothetical constructs.” Similarly, Nunnally (1978, p. 96) defines a construct as something that scientists put together out of their imaginations (see also Bartlett 1937, p. 97)

Latent variables provide a degree of abstraction that permits us to describe relations among a class of events or variables that share something in common, rather than making highly concrete statements restricted to the relation between more specific, seemingly idiosyncratic variables. In other words, latent variables permit us to generalize relationships (Bollen, 2002). These are used in this study and show the influence that each of the covariates have on each of the dependent variables.

Although both EFA and CFA are based on the common factor model, EFA is primarily a data-driven approach which tries to uncover patterns by exploring the dataset (Child, 2006), whereas CFA is theoretically grounded and attempts to confirm hypotheses (Yong & Pearce, 2013; Child, 2006; Suhr, 2006; Gerbing & Hamilton 1996). EFA is most appropriately used when links between the observed variables and their underlying latent variables are unknown or uncertain as was the case in this study. EFA is considered exploratory in the sense that the researcher has no prior knowledge that the observed variables do indeed measure the intended

factors. Essentially, the researcher uses EFA to determine the number of factors influencing variables and to analyse which variables ‘go together’ (DeCoster, 1998). In this study, the goal was to find the smallest number of factors that would account for the correlations in the CCAI™ (McDonald, 1985) and to interpret new dimensions which underlie the original ones (Rietveld & Van Hout, 1993). Thus, through factor analysis a clear view of the data was gained and there is the opportunity to use the output in future analyses (Field, 2000; Rietveld & Van Hout, 1993). The EFA analysis was designed to measure particular constructs underlying this proposed conceptual model.

In contrast, CFA is appropriately used when the researcher has some knowledge of the underlying latent variable structure. Based on theory and/or empirical research, relations between the observed measures and the underlying factors a priori are postulated then, this hypothesized structure is statistically tested (Byrne, 2005; Suhr, 2006).

4.10.10 The Enjoyment, Tolerance, Personal Values and Valuing Others factors

The Enjoyment, Tolerance, Personal Values and Valuing Others (ETPV) factors emerged as an outcome of analysing this cohort of students’ cross-cultural adaptability and formed the basis of findings and discussion that were found in chapters five and six. The original questions from the original cultural dimensions were re-configured as a result of the EFA.

4.10.10.1 Enjoyment scale

Of the eighteen questions from the Emotional Resilience cultural dimension that were used in the CCAI™, six of these formed the basis of the Enjoyment dimension in the proposed conceptual model (ETPV). The analysis also suggested that they were represented in the remaining three new cultural dimensions. Two were utilised in the tolerance dimension, three in the personal values dimension and one in the valuing others dimension.

4.10.10.2 Tolerance scale

Of the fifteen questions from the Flexibility Openness cultural dimension that were used in the CCAI™, five of these formed the basis of the Tolerance dimension in the proposed

conceptual model (ETPV). The analysis also suggested that three questions were represented in the enjoyment dimension and one in the valuing others dimension.

4.10.10.3 Personal values scale

Of the ten questions from the Perceptual Acuity cultural dimension that were used in the CCAI™, two of these formed the basis of the valuing others dimension in the proposed conceptual model (ETPV). The analysis also suggested that four questions were represented in the enjoyment dimension.

4.10.10.4 Valuing others scale

Of the seven questions from the Personal Autonomy cultural dimension that were used in the CCAI™ one of these was represented in the valuing others dimension in the proposed conceptual model (ETPV). The analysis also suggested that three questions were represented in the personal values dimension and one in the enjoyment dimension.

4.11 Descriptive statistics for the adapted cultural dimensions of enjoyment, tolerance, personal values and valuing others

Summary statistics for each of the adapted cultural dimensions and both groups of students were provided in Table 4.16 and illustrated the means, standard deviations, standard error of the means, skewness and kurtosis values for each of the cultural dimensions broken down by total, and group. These descriptives provided information about the distribution of the responses for the four cultural dimensions used in the analyses of variance in chapter five

Previous research found that when the skewness measure is greater than two, the variable is asymmetrical about its mean. When the kurtosis was greater than or equal to three, then the variable's distribution was significantly different from a normal distribution as it tended to produce outliers (Westfall & Henning, 2013). As displayed in Table 4.16, some of the results were either skewed or showed kurtosis. Skewness values provided information about symmetry of the responses, but kurtosis shows the peakedness of the responses. If the

distribution was perfectly normal the skewness and kurtosis value would be close to zero, but this was uncommon in social science research (Pallant, 2016).

Table 4.16
Summary descriptive statistics for enjoyment, tolerance, personal values and valuing others

	Mean	Std Dev	N	SE _M	Skewness	Kurtosis
All students						
Enjoyment Pre	70.25	9.13	214	0.62	-1.05	4.57
Enjoyment Post	70.82	7.98	214	0.55	-0.21	0.41
Tolerance Pre	28.88	6.37	214	0.44	-0.59	0.29
Tolerance Post	28.41	6.54	214	0.45	-0.48	0.09
Personal Values Pre	28.27	4.02	214	0.27	-0.33	0.25
Personal Values Post	28.17	3.77	214	0.26	-0.34	0.06
Valuing others Pre	25.83	3.43	214	0.23	-2.11	7.72
Valuing others Post	25.41	3.19	214	0.22	-1.01	1.44
No SLM students						
Enjoyment Pre	69.94	10.20	107	0.99	-1.51	5.47
Enjoyment Post	71.31	8.33	107	0.81	-0.54	0.99
Tolerance Pre	29.33	6.50	107	0.63	-0.46	-0.58
Tolerance Post	28.79	7.13	107	0.69	-0.66	0.38
Personal Values Pre	28.45	4.22	107	0.27	-0.33	0.25
Personal Values Post	28.85	3.77	107	0.26	-0.34	0.06
Valuing others Pre	25.47	3.68	107	0.36	-1.94	6.32
Valuing others Post	25.93	3.14	107	0.30	-1.09	2.03
SLM students						
Enjoyment Pre	70.56	7.96	107	0.77	0.07	0.12
Enjoyment Post	70.34	7.63	107	0.74	0.17	-0.26
Tolerance Pre	28.44	6.22	107	0.60	-0.76	1.26
Tolerance Post	28.02	5.91	107	0.57	-0.24	-0.59
Personal Values Pre	28.09	3.82	107	0.37	0.02	-0.41
Personal Values Post	27.49	3.61	107	0.35	-0.32	-0.05
Valuing others Pre	26.19	3.13	107	0.30	-2.28	9.70
Valuing others Post	24.90	3.16	107	0.31	-1.01	1.08

The skewness values suggested that the responses were clustered towards the higher end and therefore, to the right of the distribution. The kurtosis values were mostly positive, indicating that the distribution was relatively peaked. Tabachnick & Fidell (2013, p.80) stated that with reasonably large samples, skewness would not “make a substantive difference in the analysis”. This suggested that students at the university used in this study had reasonably high cross-cultural skills at the commencement of their degree. This may have been a consequence of the number of international students enrolled at the university, respondents’ previous international experiences and the multi-cultural nature of Melbourne itself. It was noted that although kurtosis could result in an under-estimate of the variance, this risk was reduced with samples of 200 or more. Although this study fell within the higher range (with 214

respondents), further analysis was undertaken using a range of methods to test for normality, homoscedasticity, and sphericity – requirements required for more rigorous testing of the relationships.

The standard deviation responses included in table 4.16 presented the distribution of responses from the mean. In comparison to the means, the standard deviations were small, showing that the responses were clustered around the mean with little spread. Again, this suggested the responses were not distributed normally. The standard error of the mean measured whether the sample accurately represented a population. Given a sample size of 214, the standard error of the mean was small, suggesting the sample mean accurately reflected the population mean, which increased the confidence in the results despite the lack of normality.

Overall, the means of almost all the dimensions from the pre-test to the post-test decreased. It was hypothesised that seeking help from a *SLM* would influence students' cross-cultural adaptability – for those students who attended the *SLM* area and had a mentor from a different cultural background. The exceptions were for the total cohort as well as the *No SLM* group for the dimension of enjoyment. There was also an influence for the dimension of personal values and valuing others but again, only for the *No SLM* group. Unexpectedly, the group who had attended *SLM* and had a cross-cultural mentoring experience showed no influence on the mean responses for any of the four cultural dimensions. Reasons for this were investigated in more detail in the concluding chapter six. The relatively high commencing cross-cultural adaptability scores may be attributed to the respondents' demographics and other personal information, or their previous international experiences. This could also be a function of the nature of the capital city where students resided. Melbourne is a major city with a large migrant population, that potentially provided students with significant exposure to other cultures and therefore, relatively high baseline responses. Other reasons may include the maturation effect (Harris, 1977) of completing the same questionnaire twice in eight weeks. Another issue that may have affected the baseline scores was that this study was undertaken in a university with a history of recruiting international students, in the heart of a multi-cultural city. Given the unexpected nature of these results, further analysis of variance was conducted.

4.12 Descriptive statistics for the fifteen covariates

Summary statistics for each of the covariates for all students and then for each separate group (*NoSLM* and *SLM*) were provided in Table 4.17, and illustrated the means, standard deviations, standard error of the means, skewness and kurtosis values. These provided information about the distribution of the responses for the covariates used in the analyses of covariance. Also displayed in Table 4.17, some of the results were either skewed or showed kurtosis. Many of the skewness values suggested that the responses are clustered towards the higher end, and many of the kurtosis values were positive, which indicated that the distribution was relatively peaked. Tabachnick & Fidell (2013, p.80) state that with reasonably large samples (over 200) skewness will not “make a substantive difference in the analysis”. This suggests that many students at the university had friends or family from other cultures, had participated in exchange, study tours or foreign internships, had taken private international holidays and had studied a foreign language at university. These experiences had been taken by students in both the *NoSLM* and *SLM* groups.

Table 4.17
Summary descriptive statistics for all covariates

	Mean	Std Dev	N	SE _M	Skewness	Kurtosis
All students						
Age	1.80	0.56	214	0.039	0.145	0.559
Ethnicity		0.49	214	0.034	0.361	-1.870
Mothers' Ed	1.41	1.21	214	0.083	0.191	-1.269
Fathers' Ed	3.15	1.36	214	0.093	-0.142	-1.139
Hours socialise	3.18	0.94	214	0.064	0.613	-0.504
Friends/Family	2.05	0.27	214	0.019	3.110	7.675
Private Hols	1.08	0.39	214	0.027	1.567	0.457
Lang school	1.19	0.49	214	0.033	0.481	-1.769
Exchange	1.38	0.23	214	0.016	3.859	12.893
Study Tour	1.06	0.29	214	0.020	2.702	5.299
Foreign Intern	1.10	0.26	214	0.017	3.368	9.342
Internat Content	1.07	0.49	214	0.033	0.481	-1.769
C/C groups	1.38	0.18	214	0.012	5.254	25.605
Lang Uni	1.03	0.31	214	0.021	2.535	4.425
	1.11		214			
NoSLM						
Age	1.86	0.57	107	0.055	0.300	1.234
Gender	1.49	0.50	107	0.049	0.019	-2.000
Ethnicity	1.31	0.46	107	0.045	0.830	-1.312
Mothers' Ed	3.06	1.25	107	0.120	0.288	-1.192
Fathers' Ed	3.11	1.34	107	0.130	-0.111	-1.098
Hours socialise	2.24	0.97	107	0.094	0.372	-0.808
Friends/Family	1.09	0.29	107	0.028	2.793	5.803
Private Hols	1.14	0.35	107	0.034	2.073	2.296
Lang school	1.48	0.50	107	0.049	0.094	-1.991

Exchange	1.04	0.19	107	0.018	4.877	21.789
Study Tour	1.06	0.23	107	0.022	3.859	12.893
Foreign Intern	1.04	0.19	107	0.018	4.877	21.789
Internat Content	1.28	0.45	107	0.044	0.978	-1.044
C/C groups	1.06	0.23	107	0.022	3.859	12.893
Lang Uni	1.00	0.00	107	0.000	-	-
SLM						
Age	1.75	0.55	107	0.053	-0.052	-0.382
Gender	1.55	0.50	107	0.048	-0.207	-1.957
Ethnicity	1.51	0.50	107	0.049	-0.056	-1.997
Mothers' Ed	3.23	1.17	107	0.113	0.106	-1.342
Fathers' Ed	3.25	1.381	107	0.134	-0.179	-1.174
Hours socialise	1.85	0.88	107	0.085	0.884	0.128
Friends/Family	1.06	0.25	107	0.024	3.515	10.356
Private Hols	1.24	0.43	107	0.042	1.198	-0.564
Lang school	1.29	0.46	107	0.044	0.927	-1.140
Exchange	1.07	0.26	107	0.026	3.234	8.456
Study Tour	1.14	0.35	107	0.034	2.073	2.296
Foreign Intern	1.10	0.30	107	0.029	2.616	4.842
International Content	1.49	0.50	107	0.049	0.056	-1.997
C/C groups	1.01	0.09	107	0.009	10.199	102.009
Lang Uni	1.21	0.41	107	0.040	-0.074	-0.074

4.13 Conclusion

This chapter presented the results of the descriptive analysis to assess how representative the samples were with respect to students' decision to utilise the *SLM* service or not. It also provided an understanding of the samples through examining distributions of the demographic, socio-economic, private international experiences, external international academic experiences, internal international academic experience variables. Exploratory factor analysis was undertaken, and four alternate factors were classified and identified from the analysis. The first factor emanating from the analysis was called 'enjoyment'. It related to themes such as those previously seen in all the original cultural dimensions of emotional resilience, flexibility openness, perceptual acuity and personal autonomy. The second factor that emerged from the analysis was named 'tolerance' and related to all original cultural dimensions except the flexibility openness dimension. The third new factor once more related to all original cultural dimensions, as did the final new factor named 'valuing others'. The proposed ETPV constructs and the IECCA measurement instrument were discussed. The chapter also displayed the results of the descriptive analysis for the four newly identified cultural dimensions that were used in the rest of this study.

The factors emanating from the EFA analysis were used in the analysis of results found in chapter five. These were used as previous research found that as these contained some similar

measures that were related to some of the original cultural dimensions, “it may be a good idea to use the scores on the different factors instead of the scores on the original variables” (Rietveld & Van Hout, p.2).

Chapter 5

ANALYSIS OF RESULTS

5.1 Introduction

Chapter four assessed how representative the samples were with respect to students' cross-cultural adaptability both before and after the EFA was conducted. The descriptives provided an understanding of a typical respondent by examining distributions of the socio-economic and previous international experiences, as well as their cross-cultural adaptability before and after the peer-to-peer mentoring experience. The properties of the CCAI™ were also tested, and a new conceptual model was proposed to test significant pathways amongst the emerging constructs of enjoyment, tolerance, personal values and valuing others. Based on the findings of this study, the ETPV model is predicated on several key assumptions:

- that students' cross-cultural adaptability is a function of their cross-cultural experiences
- that underlying characteristics of students are of significance in influencing their cross-cultural adaptability
- that the ETPV model will account for the variability in the cross-cultural adaptability in higher education students

This chapter presented the findings related to the research questions central to the focus of this quasi-experimental study. It assessed whether cross-cultural peer-to-peer mentoring influenced the cross-cultural adaptability of the participants. The analysis was also undertaken to determine whether demographics, socio-economic factors, socialising, previous private international experiences, external international academic experiences or internal international academic experiences may have influenced the respondents' cross-cultural adaptability as defined by Kelley and Meyers (1987, 1992). This chapter also introduced and

discussed the application of the ETPV model as an analytical tool and tested the six sets of proposed hypotheses. The chapter presented detailed results to address the following two research questions:

RQ1: Did exposure to a cross-cultural peer-to-peer mentoring experience at *SLM* influence student's cross-cultural adaptability and are these changes significant?

RQ2: Did a student's demographics, socio-economic factors, socialising or previous international experiences influence their cross-cultural adaptability? Do these factors influence respondents from the *NoSLM* group differently from the *SLM* group?

5.2 Research question one - Peer-to-peer mentoring influence

Based on the constructs identified in the literature review (see chapter two), the four general hypotheses proposed for research question one were restated as:

H1: Having a cross-cultural experience with a *SLM* will have a significant influence on students' cross-cultural adaptability overall as *measured* by the dimensions developed as a result of exploratory factor analysis (EFA) of enjoyment, tolerance, personal values or valuing others relative to students who did not seek help from a *SLM*.

H1a: Having a cross-cultural experience with a *SLM* will have a significant influence on students' cross-cultural adaptability for the dimension of *enjoyment*, relative to students who did not seek help from a *SLM*.

H1b: Having a cross-cultural experience with a *SLM* will have a significant influence on students' cross-cultural adaptability for the dimension of *tolerance*, relative to students who did not seek help from a *SLM*.

H1c: Having a cross-cultural experience with a *SLM* will have a significant influence on students' cross-cultural adaptability for the dimension of *personal values*, relative to students who did not seek help from a *SLM*.

H1d: Having a cross-cultural experience with a *SLM* will have a significant influence on students' cross-cultural adaptability for the dimension of *valuing others*, relative to students who did not seek help from a *SLM*.

5.3 Assumption testing for analysis of variance using ANOVA

Following the grouping of the respondents into either not using the *SLM* service or using the *SLM* service, analysis of variance with between and within-subjects' factors was conducted to evaluate each group's cross-cultural dimensions for any changes from the pre-test to the post-test. Prior to the analysis of variance of between and within-subjects' factors, the requirements of sample size, normality, homoscedasticity, outliers, sphericity, multicollinearity, singularity, linearity and homogeneity of variance-covariance matrices were assessed. Homogeneity of regression slopes was not required as this study does not perform a step-down analysis (Pallant, 2016).

5.3.1 Sample size

Analysis of variance requires more cases in each cell than there are dependent variables as an absolute minimum (Pallant, 2016). If the sample size is considered sufficiently large, some violations of some of these requirements are allowed, e.g. normality. In this study, there were a total of 214 cases, with an equal split between the two groups being 107 per group, so this requirement was upheld.

5.3.2 Normality using Q-Q scatter plots

Normality was evaluated using Q-Q scatterplots (Bates, Mächler, Bolker, & Walker, 2014; DeCarlo, 1997; Field, 2013). The Q-Q scatterplot compared the distribution of the residuals with a normal distribution (a distribution which follows a bell curve). In the Q-Q scatterplot, the line represented the theoretical quantiles of a normal distribution. Normality was assumed if the points formed a 'relatively' straight line. The Q-Q scatterplots can be found in Appendix P. The solid line in each figure was the normal line, and the scatter plots were not far from this line, therefore, suggesting that the residuals were approximating a normal distribution.

5.3.2.1 Shapiro Wilk tests of normality

In addition to the Q-Q scatter plots, Shapiro Wilk tests were conducted as a robustness check to determine whether the distributions of enjoyment, tolerance, personal values or valuing

others in either the pre- or post-test were significantly different from a normal distribution. Appendix Q shows the results of Shapiro-Wilk tests for the total cohort as well as each group, *NoSLM* or *SLM*. A Shapiro-Wilk test was conducted to determine whether differences could have been produced by a normal distribution (Razali & Wah, 2011).

Overall, the Shapiro Wilk results suggested that in most cases, the distribution of the dimensions suggested non-normality. The exceptions were enjoyment (post) for the total cohort and the *SLM* group along with enjoyment (pre-) and personal values (pre- and post) for the *SLM* group. However, according to the Central Limit Theorem (CLT), the mean of any random variable will be approximately normally distributed as the sample size increases. Therefore, with a sufficiently large sample size ($n > 50$), deviations from normality would have had little effect on the results (Stevens, 2009). Given the size of the sample for the total cohort in this study ($n=214$) and each group ($n=107$), the results would not affect the next stage of the testing, and this requirement was, therefore, upheld.

5.3.3 Homoscedasticity

Homoscedasticity was evaluated by plotting the residuals against the predicted values (Bates et al., 2014; Field, 2013; Osborne & Walters, 2002). The requirement of homoscedasticity was met if the points appeared randomly distributed with a mean of zero and no apparent curvature. The scatterplots (see Appendix R), were used to explore the relationship between the pre- and post-responses for each dimension when controlling for the differences in the groups (Pallant, 2016). These scatterplots indicated whether variables were related in a linear or curvilinear fashion as only linear relationships were suitable for correlation analyses. They also indicated whether the variables were positively related (high score on one is associated with high responses on another). The scatterplots showed that the dependent variables did not violate the homoscedasticity requirement necessary for the variance/covariance analysis used in this study.

In addition, the Levene's test for equality of variance, which can be found in Table 5.1, was conducted for each of the dependent variables for each group to assess whether the homogeneity of variance requirement is met (Levene, 1960). The homogeneity of variance requirement requires that the variance of the dependent variable is approximately equal in each group.

Table 5.1
Summary Levene's Test results

Dimension	Levene's Test result
Enjoyment Pre	$F(1, 212) = 2.24, p = 0.136$
Enjoyment Post	$F(1, 212) = 0.10, p = 0.754$
Tolerance Pre	$F(1, 212) = 1.20, p = 0.275$
Tolerance Post	$F(1, 212) = 1.93, p = 0.166$
Personal Values Pre	$F(1, 212) = 1.28, p = 0.259$
Personal Values Post	$F(1, 212) = 0.19, p = 0.664$
Valuing others Pre	$F(1, 212) = 1.23, p = 0.268$
Valuing others Post	$F(1, 212) = 0.00, p = 0.974$

The results of Levene's tests for all dependent variables for each group was not significant and greater than the 0.05 threshold (Pallant, 2016), indicating that the requirement of homogeneity was met.

5.3.4 Multivariate Outliers.

Residuals were calculated to examine for outliers in the data. To identify influential points in the residuals, Mahalanobis distances (refer to the glossary on p.xiv) were calculated for the total data and relative to a Chi-Square χ^2 distribution (Newton & Rudestam, 2013). An outlier was defined as any Mahalanobis distance that exceeded 26.125, the 0.999 quantile of a Chi-Square χ^2 distribution with 8 degrees of freedom (Kline, 2015). The maximum determined/calculated is 60.797, suggesting that multivariate outliers were present in the data. For each group separately, the maximum for the *No SLM* group was 51.134 and for the *SLM* group 51.785. Both were greater than 26.125. Sorting the total data by the Mahalanobis Distance shows that the associated Cook's Distance is not greater than one for any of the respondents. For the total cohort the largest was 0.069, the *NoSLM* group was 1.937, and the *SLM* group was 0.172 which indicated that no individual respondent outcome was strong enough to impact the predictive efficacy of the model. In addition, the raw data was again inspected to verify whether any of the outliers were a result of error. This inspection showed that they were not errors. Consequently, outliers were not removed from the data.

5.3.5 Sphericity

The usual sphericity requirement did not apply in this analysis, as there were only two repeated measurements. The questionnaire was undertaken at the start of the semester and again at the end – providing the pre- and post-responses for the dimensions.

5.3.6 Multicollinearity and singularity

Analysis of variance or covariance worked best when the dependent variables were moderately correlated; therefore, a Spearman's rho correlation analysis was conducted among the pre- and post-test responses for each cultural dimension and each group. Given univariate outliers in Enjoyment and Valuing others (pre- and post), Tolerance (pre-), and Personal Values, (pre-) a Spearman's rho test was chosen rather than Pearson's correlations as it was unaffected by outliers. The correlation coefficients were between 0.17 and 0.62, indicating some combinations were a small effect, and other combinations were a large effect size for each group (Cohen, 1988) and for each combination for each group (see Appendix S). These correlations indicated that as each of the pre-test responses increased, the relative post-test score also tended to increase. Cohen's (1988) standard was applied to evaluate the strength of the relationships between the pre- and post-test responses, where coefficients between 0.10 and 0.29 represented a small effect size; coefficients between 0.30 and 0.49 represented a moderate effect size, and coefficients above 0.50 indicated a large effect size. As $r = < 0.9$ for all combinations, multicollinearity did not exist (Pallant, 2016). A Spearman correlation required that the relationship between each pair of variables did not change direction and were thus monotonic (Conover & Iman, 1981).

The correlations were further examined using Holm corrections to adjust for multiple comparisons based on an alpha value of 0.05. For the *NoSLM* group, significant positive correlations were observed for all combinations of the pre- and post-test except for the combination of valuing others (pre-) and personal values (post). Apart from this pair, correlations indicated that there were significant correlations for the *NoSLM* group responses for the pre- and post-tests. For the *SLM* group, significant positive correlations were observed for all combinations of pre- and post except for the combination of valuing others (pre-) and tolerance (post). The results confirmed the overall positive correlations of the dependent variables. Therefore, this requirement was upheld. Singularity, another requirement of analysis of variance/covariance, was also not permitted. It occurred when one dependent variable was a combination of other independent variables. This was not the case in this study as each dependent variable was a standalone variable (Pallant, 2016).

5.3.7 Linearity

The requirement of linearity referred to the presence of a straight-line relationship between each pair of dependent variables (Pallant, 2016) – enjoyment, tolerance, personal values, and valuing others. Scatter plots between each pair of dependent variables and the regression slopes were inspected and indicated linearity overall, thereby establishing that the data met this requirement.

5.3.8 Homogeneity of variance-covariance matrices

Box's test of equality of covariance matrices was performed to test the hypothesis that the covariance matrices of each dependent variable were equal across the two groups for each pre- and post-test cultural dimension. Full details of the Box's tests can be found in Table 5.2. If the tests for the two groups were not the same (i.e. $p < 0.001$), then the requirement was not satisfied.

Table 5.2
Box's Test of Equality of Covariances Matrices

Dimension	Box's M	F	df1	df2	Significance
Enjoyment	6.639	2.190	3	8089920.000	0.087
Tolerance	3.761	1.241	3	8089920.000	0.293
Personal Values	1.143	0.377	3	8089920.000	0.770
Valuing Others	6.957	2.295	3	8089920.000	0.076

The test for each dimension were not significant, and were greater than >0.05 (Pallant, 2016). Therefore, the requirement of homogeneity of variance-covariance was not violated.

5.4 Analysis of variance results

Mixed model analyses of variances (ANOVAs), each with one within-subjects factor (the responses to the questions in each of the four cultural dimensions) and one between-subjects factor (whether the students were in the *NoSLM* group or the *SLM* group) was conducted. The analysis was conducted to determine whether significant differences existed within each dimension and between each group.

5.4.1 Cross-Cultural Enjoyment Dimension

For the enjoyment dimension, Table 5.3 shows the results of the mixed model analyses of variances (ANOVA) results.

Table 5.3
Mixed-model ANOVA results - Enjoyment

Source	<i>df</i>	<i>Sum of Squares (SS)</i>	<i>Mean Square (MS)</i>	<i>F</i>	<i>p</i>	η_p^2
Between-groups						
<i>NoSLM/SLM</i>	1	3.37	3.37	0.03	0.869	0.00
Residuals	212	26409.03	124.57			
Within-groups						
Enjoyment	1	34.78	34.78	1.52	0.219	0.01
Group: Pre-Post Enjoyment	1	67.52	67.52	2.95	0.088	0.01
Residuals	212	4859.70	22.92			

There were no significant differences between the mean pre- and post-test responses for either the *NoSLM* or the *SLM* group $F(1, 212) = 0.03, p = 0.869, \eta p^2 = 0.00$ (Table 5.4). There were also no significant changes in responses within-groups from the pre- to the post-test for the enjoyment dimension for either group $F(1, 212) = 2.95, p = 0.088, \eta p^2 = 0.01$. Post-hoc tests were not conducted since there were no significant differences for either group in cross-cultural enjoyment. Figure 5.1 illustrated the estimated marginal means for the enjoyment dimension.

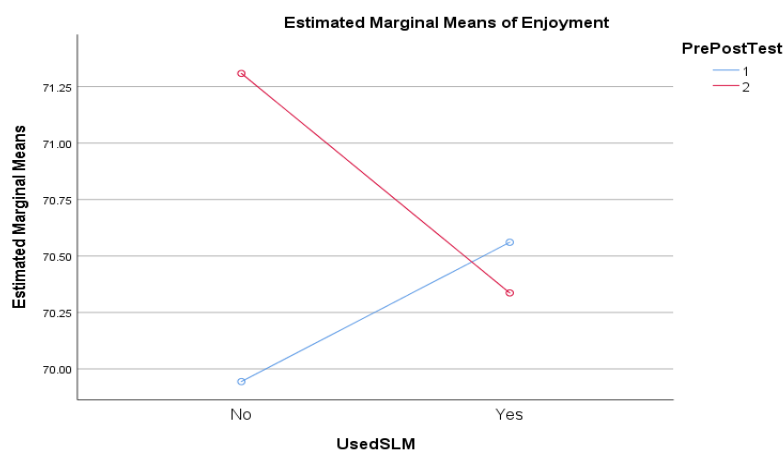


Figure 5.1 Estimated Marginal Means – Enjoyment

The post-test score for the *No SLM* group increased (Gp1Pre = 69.94; Gp1Post = 70.56), however, the *SLM* group declined (Gp2Pre = 71.31; Gp2Post = 70.34).

For the first research question, H1a hypothesised that having a cross-cultural experience at *SLM* would have a significant influence on students' cross-cultural adaptability for the enjoyment dimension questions, relative to students who did not seek help from a *SLM*. The ANOVA results indicated that the relationship between any changes in the enjoyment dimension over time was not dependent on whether the student was in the *No SLM* or *SLM* group. Therefore, hypothesis H1a was not significant.

5.4.2 Cross-Cultural Tolerance Dimension

Table 5.4
Mixed-model ANOVA results - Tolerance

Source	df	SS	MS	<i>F</i>	<i>p</i>	η_p^2
Between-groups						
<i>NoSLM/SLM</i>	1	74.03	74.03	1.12	.0290	0.01
Residuals	212	13959.99	65.85			
Within-groups						
Tolerance	1	24.31	24.31	1.39	0.240	0.01
Group: Pre-post Tolerance	1	0.34	0.34	0.02	0.890	0.00
Residuals	212	3715.36	17.53			

The tolerance dimension results revealed no significant difference between the pre- and post-test mean responses for either the *NoSLM* or *SLM* group $F(1, 212) = 1.12, p = 0.29, \eta_p^2 = 0.01$. Furthermore, there was no significant within-group change in responses from pre- to post-test for the tolerance dimension for either group $F(1, 212) = 0.02, p = 0.890, \eta_p^2 = 0.00$. Post-hoc tests were not conducted since there were no significant differences within the groups.

The plot of the estimated marginal means for the tolerance dimension was presented in Figure 5.2.

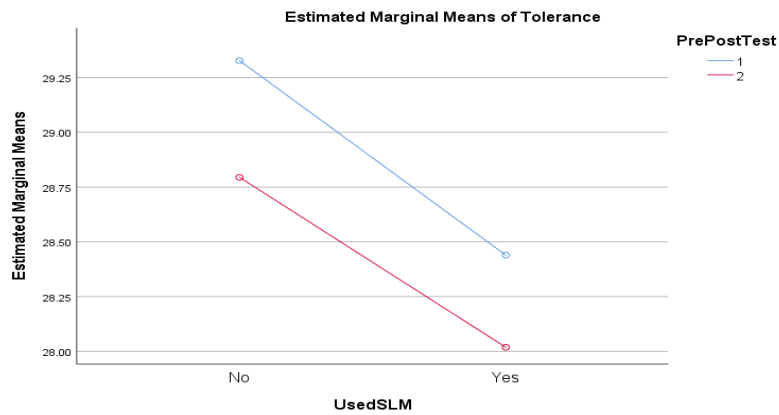


Figure 5. 2 Estimated marginal means – Tolerance

The figure showed that the post-test score for both the *No SLM* and *SLM* groups decreased (Gp1Pre = 29.33; Gp1Post = 28.79), (Gp2Pre = 28.44; Gp2Post = 28.02).

H1b hypothesised that having a cross-cultural experience with a *SLM* would influence students' cross-cultural adaptability for the tolerance dimension, relative to students who did not seek help from a *SLM*. The ANOVA results showed that there was no evidence for changes in the tolerance dimension to be dependent on whether students attended or did not meet with a *SLM*, indicating that the pre- to post-test results were not affected by which group the respondent belonged to. Therefore, hypothesis H1b was rejected.

5.4.3 Cross-cultural Personal Values Dimension

For the personal values dimension, Table 5.5 shows the results of the mixed model analyses of variances (ANOVA) results.

Table 5.5
Mixed-model ANOVA results - Personal Values

Source	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>p</i>	η_p^2
Between-groups						
<i>NoSLM/SLM</i>	1	79.10	79.10	3.28	0.072	0.02
Residuals	212	5111.25	24.11			
Within-groups						
Tolerance	1	24.31	24.31	1.39	0.240	0.01
Group: Pre-post Personal Values	1	27.25	27.25	4.63	0.032	0.02
Residuals	212	1246.62	5.88			

The overall mean responses for the personal values dimension's questions for both groups were statistically similar $F(1, 212) = 3.28, p = 0.072, \eta p^2 = 0.02$. However, the interaction between students' group placement and the pre- to post-test change was significant, $F(1, 212) = 4.63, p = 0.032, \eta p^2 = 0.02$, indicating that the changes in responses on the personal values dimension were dependent on whether the student was in the *NoSLM* or *SLM* group. Nevertheless, despite reaching significance, the actual difference between the groups was small, explaining 2% of the variance in the responses (Cohen, 1988).

Since the within-group result was significant, post-hoc Tukey HSD comparisons tests. were used to test the differences in the estimated marginal means for each combination of the group and the personal values dimension. Results can be found in Table 5.6.

Table 5.6
The marginal means contrasts for each combination of within-subject variables for the mixed-model ANOVA - Personal Values.

Contrast	Difference	SE	df	t	p
<i>NoSLM</i>					
Pre-test /Post-test	-0.40	0.33	212	-1.21	0.227
<i>SLM</i>					
Pre-test /Post-test	0.61	0.33	212	1.83	0.068

Note. Tukey Comparisons were used to test the differences in estimated marginal means for each combination of between and within-subjects' effects.

In analysing the Tukey comparisons, the mean responses of the *NoSLM* group increased (Gp2Pre = 28.09; Gp2Post = 27.47) but this change was not significant $t(212) = -1.21, p = 0.227$. For the *SLM* group, their responses decreased (Gp1Pre = 28.45; Gp1Post = 28.85), and this change was also not significant $F(1, 106) = 1.83, p = 0.068$, suggesting that the change in their responses was unlikely a result of the peer-to-peer mentoring experience. Though the two groups had significantly different trends in terms of personal values, neither group's trend represented a significant change.

The plot of the estimated marginal means for the personal values dimension was presented in Figure 5.3.

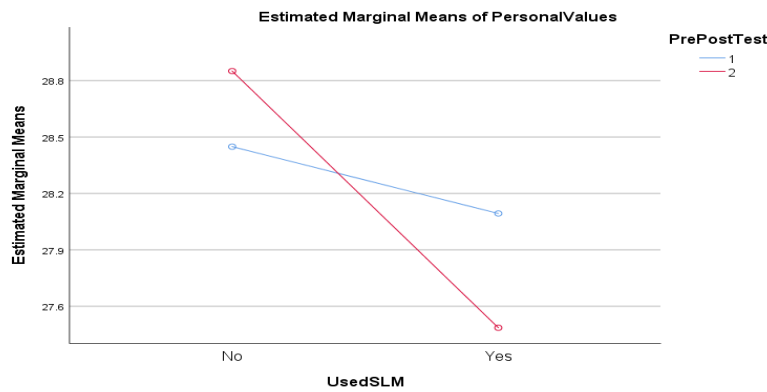


Figure 5.3 Estimated marginal means - Personal Values

H1c hypothesised that having a cross-cultural experience with a *SLM* would influence students' cross-cultural adaptability for the personal values dimension, relative to students who did not seek help from a *SLM*. The ANOVA results showed that there was no evidence for changes in the personal values dimension to be dependent on whether students attended or did not meet with a *SLM*, indicating that the pre- to post-test results were not affected by which group the respondent belonged to. Therefore, hypothesis H1c was rejected.

5.4.4 Cross-cultural Valuing Others Dimension

For the valuing others dimension, Table 5.7 shows the results of the mixed model analyses of variances (ANOVA) results.

Table 5.7
Mixed-model ANOVA results - Valuing Others

Source	df	Sum of Squares	Mean Square	F	p	η_p^2
Between-groups						
NoSLM/SLM	1	2.54	2.54	0.15	0.699	0.00
Residuals	212	3590.88	16.94			
Within-groups						
Valuing Others	1	18.51	18.51	3.97	0.048	0.02
Group: Pre-post Valuing Others	1	81.70	81.70	17.51	0.000	0.08
Residuals	212	989.29	4.67			

Mean responses for both groups for the valuing others dimension were similar - $F(1, 212) = 0.15$, $p = 0.699$, $\eta_p^2 = 0.00$. However, there were significant within-group differences in the total cohort's responses for the pre- and post-tests $F(1, 212) = 3.97$, $p = 0.048$, $\eta_p^2 = 0.02$,

and these differences were significantly dependent on whether the student was in the *NoSLM* or *SLM* group $F(1, 212) = 17.51, p = 0.000, \eta p^2 = 0.08$, explaining 8% of the variance in the responses (Cohen, 1988).

As there were significant differences within the groups, the Tukey HSD test was used to test the marginal means differences for each combination of group and pre- and post-test responses for the valuing others dimension. Results can be found in Table 5.8.

Table 5.8
Marginal means contrasts for each combination of Within-subjects variables for the Mixed-model ANOVA for Valuing Others

Contrast	Difference	SE	df	t	p
<i>NoSLM</i>					
Pre-test/Post-test	-0.40	0.33	212	-1.21	0.227
<i>SLM</i>					
Pre-test/Post-test	0.61	0.33	212	1.83	.0068

Note. Tukey Comparisons were used to test the differences in estimated marginal means for each combination of between and within-subjects' effects.

Results showed that for the *No SLM* group, their post-test responses increased (Gp1Pre = 25.47; Gp1Post = 25.93) but decreased for the *SLM* group (Gp2Pre = 26.19; Gp2Post = 24.90). These differences are not significant for either the *NoSLM* group, $t(212) = -1.21, p = 0.227$, or the *SLM* group, $t(212) = 1.83, p = 0.068$ suggesting that the change in their responses was unlikely to be a result of the peer-to-peer mentoring experience. Though the two groups had significantly different trends in terms of valuing others, neither group's trend represented a significant change.

The plot of the estimated marginal means for the personal values dimension was presented in Figure 5.4.

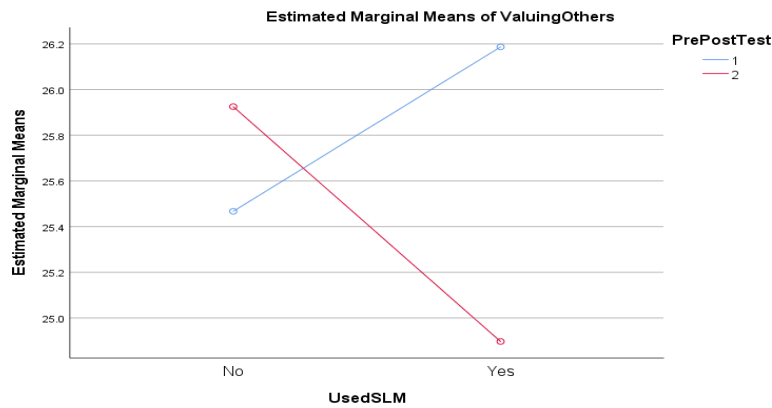


Figure 5.4 Estimated marginal means - Valuing others

H1d hypothesised that having a cross-cultural experience with a *SLM* would influence students' cross-cultural adaptability for the valuing others dimension, relative to students who did not seek help from a *SLM*. The ANOVA results showed that there was no evidence for changes in the personal values dimension to be dependent on whether students attended or did not meet with a *SLM*, indicating that the pre- to post-test results were not affected by which group the respondent belonged to. Therefore, hypothesis H1d was rejected.

5.4.5 Research question one summary

The overarching hypothesis investigated whether the *SLM* group responses would influence each cultural dimension relative to the *NoSLM* group. The mixed ANOVA results were summarised in Table 5.9. The findings presented indicated that the (mean) responses in all dimensions for students who attended *SLM* tended to fall, but the *No SLM* group's mean responses increased from the pre- to the post-test for both the enjoyment and the valuing others dimensions. However, these differences were not statistically significant, suggesting that the change in the group responses was most likely not a result of the peer-to-peer mentoring experience. Therefore, hypotheses H1a, H1b, H1c and H1d were not significant.

Table 5.9

Summary of whether exposure to a cross-cultural peer-to-peer mentoring experience influences students' cross-cultural adaptability

Hypothesis	Statement	Significant/ Not Significant
H1a	Having a cross-cultural experience at <i>SLM</i> will have a significant influence on students' cross-cultural adaptability for the dimension of <i>enjoyment</i> , relative to students who did not seek help from a <i>SLM</i> .	Not significant
H1b	Having a cross-cultural experience at <i>SLM</i> will have a significant influence on students' cross-cultural adaptability for the dimension of <i>tolerance</i> , relative to students who did not seek help from a <i>SLM</i> .	Not significant
H1c	Having a cross-cultural experience at <i>SLM</i> will have a significant influence on students' cross-cultural adaptability for the dimension of <i>personal values</i> , relative to students who did not seek help from a <i>SLM</i> .	Not significant
H1d	Having a cross-cultural experience at <i>SLM</i> will have a significant influence on students' cross-cultural adaptability for the dimension of <i>valuing others</i> , relative to students who did not seek help from a <i>SLM</i> .	Not significant

5.5 Research Question Two – Effect of Previous Experiences

Research question one focused on whether the change in respondents' cross-cultural adaptability as measured by four cross-cultural dimensions were attributable to either seeking help from a *SLM* or not. Since the respondents in both groups self-selected, it was essential to examine how the previously existing characteristics of the respondents in each of these groups affected their cross-cultural adaptability. The second question investigated any moderating effects of demographics, socio-economic factors, socialising and previous international experiences on students' cross-cultural dimensions and whether these had influenced either the *NoSLM* or *SLM* group. Because of the quasi-experimental exploratory nature of this study, it was not possible to draw causal inferences, and rather, the focus was on the relationships that emerged between the various independent variables and the change in students' cross-cultural adaptability.

Based on the constructs identified in the literature review (see chapter two), the hypotheses proposed for research question two are restated as:

H2: Higher education students' demographic and socio-economic factors will influence their cross-cultural adaptability. Having a cross-cultural mentoring experience with a *SLM* will have a significant influence on their cross-cultural adaptability in both the pre- and post-tests as measured by the dimensions of enjoyment, tolerance, personal values or valuing others relative to students who did not seek help from a *SLM*.

- H2a: For students who have a cross-cultural mentoring experience with a *SLM*, age will have a significant influence on their cross-cultural adaptability in both the pre- and post-tests as measured by the dimensions of enjoyment, tolerance, personal values or valuing others relative to students who did not seek help from a *SLM*.
- H2b: For students who have a cross-cultural mentoring experience with a *SLM*, gender will have a significant influence on their cross-cultural adaptability in both the pre- and post-tests as measured by the dimensions of enjoyment, tolerance, personal values or valuing others relative to students who did not seek help from a *SLM*.
- H2c: For students who have a cross-cultural mentoring experience with a *SLM*, ethnicity will have a significant influence on their cross-cultural adaptability in both the pre- and post-tests as measured by the dimensions of enjoyment, tolerance, personal values or valuing others relative to students who did not seek help from a *SLM*.
- H2d: For students who have a cross-cultural mentoring experience with a *SLM*, mothers' education level will have a significant influence on their cross-cultural adaptability in both the pre- and post-tests as measured by the dimensions of enjoyment, tolerance, personal values or valuing others relative to students who did not seek help from a *SLM*.
- H2e: For students who have a cross-cultural mentoring experience with a *SLM*, fathers' education level will have a significant influence on their cross-cultural adaptability in both the pre- and post-tests as measured by the dimensions of enjoyment, tolerance, personal values or valuing others relative to students who did not seek help from a *SLM*.
- H3: Previous socialising factors will influence students' cross-cultural adaptability in the group who have a cross-cultural mentoring experience with a *SLM* measured by the dimensions of enjoyment, tolerance, personal values, or valuing others relative to students who did not seek help from a *SLM*.
- H3a: The number of hours spent socialising will influence students' cross-cultural adaptability in the group who have a cross-cultural mentoring experience with a *SLM* measured by the dimensions of enjoyment, tolerance, personal values, or valuing others relative to students who did not seek help from a *SLM*.
- H3b: Having friends/family from a different culture will influence students' cross-cultural adaptability in the group who had a cross-cultural mentoring experience with a *SLM*

measured by the dimensions of enjoyment, tolerance, personal values, or valuing others relative to students who did not seek help from a *SLM*.

H4: Previous private international experiences will have a significant influence on students' cross-cultural adaptability. Having a cross-cultural mentoring experience with a *SLM* will have a significant influence on students' cross-cultural adaptability in both the pre- and post-tests as measured by the dimensions of enjoyment, tolerance, personal values, or valuing others relative to students who did not seek help from a *SLM*.

H4a: For students who have a cross-cultural mentoring experience with a *SLM*, having been on private holidays in countries different from that in which the student was born will have a significant influence on students' cross-cultural adaptability in both the pre- and post-tests as measured by the dimensions of enjoyment, tolerance, personal values or valuing others relative to students who did not seek help from a *SLM*.

H4b: For students who have a cross-cultural mentoring experience with a *SLM*, having studied a foreign language at school will have a significance on students' cross-cultural adaptability in both the pre- and post-tests as measured by the dimensions of enjoyment, tolerance, personal values or valuing others relative to students who did not seek help from a *SLM*.

H5: Off-shore international experiences will influence students' cross-cultural adaptability. Having a cross-cultural mentoring experience with a *SLM* will have a significant influence on their cross-cultural adaptability as measured by the dimensions of enjoyment, tolerance, personal values, or valuing others relative to students who did not seek help from a *SLM*.

H5a: For students who have a cross-cultural mentoring experience with a *SLM*, having been on an exchange program will have a significant influence their cross-cultural adaptability in both the pre- and post-tests as measured by the dimensions of enjoyment, tolerance, personal values or valuing others relative to students who did not seek help from a *SLM*.

H5b: For students who have a cross-cultural mentoring experience with a *SLM*, having enrolled in an international study tour will have a significant influence their cross-cultural adaptability in both the pre- and post-tests as measured by the dimensions of

enjoyment, tolerance, personal values or valuing others relative to students who did not seek help from a *SLM*.

- H5c: For students who have a cross-cultural mentoring experience, having completed an international internship will have a significant influence their cross-cultural adaptability as measured by the dimensions of enjoyment, tolerance, personal values or valuing others relative to students who did not seek help from a *SLM*.
- H6: International experiences ‘at home’ will influence students’ cross-cultural adaptability. For students who have a cross-cultural mentoring experience with a *SLM*, having an ‘at home ‘ experience will have a significant influence on their cross-cultural adaptability as measured by the dimensions of enjoyment, tolerance, personal values or valuing others relative to students who did not seek help from a *SLM*.
- H6a: For students who have a cross-cultural mentoring experience with a *SLM*, completing a subject with internationalised content will have a significant influence on their cross-cultural adaptability as measured by the dimensions of enjoyment, tolerance, personal values or valuing others relative to students who did not seek help from a *SLM*.
- H6b: For students who have a cross-cultural mentoring experience with a *SLM*, working in cross-cultural groups will have a significant influence on their cross-cultural adaptability as measured by the dimensions of enjoyment, tolerance, personal values or valuing others relative to students who did not seek help from a *SLM*.
- H6c: For students who have a cross-cultural mentoring experience with a *SLM*, studying a foreign language at university will have a significant influence on their cross-cultural adaptability measured by the dimensions of enjoyment, tolerance, personal values or valuing others relative to students who did not seek help from a *SLM*.

5.5.1 Repeated Measures Multivariate Analysis of Covariance (MANCOVA) Results

The second research question analysed if any of the students' previous demographic, socio-economic factors or previous international experiences affected their responses to the pre- or post-tests for either group (*NoSLM* or *SLM*). It was essential to understand whether any of these covariates affected their responses after the analysis in research question one found that there were no significant effects of the peer-to-peer mentoring experience on any of the cultural dimensions for either group. To investigate the responses for each group within each dimension further, repeated measures multivariate analyses of covariance (MANCOVAs) were conducted between the groups (*NoSLM* or *SLM*) for each covariate, while controlling for all other covariates. Analyses of the pre- and post-test responses for each group for each cultural dimension were also conducted. This analysis showed the effect of each covariate on each group to determine if the effects were strictly due to each covariate's influence. Repeated-measures MANCOVA was selected to best account for responses gathered from the same students at two separate times (pre- and post-test), but MANCOVA analysis only showed the influence on the cultural dimensions, they were not directional.

The requirements of MANCOVA were the same as the requirements of ANOVA, which were assessed in section 5.3. Testing was performed for normality, homoscedasticity, multicollinearity and singularity, linearity, homogeneity of regression slopes, homogeneity of variance-covariance matrices and independence of correlations (Miller & Chapman, 2001; Pallant, 2016; Field, 2013; Stevens, 2009; Tabachnick & Fidell, 2013).

In this study, the responses on the covariates were obtained prior to the peer-to-peer mentoring experience, ensuring that the peer-to-peer mentoring experience did not influence any covariate. Students chose which group they attended; therefore, the independence requirement between the covariates and whether the student was in the *NoSLM* or *SLM* group was not relevant (Keppel, 1991), and could be violated without problems in the analysis (Grace-Martin, 2019). Tabachnick & Fidell, (2013) agree and state that for MANCOVA analysis, independence of the covariates and the independent variable (*NoSLM* or *SLM*) was not required as they were expected to be dependent on each other. After assessing the correlations for each covariate, the Levene's test for the homogeneity of variances across the two groups revealed moderate violations ($p > 0.04$). However, as stated, MANCOVA was sufficiently

robust to moderate violations of this requirement (Phillips, McAuliff, Kovera & Culter, 1999). All covariates were therefore included in the analysis reflecting a more accurate estimate of the relationship between each group and the effect on each cultural dimension. Tabachnick and Fidell (2013) pointed out that MANCOVAs do not permit casual inference of the effects of the mentoring experience due to the non-randomly assigned groups.

Differences were assessed in the analysis using the *F*-test of significance. This assessed the effects of each covariate on the *No SLM* and *SLM* groups and the pre- or post-test responses for each of the cultural dimensions. Given that predictable variances known to be associated with the dependent variable were removed, MANCOVA increased the power of the *F* test. Within-subjects' contrasts were used to analyse any effects on the pre- and post-test responses within each group for all cultural dimensions again controlling for each covariate. The covariates used in this study were chosen specifically because of their known effects on the dependent variables (Margavio, Hignite & Moses, 2005).

5.5.2 Differences between the groups - demographic and socio-economic factors

The second set of hypotheses proposed that higher education students' demographic and socio-economic factors would influence their cross-cultural adaptability and that the cross-cultural experience of seeking help from a *SLM* would have a significant influence on their cross-cultural adaptability in both the pre- and post-tests as measured by the dimensions of enjoyment, tolerance, personal values or valuing others, relative to students who did not seek help from a *SLM*. Each covariate was analysed to ascertain if any had a significant influence on the students' response to the mentoring experience.

Full demographic and socio-economic results were presented in Table 5.10a. Analysis of the effect of each covariate - between-groups - was conducted for both groups separately, controlling for all other covariates. Where significant differences in responses were identified for the various dimensions, Cohen's (1988) criterion was applied to establish whether the effect size was small, medium or large.

Table 5.10a:
Between-groups - demographics and socio-economic factors

Demographics and Socio-economic factors			<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>p</i>	η_p^2
Enjoyment	Gender	NoSLM	1	7.659	7.659	0.102	0.750	0.001
		SLM	1	20.924	20.924	0.415	0.521	0.004
		Total	1	49.612	49.612	0.843	0.360	0.004
Tolerance		NoSLM	1	40.174	40.174	1.070	0.303	0.010
		SLM	1	3.403	3.403	0.009	0.730	0.001
		Total	1	51.538	51.538	1.683	0.196	0.008
Personal Values		NoSLM	1	0.309	0.309	0.032	0.858	0.000
		SLM	1	1.990	1.990	0.224	0.637	0.002
		Total	1	1.700	1.700	0.147	0.702	0.001
Valuing Others		NoSLM	1	90.125	90.125	11.123	0.001	0.096
		SLM	1	19.159	19.159	2.408	0.124	0.022
		Total	1	88.935	88.935	10.816	0.001	0.052
Enjoyment	Age Group	NoSLM	3	79.422	26.474	0.349	0.790	0.010
		SLM	2	209.000	104.500	2.127	0.124	0.039
		Total	1	45.195	45.195	0.768	0.382	0.004
Tolerance		NoSLM	3	464.357	154.786	4.530	0.005	0.117
		SLM	2	103.135	51.567	1.854	0.162	0.034
		Total	1	6.975	6.975	0.228	0.634	0.001
Personal Values		NoSLM	3	56.148	18.716	2.020	0.116	0.056
		SLM	2	43.497	24.242	2.852	0.062	0.052
		Total	1	9.413	9.413	0.815	0.368	0.004
Valuing Others		NoSLM	3	34.190	11.397	1.295	0.280	0.360
		SLM	2	20.554	10.277	1.282	0.282	0.052
		Total	1	0.307	0.307	0.037	0.847	0.000
Enjoyment	Ethnicity	NoSLM	1	372.183	372.183	5.200	0.025	0.047
		SLM	1	36.356	36.356	0.723	0.397	0.007
		Total	1	207.056	207.056	3.520	0.062	0.018
Tolerance		NoSLM	1	266.612	266.612	7.531	0.077	0.067
		SLM	1	58.650	58.650	2.096	0.151	0.020
		Total	1	126.694	126.694	4.137	0.043	0.021
Personal Values		NoSLM	1	42.579	42.579	4.618	0.034	0.042
		SLM	1	23.514	23.514	2.715	0.102	0.025
		Total	1	66.745	66.745	5.776	0.017	0.028
Valuing Others		NoSLM	1	4.361	4.361	0.489	0.486	0.005
		SLM	1	2.823	2.823	0.348	0.566	0.003
		Total	1	0.001	0.001	0.000	0.992	0.000
Enjoyment	Mother's Education	NoSLM	4	629.682	157.421	0.138	0.968	0.005
		SLM	4	143.222	35.806	0.706	0.590	0.099
		Total	1	34.272	34.272	0.583	0.446	0.003
Tolerance		NoSLM	4	21.465	5.366	0.138	0.968	0.005
		SLM	4	296.620	74.155	2.802	0.030	0.099
		Total	1	6.590	6.590	0.215	0.643	0.001
Personal Values		NoSLM	4	64.522	16.130	1.737	0.147	0.064
		SLM	4	24.997	6.249	0.702	0.592	0.027
		Total	1	2.392	2.392	0.207	0.650	0.001
Valuing Others		NoSLM	4	40.133	10.033	1.136	0.344	0.043
		SLM	4	24.071	6.018	0.739	0.567	0.028
		Total	1	3.317	3.317	0.403	0.526	0.002
Enjoyment	Father's Education	NoSLM	4	455.690	113.923	1.564	0.190	0.058
		SLM	4	124.252	31.063	0.610	0.656	0.023
		Total	1	171.558	171.558	2.917	0.089	0.015

Tolerance		NoSLM	4	133.905	33.476	0.887	0.475	0.034
		SLM	4	100.413	25.103	0.884	0.476	0.034
		Total	1	43.996	43.996	1.437	0.232	0.007
Personal Values		NoSLM	4	95.709	23.927	2.667	0.036	0.095
		SLM	4	11.850	2.962	0.328	0.859	0.013
		Total	1	14.429	14.429	1.249	0.265	0.006
Valuing Others		NoSLM	4	24.908	6.227	0.693	0.598	0.026
		SLM	4	13.620	3.405	0.413	0.799	0.016
		Total	1	1.720	1.720	0.209	0.648	0.001

The analysis found that males and females in the *NoSLM* group responded differently to the mentoring experience and this difference was significant for the valuing others dimension $F(1,105) = 11.123, p = 0.001, \eta^2 = 0.096$, explaining 9.6% of the variance, a medium-sized effect (Cohen, 1988). Students of different ages in the *NoSLM* group also responded significantly differently to the mentoring experience for the tolerance dimension $F(3,103) = 4.530, p = 0.005, \eta^2 = 0.117$, explaining 11.7% of the variance also considered a medium effect (Cohen, 1988). Whether students in the *NoSLM* group were born in Australia also significantly affected their response to the mentoring experience for the tolerance dimension $F(1,105) = 7.531, p = 0.007, \eta^2 = 0.067$, with this explaining 6.7% of the variance - a medium-sized effect (Cohen, 1988), and the personal values dimension $F(1,105) = 4.618, p = 0.034, \eta^2 = 0.042$, explaining only 4.2% of the variance - a small effect size (Cohen, 1988).

The *NoSLM* group also responded significantly differently to the mentoring experience based on both their mother's $F(4,102) = 2.802, p = 0.030, \eta^2 = 0.099$ and father's education levels $F(4,102) = 2.667, p = 0.036, \eta^2 = 0.095$. Each of these differences explained 9.9% and 9.5% of the variance respectively, both medium-sized effects (Cohen, 1988). The students in the *SLM* group did not respond significantly differently to the mentoring experience based on any of the demographic or socio-economic covariates. All other demographic and socio-economic covariates did not influence their responses to the experience, and for each covariate after controlling for all others.

5.5.2.1 Differences within each group's pre- and post-responses per dimension-demographics and socio-economic factors

Full demographic and socio-economic results are presented in Table 5.10b. Analysis of the effect of each covariate – within groups - was conducted for both groups separately,

controlling for all other covariates. Where significant differences in responses were identified for the various dimensions, Cohen's (1988) criterion was applied to establish whether the effect size was small, medium or large.

Table 5.10b
Within-groups - demographic and socio-economic factors

Demographics and Socio-economic factors			<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>p</i>	η_p^2
Enjoyment	Gender	NoSLM	1	1.669	1.669	0.034	0.855	0.000
		SLM	1	69.103	69.103	1.640	0.203	0.015
		Total	1	22.448	22.448	0.484	0.487	0.002
Tolerance		NoSLM	1	1.453	1.453	0.040	0.842	0.000
		SLM	1	0.877	0.877	0.051	0.822	0.000
		Total	1	3.650	3.650	0.103	0.749	0.001
Personal Values		NoSLM	1	4.564	4.564	0.128	0.721	0.001
		SLM	1	0.510	0.510	0.067	0.796	0.001
		Total	1	0.039	0.039	0.003	0.954	0.000
Valuing Others		NoSLM	1	12.481	12.481	1.099	0.297	0.100
		SLM	1	1.802	1.802	0.245	0.622	0.002
		Total	1	11.696	11.696	1.304	0.225	0.007
Enjoyment	Age Group	NoSLM	3	43.966	14.655	0.291	0.832	0.008
		SLM	2	31.792	15.896	0.370	0.691	0.007
		Total	1	13.680	13.680	0.294	0.588	0.001
Tolerance		NoSLM	3	49.187	16.396	0.450	0.718	0.013
		SLM	2	1.276	0.638	0.018	0.982	0.000
		Total	1	53.182	53.182	1.496	0.223	0.008
Personal Values		NoSLM	3	13.543	4.514	0.495	0.686	0.014
		SLM	2	5.821	2.910	0.384	0.682	0.007
		Total	1	5.928	5.928	0.515	0.474	0.003
Valuing Others		NoSLM	3	0.361	0.120	0.010	0.999	0.000
		SLM	2	3.418	1.709	0.231	0.794	0.004
		Total	1	2.544	2.544	0.284	0.595	0.001
Enjoyment	Ethnicity	NoSLM	1	1.592	1.592	0.032	0.858	0.000
		SLM	1	120.123	120.123	2.883	0.092	0.027
		Total	1	70.364	70.364	1.514	0.220	0.008
Tolerance		NoSLM	1	18.271	18.271	0.507	0.478	0.005
		SLM	1	350651	350651	1.041	0.310	0.010
		Total	1	21.803	21.803	0.613	0.435	0.003
Personal Values		NoSLM	1	0.107	0.107	0.012	0.914	0.000
		SLM	1	11.759	11.759	1.577	0.212	0.015
		Total	1	11.044	11.044	0.960	0.328	0.005
Valuing Others		NoSLM	1	0.424	0.424	0.037	0.848	0.000
		SLM	1	15.063	15.063	2.084	0.152	0.019
		Total	1	7.259	7.259	0.809	0.369	0.004
Enjoyment	Mother's Education	NoSLM	4	470.108	117.527	2.521	0.046	0.090
		SLM	4	13.571	3.379	1.001	0.989	0.003
		Total	1	31.834	31.834	0.685	0.409	0.003
Tolerance		NoSLM	4	141.955	35.489	0.990	0.417	0.037
		SLM	4	137.198	34.300	1.001	0.411	0.038
		Total	1	0.001	0.001	0.000	0.996	0.000
Personal Values		NoSLM	4	108.655	27.164	3.285	0.014	0.114
		SLM	4	21.679	5.420	0.715	0.583	0.027
		Total	1	0.942	0.942	0.082	0.775	0.000

Valuing Others		NoSLM	4	82.505	20.626	1.875	0.121	0.068
		SLM	4	36.003	9.001	1.244	0.297	0.047
		Total	1	13.952	13.952	1.556	0.214	0.008
Enjoyment	Father's Education	NoSLM	4	506.745	126.686	2.739	0.033	0.097
		SLM	4	112.901	28.225	0.657	0.623	0.025
		Total	1	65.046	65.046	1.400	0.238	0.007
Tolerance		NoSLM	4	152.039	38.010	1.063	0.379	0.040
		SLM	4	65.659	16.415	0.469	0.758	0.0185
		Total	1	19.755	19.755	0.556	0.457	0.003
Personal Values		NoSLM	4	19.869	4.967	0.544	0.704	0.021
		SLM	4	10.693	2.673	0.348	0.845	0.013
		Total	1	1.103	1.103	0.088	0.767	0.000
Valuing Others		NoSLM	4	9.230	2.308	0.197	0.939	0.008
		SLM	4	93.909	23.477	3.521	0.010	0.121
		Total	1	0.087	0.087	0.010	0.922	0.000

For demographic and socio-economic covariates, there were no significant effects on the pre- and post-test responses for any dimension. However, mothers' education had a significant effect on the change in pre- to post scores for the *NoSLM* group for the enjoyment dimension $F(4,105) = 2.521, p = 0.046, \eta p2 = 0.099$ and this explained 9.9% of the variance – a medium-sized effect(Cohen, 1988). This covariate also had a significant effect on the *NoSLM* group's change in the personal values dimension, $F(1,104) = 3.285, p = 0.014, \eta p2 = 0.144$, explaining 14.4% of the variance – a large effect size (Cohen, 1988). Finally for the *NoSLM* group, fathers' level of education had a significant effect on their change in responses for the enjoyment dimension $F(4,102) = 2.739, p = 0.033, \eta p2 = 0.097$ explaining 9.7% of the variance - a medium-sized effect(Cohen, 1988). In contrast, for the *SLM* group, only their fathers' education level affected their responses to the valuing others dimension $F(1,102) = 3.521, p = 0.010, \eta p2 = 0.121$. These responses explain 12.1% of the variance - a medium effect size (Cohen, 1988).

H2a hypothesised that the age of students who attended *SLM* would have a significant influence on their cross-cultural adaptability in both the pre- and post-tests as measured by the dimensions of enjoyment, tolerance, personal values or valuing others relative to students who did not seek help from a *SLM*. The MANCOVA results indicated that age was a factor for the valuing other dimension for the *NoSLM* group only, providing limited support for hypothesis H2a.

H2b hypothesised that the gender of students who attended *SLM* would have a significant influence on their cross-cultural adaptability in both the pre- and post-tests as measured by

the dimensions of enjoyment, tolerance, personal values or valuing others relative to students who did not seek help from a *SLM*. The MANCOVA results indicate that gender is a factor for the tolerance dimension for the *NoSLM* group only, providing limited support for hypothesis H2b.

H2c hypothesised that for students have a cross-cultural mentoring experience with a *SLM*, ethnicity would have a significant influence on their cross-cultural adaptability in both the pre- and post-tests as measured by the dimensions of enjoyment, tolerance, personal values or valuing others relative to students who did not seek help from a *SLM*. The MANCOVA results indicate that ethnicity is a factor for the tolerance and personal values dimensions for the *NoSLM* group only, providing limited support for hypothesis H2c.

H2d hypothesised that for students have a cross-cultural mentoring experience with a *SLM*, mothers' education level would have a significant influence on their cross-cultural adaptability in both the pre- and post-tests as measured by the dimensions of enjoyment, tolerance, personal values or valuing others relative to students who did not seek help from a *SLM*. The MANCOVA results indicate that it is a factor for the enjoyment, tolerance and personal values dimensions for the *NoSLM* group only, providing limited support for hypothesis H2d.

H2e hypothesised that for students have a cross-cultural mentoring experience with a *SLM*, fathers' education level would have a significant influence on their cross-cultural adaptability in both the pre- and post-tests as measured by the dimensions of enjoyment, tolerance, personal values or valuing others relative to students who did not seek help from a *SLM*. The MANCOVA results indicate that father's education level is a factor for the personal values dimensions for the *NoSLM* group and a factor for the *SLM* group for the valuing others dimension, providing limited support for hypothesis H2e.

5.5.3 Differences between-groups – socialising

The third set of hypotheses proposed that higher education students' the number of hours they spent socialising or having friends or family from another cultural would influence their cross-cultural adaptability and that the cross-cultural experience of seeking help from a *SLM* would have a significant influence on their cross-cultural adaptability in both the pre- and

post-tests as measured by the dimensions of enjoyment, tolerance, personal values or valuing others, relative to students who did not seek help from a *SLM*. Each covariate was analysed to ascertain if any had a significant influence on the students' response to the mentoring experience.

Full socialising results were presented in Table 5.10c. Analysis of the effect of each covariate - between-groups - was conducted for both groups separately, controlling for all other covariates. Where significant differences in responses were identified for the various dimensions, Cohen's (1988) criterion was applied to establish whether the effect size was small, medium or large.

Table 5.10c:
Between-groups – Socialising

Socialising Factors			<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>p</i>	η_p^2
Enjoyment	Hours Socialising	NoSLM	3	150.387	50.156	0.667	0.574	0.019
		SLM	3	435.282	145.091	3.061	0.032	0.082
		Total	1	91.560	91.560	1.557	0.214	0.008
Tolerance		NoSLM	3	43.223	14.408	0.377	0.770	0.011
		SLM	3	42.261	14.420	0.503	0.681	0.014
		Total	1	10.842	10.842	0.354	0.552	0.002
Personal Values		NoSLM	3	5 0.353	16.784	1.800	0.152	0.050
		SLM	3	17.623	5.874	0.661	0.578	0.019
		Total	1	30.201	30.201	2.613	0.108	0.013
Valuing Others		NoSLM	3	52.148	17.383	2.015	0.117	0.055
		SLM	3	2.398	0.799	0.097	0.962	0.003
		Total	1	3.641	3.641	0.433	0.507	0.002
Enjoyment	International Family Friends	NoSLM	1	34.709	34.709	0.464	0.497	0.004
		SLM	1	100.491	100.491	2.023	0.158	0.019
		Total	1	11.821	11.821	0.201	0.654	0.001
Tolerance		NoSLM	1	0.001	0.001	0.000	0.995	0.000
		SLM	1	28.284	28.284	1.001	0.319	0.009
		Total	1	9.572	9.572	0.313	0.577	0.002
Personal Values		NoSLM	1	3.940	3.940	0.411	0.523	0.004
		SLM	1	21.382	21.382	2.463	0.120	0.023
		Total	1	16.762	16.762	1.450	0.230	0.007
Valuing Others		NoSLM	1	7.900	7.900	0.889	0.348	0.008
		SLM	1	43.114	43.114	5.579	0.020	0.050
		Total	1	31.575	31.575	3.840	0.051	0.019

For the *SLM* group, their response to the mentoring experience was significantly affected by the hours they spent socialising, $F(3,103) = 3.061$, $p = 0.032$, $\eta_p^2 = 0.082$ for the enjoyment dimension explaining 8.2% of the variance - a medium-sized effect(Cohen, 1988), and also for whether they had friends or family from other cultures $F(1,105) = 5.579$, $p = 0.020$, η_p^2

= 0.050. Nonetheless, this only explained 5% of the variance - a small effect size (Cohen, 1988).

5.5.3.1 Differences within each group for their pre- and post-responses per dimension- socialising

Full socialising results were presented in Table 5.10d. Analysis of the effect of each covariate – within groups - was conducted for both groups separately, controlling for all other covariates. Where significant differences in responses were identified for the various dimensions, Cohen's (1988) criterion was applied to establish whether the effect size was small, medium or large.

Table 5.10d:
Within-groups – Socialising

Socialising Factors			<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>p</i>	η_p^2
Enjoyment	Hours socialising	NoSLM	3	63.040	21.013	0.419	0.740	0.012
		SLM	3	115.010	38.337	1.902	0.443	0.026
		Total	1	15.439	15.439	0.332	0.565	0.002
Tolerance		NoSLM	3	102.401	34.134	0.951	0.419	0.027
		SLM	3	7 1.591	23.864	0.690	0.560	0.020
		Total	1	2.774	2.774	0.078	0.780	0.000
Personal Values		NoSLM	3	46.196	15.399	1.751	0.161	0.049
		SLM	3	10.479	3.493	0.459	0.712	0.013
		Total	1	17.644	17.644	1.534	0.200	0.010
Valuing Others		NoSLM	3	2 9.192	9.761	0.853	0.484	0.024
		SLM	3	9.338	3.113	0.419	0.740	0.012
		Total	1	5.482	5.482	0.611	0.435	0.003
Enjoyment	International Family Friends	NoSLM	1	0.298	0.298	0.006	0.938	0.000
		SLM	1	1.798	1.798	0.042	0.838	0.002
		Total	1	2.068	2.068	0.045	0.833	0.000
Tolerance		NoSLM	1	65.282	65.282	1.836	0.178	0.017
		SLM	1	7.370	7.370	0.214	0.645	0.002
		Total	1	52.302	52.302	1.471	0.227	0.007
Personal Values		NoSLM	1	64.084	64.084	7.578	0.007	0.067
		SLM	1	28.235	28.235	3.872	0.052	0.036
		Total	1	131.562	131.562	11.435	0.001	0.055
Valuing Others		NoSLM	1	89.100	89.100	8.387	0.005	0.074
		SLM	1	7.550	7.550	1.034	0.311	0.010
		Total	1	5 5.384	55.384	6.175	0.014	0.030

For the students in the *NoSLM* group, having friends and family from another culture had significant effects on their change in responses from the pre- to the post-test personal values dimension's questions $F(1,105) = 7.578$, $p = 0.007$, $\eta_p^2 = 0.067$ and valuing others

dimensions $F(1,105) = 7.531, p = 0.005, \eta p^2 = 0.074$.. These covariates influenced 6.7, and 7.4% of the variances, respectively, both a medium-sized effect (Cohen, 1988). For the *SLM* group, whether they had friends or family from another culture can essentially be determined as a significant result, evidenced by their change in personal values responses $F(1,105) = 3.872, p = 0.052, \eta p^2 = 0.036$, but this effect is small, influencing only 3.6% of the variance (Cohen, 1988).

H3a hypothesised that hours spent socialising would influence students' cross-cultural adaptability in the *SLM* group as measured by the dimensions of enjoyment, tolerance, personal values or valuing others relative to students who did not seek help from a *SLM*. The MANCOVA results indicated that time spent socialising was a factor for the *SLM* group for the enjoyment dimension only, providing limited support for hypothesis H3a.

H3b hypothesised that having friends/family from a different culture would influence students' cross-cultural adaptability in the *SLM* group as measured by the dimensions of enjoyment, tolerance, personal values or valuing others relative to students who did not seek help from a *SLM*. The MANCOVA results indicated that leading a multi-cultural life was a factor for the personal values and valuing others dimensions for the *NoSLM* group only, providing limited support for hypothesis H3b.

5.5.4 Differences between-groups for their pre- and post-test responses per dimension – private international experiences

The fourth set of hypotheses proposed that higher education students' previous private international experiences would influence their cross-cultural adaptability and that the cross-cultural experience of seeking help from a *SLM* would have a significant influence on their cross-cultural adaptability in both the pre- and post-tests as measured by the dimensions of enjoyment, tolerance, personal values or valuing others, relative to students who did not seek help from a *SLM*. Each covariate was analysed to ascertain if any had a significant influence on the students' response to the mentoring experience.

Full previous private international experience results were presented in Table 5.10e. Analysis of the effect of each covariate - between-groups - was conducted for both groups separately, controlling for all other covariates. Where significant differences in responses were identified

for the various dimensions, Cohen's (1988) criterion was applied to establish whether the effect size was small, medium or large.

Table 5.10e:
Between-subjects– Previous private international experiences

Private international experiences			<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>p</i>	η_p^2
Enjoyment	Holidays Overseas	NoSLM	1	0.150	0.150	0.002	0.964	0.000
		SLM	1	63.441	63.441	1.268	0.264	0.012
		Total	1	91.575	91.575	1.557	0.214	0.008
Tolerance		NoSLM	1	17.240	17.240	0.456	0.501	0.004
		SLM	1	1.050	1.050	0.037	0.848	0.000
		Total	1	1.103	1.103	0.036	0.850	0.000
Personal Values		NoSLM	1	3.496	3.496	0.364	0.547	0.003
		SLM	1	0.002	0.002	0.000	0.987	0.000
		Total	1	3.061	3.061	0.265	0.607	0.001
Valuing Others		NoSLM	1	4.427	4.427	0.496	0.483	0.005
		SLM	1	23.690	23.690	2.994	0.087	0.028
		Total	1	0.638	0.638	0.078	0.781	0.000
Enjoyment	Foreign Language at school	NoSLM	1	128.501	128.501	1.739	0.190	0.016
		SLM	1	0.090	0.090	0.002	0.966	0.000
		Total	1	19.609	19.609	0.333	0.564	0.002
Tolerance		NoSLM	1	25.136	25.136	0.667	0.416	0.006
		SLM	1	1.977	1.977	0.069	0.798	0.001
		Total	1	0.009	0.009	0.000	0.986	0.000
Personal Values		NoSLM	1	14.056	14.056	1.481	0.226	0.014
		SLM	1	14.799	14.799	1.693	0.196	0.016
		Total	1	30.455	30.455	2.634	0.106	0.013
Valuing Others		NoSLM	1	7.333	7.333	0.825	0.366	0.008
		SLM	1	13.598	13.598	1.698	0.195	0.016
		Total	1	1.139	1.139	0.139	0.710	0.001

Each covariate was analysed individually to ascertain whether any covariate significantly affected the students' response to the experience (either *NoSLM* or *SLM*). Neither covariate in the previous international experience group had any significant effect on either group's response to the mentoring experience.

5.4.1 Differences within each group for their pre- and post-responses per dimension-private international experiences

Full previous private international experience results were presented in Table 5.10f. Analysis of the effect of each covariate – within groups - was conducted for both groups separately, controlling for all other covariates. Where significant differences in responses were identified

for the various dimensions, Cohen's (1988) criterion was applied to establish whether the effect size was small, medium or large.

Table 5.10f:
Within-groups – Previous private international experiences

Private international experiences			<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>p</i>	η_p^2
Enjoyment	Holidays Overseas	NoSLM	1	0.472	0.472	0.009	0.923	0.000
		SLM	1	138.273	138.273	3.333	0.071	0.031
		Total	1	56.710	56.710	1.221	0.271	0.006
Tolerance		NoSLM	1	4.974	4.974	0.138	0.711	0.001
		SLM	1	3.305	3.305	0.096	0.758	0.001
		Total	1	11.531	11.531	0.324	0.570	0.002
Personal Values		NoSLM	1	19.001	19.001	2.138	0.147	0.020
		SLM	1	8.112	8.112	1.083	0.300	0.070
		Total	1	20200	20200	0.191	0.662	0.001
Valuing Others		NoSLM	1	0.760	0.760	0.066	0.797	0.001
		SLM	1	6.681	6.681	0.914	0.341	0.009
		Total	1	3.005	3.005	0.335	0.563	0.002
Enjoyment	Foreign Language at school	NoSLM	1	0.789	0.789	0.016	0.900	0.000
		SLM	1	72.496	72.496	1.721	0.192	0.016
		Total	1	18.369	18.369	0.395	0.530	0.002
Tolerance		NoSLM	1	13.286	13.286	0.369	0.545	0.003
		SLM	1	26.241	26.241	10.764	0.384	0.007
		Total	1	0.778	0.778	0.022	0.883	0.000
Personal Values		NoSLM	1	3.188	3.188	0.353	0.554	0.003
		SLM	1	8.985	8.985	1.201	0.276	0.011
		Total	1	0.476	0.476	0.041	0.839	0.000
Valuing Others		NoSLM	1	0.005	0.005	0.000	0.984	0.000
		SLM	1	5.477	5.477	0.748	0.389	0.007
		Total	1	0.206	0.206	0.023	0.880	0.000

Results showed that no covariate in the private international experience factors significantly influenced students' within-group changes from the pre- to the post-test responses to the mentoring experience (either *NoSLM* or *SLM*) for any of the cultural dimensions, after controlling for all other covariates.

H4a hypothesised that having been on private holidays in countries different from that in which the student was born would influence students' cross-cultural adaptability in the *SLM* group as measured by the dimensions of enjoyment, tolerance, personal values or valuing others relative to students who did not seek help from a *SLM*. The MANCOVA results indicated that private overseas experiences did not influence students' cross-cultural adaptability. Therefore, hypothesis H4a was not significant.

H4b hypothesised that having studied a foreign language at school would influence students' cross-cultural adaptability in the *SLM* group as measured by the dimensions of enjoyment, tolerance, personal values or valuing others relative to students who did not seek help from a *SLM*. The MANCOVA results indicated that foreign language study at school did not influence students' cross-cultural adaptability. Therefore, hypothesis H4b is not significant.

5.5.5 Differences between-groups for their pre- and post-test responses per dimension – external international experiences

The fifth set of hypotheses proposed that higher education students' previous off-shore academic experiences would influence their cross-cultural adaptability and that the cross-cultural experience of seeking help from a *SLM* would have a significant influence on their cross-cultural adaptability in both the pre- and post-tests as measured by the dimensions of enjoyment, tolerance, personal values or valuing others, relative to students who did not seek help from a *SLM*. Each covariate was analysed to ascertain if any had a significant influence on the students' response to the mentoring experience.

Full off-shore academic experience results were presented in Table 5.10g. Analysis of the effect of each covariate - between-groups - was conducted for both groups separately, controlling for all other covariates. Where significant differences in responses were identified for the various dimensions, Cohen's (1988) criterion was applied to establish whether the effect size was small, medium or large.

Table 5.10g:

Between-groups - Previous external international academic experiences

Previous external international experiences			<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>p</i>	η_p^2
Enjoyment	Exchange	NoSLM	1	84.189	84.189	1.133	0.290	0.011
		SLM	1	2.398	2.398	0.097	0.962	0.003
		Total	1	225.221	225.221	3.829	0.052	0.019
Tolerance		NoSLM	1	111.745	111.745	3.030	0.085	0.028
		SLM	1	259.559	259.559	9.959	0.002	0.087
		Total	1	332.160	332.160	10.847	0.001	0.052
Personal Values		NoSLM	1	0.577	0.577	0.060	0.807	0.001
		SLM	1	2.585	2.585	0.292	0.590	0.003
		Total	1	0.818	0.818	0.071	0.790	0.000
Valuing Others		NoSLM	1	2.803	2.803	0.314	0.577	0.003
		SLM	1	4.602	4.602	0.569	0.453	0.005
		Total	1	17.246	17.246	2.097	0.149	0.011

Enjoyment	Study Tour	NoSLM	1	18.525	18.525	0.247	0.620	0.002
		SLM	1	15.698	15.698	0.311	0.578	0.003
		Total	1	8.520	8.520	0.145	0.704	0.001
Tolerance		NoSLM	1	84.409	84.409	2.273	0.135	0.021
		SLM	1	5.044	5.044	0.177	0.675	0.002
		Total	1	1.428	1.428	0.047	0.829	0.000
Personal Values		NoSLM	1	0.042	0.042	0.004	0.948	0.000
		SLM	1	1.786	1.786	0.201	0.655	0.002
		Total	1	1.319	1.319	0.144	0.736	0.001
Valuing Others		NoSLM	1	0.952	0.952	0.106	0.745	0.001
		SLM	1	1.480	1.480	0.182	0.670	0.002
		Total	1	4.037	4.037	0.491	0.484	0.002
Enjoyment	Foreign Internship	NoSLM	1	103.932	103.932	1.402	0.239	0.013
		SLM	1	114.169	114.169	2.304	0.132	0.021
		Total	1	141.169	141.169	2.400	0.123	0.012
Tolerance		NoSLM	1	19.852	19.852	0.526	0.470	0.005
		SLM	1	36.651	6.651	1.300	0.257	0.012
		Total	1	2.912	2.912	0.095	0.758	0.000
Personal Values		NoSLM	1	6.468	6.468	0.676	0.413	0.006
		SLM	1	27.539	27.539	3.184	0.077	0.030
		Total	1	49.135	49.135	4.252	0.041	0.021
Valuing Others		NoSLM	1	13.783	13.783	1.561	0.214	0.015
		SLM	1	14.682	14.682	1.836	0.178	0.017
		Total	1	0.492	0.492	0.060	0.807	0.000

Each covariate was analysed individually to ascertain whether any covariate significantly affected the students' response to the experience (either *NoSLM* or *SLM*). Controlling for all other covariates, an exchange experience had a significant influence on the *SLM* group response for the enjoyment dimension $F(1,105) = 9.959, p = 0.002, \eta p^2 = 0.087$, explaining 8.7% of the variance - a medium effect size (Cohen, 1988). Internship also produced a significant influence on the cohort as a whole $F(1,197) = 4.252, p = 0.041, \eta p^2 = 0.021$, but with a small effect size, which explained only 2.1% of the variance (Cohen, 1988).

5.5.5.1 Differences within each group for their pre- and post-responses per dimension- external international experiences

Full previous off-shore academic experience results were presented in Table 5.10h. Analysis of the effect of each covariate – within groups - was conducted for both groups separately, controlling for all other covariates. Where significant differences in responses were identified for the various dimensions, Cohen's (1988) criterion was applied to establish whether the effect size was small, medium or large.

Table 5.10h:**Within-groups – Previous external international academic experiences**

Previous external international experiences			<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>p</i>	η_p^2
Enjoyment	Exchange	NoSLM	1	34.598	34.598	0.700	0.405	0.007
		SLM	1	49.833	49.833	1.177	0.280	0.011
		Total	1	0.001	0.001	0.000	0.996	0.000
Tolerance		NoSLM	1	20.429	20.429	0.568	0.453	0.005
		SLM	1	101.166	101.166	3.008	0.086	0.280
		Total	1	88.232	88.232	2.482	0.117	0.012
Personal Values		NoSLM	1	3.832	3.832	0.424	0.516	0.004
		SLM	1	0.481	0.481	0.064	0.801	0.001
		Total	1	0.642	0.642	0.056	0.814	0.000
Valuing Others		NoSLM	1	6.937	6.937	0.608	0.437	0.006
		SLM	1	2.962	2.962	0.403	0.527	0.004
		Total	1	3.082	3.082	0.344	0.558	0.002
Enjoyment	Study Tour	NoSLM	1	0.844	0.844	0.017	0.897	0.000
		SLM	1	20.764	20.764	0.487	0.487	0.005
		Total	1	6.544	6.544	0.141	0.709	0.001
Tolerance		NoSLM	1	0.852	0.852	0.024	0.878	0.000
		SLM	1	0.560	0.560	0.016	0.899	0.000
		Total	1	0.717	0.717	0.020	0.887	0.000
Personal Values		NoSLM	1	16.745	16.745	1.880	0.173	0.018
		SLM	1	10.633	10.633	1.424	0.235	0.013
		Total	1	7.614	7.614	0.662	0.417	0.003
Valuing Others		NoSLM	1	0.896	0.896	0.078	0.780	0.001
		SLM	1	0.009	0.009	0.001	0.972	0.000
		Total	1	0.337	0.337	0.038	0.847	0.000
Enjoyment	Foreign Internship	NoSLM	1	34.598	34.598	0.700	0.405	0.007
		SLM	1	0.650	0.650	0.015	0.902	0.000
		Total	1	48.932	48.932	1.053	0.306	0.005
Tolerance		NoSLM	1	30.682	30.682	0.855	0.357	0.008
		SLM	1	93.480	93.480	2.774	0.099	0.026
		Total	1	87.099	87.099	2.450	0.119	0.012
Personal Values		NoSLM	1	12.155	12.155	1.358	0.247	0.013
		SLM	1	8.850	8.850	1.182	0.279	0.011
		Total	1	0.127	0.127	0.011	0.916	0.000
Valuing Others		NoSLM	1	0.180	0.180	0.016	0.901	0.000
		SLM	1	0.004	0.004	0.000	0.983	0.000
		Total	1	3.683	3.683	0.411	0.522	0.002

Results showed that no covariate in the external international experiences grouping significantly influenced students' within-group pre- or post-test responses for any of the cultural dimensions, after controlling for all other covariates.

H5a hypothesised that having participated in an exchange program would influence students' cross-cultural adaptability in the *SLM* group as measured by the dimensions of enjoyment, tolerance, personal values or valuing others relative to students who did not seek help from a

SLM. The MANCOVA results indicated that such participation was a factor for the *SLM* group for the enjoyment dimension only, providing limited support for hypothesis H5a.

H5b hypothesised that having attended an international study tour would influence students' cross-cultural adaptability in the *SLM* group as measured by the dimensions of enjoyment, tolerance, personal values or valuing others relative to students who did not seek help from a *SLM*. The MANCOVA results indicated that such a tour is not a factor. Therefore, hypothesis H5b was not significant.

H5c hypothesised that having completed an international internship would influence students' cross-cultural adaptability in the *SLM* group as measured by the dimensions of enjoyment, tolerance, personal values or valuing others relative to students who did not seek help from a *SLM*. The MANCOVA results indicated that completion of an international internship was a factor for the *SLM* group for the personal values dimension only, providing limited support for hypothesis H5c.

5.5.6 Differences between-groups for their pre- and post-test responses per dimension – internal international experiences

The sixth set of hypotheses proposed that higher education students' previous onshore international academic experiences would influence their cross-cultural adaptability and that the cross-cultural experience of seeking help from a *SLM* would have a significant influence on their cross-cultural adaptability in both the pre- and post-tests as measured by the dimensions of enjoyment, tolerance, personal values or valuing others, relative to students who did not seek help from a *SLM*. Each covariate was analysed to ascertain if any had a significant influence on the students' response to the mentoring experience.

Full previous offshore international academic experience results were presented in Table 5.10i. Analysis of the effect of each covariate - between-groups - was conducted for both groups separately, controlling for all other covariates. Where significant differences in responses were identified for the various dimensions, Cohen's (1988) criterion was applied to establish whether the effect size was small, medium or large.

Table 5.10i:

Between-subjects– Previous internal international academic experiences

Previous internal international experiences			<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>p</i>	η_p^2
Enjoyment	International Curriculum	NoSLM	1	128.718	128.718	1.742	0.190	0.016
		SLM	1	166.309	166.309	3.390	0.068	0.031
		Total	1	458.995	458.995	7.803	0.006	0.038
Tolerance		NoSLM	1	2.730	2.730	0.072	0.789	0.001
		SLM	1	52.874	52.874	1.886	0.173	0.018
		Total	1	126.891	126.891	4.144	0.043	0.021
Personal Values		NoSLM	1	0.114	0.114	0.012	0.913	0.000
		SLM	1	69.402	69.402	8.440	0.004	0.074
		Total	1	30.266	30.266	2.619	0.107	0.013
Valuing Others		NoSLM	1	1.211	1.211	0.135	0.714	0.000
		SLM	1	1.264	1.264	0.156	0.684	0.001
		Total	1	8.337	8.337	1.014	0.315	0.005
Enjoyment	International Group Work	NoSLM	1	46.585	46.585	0.624	0.431	0.006
		SLM	1	2.118	2.118	0.042	0.838	0.000
		Total	1	10.118	10.118	0.172	0.679	0.001
Tolerance		NoSLM	1	142.056	142.056	3.883	0.051	0.036
		SLM	1	0.631	0.631	0.057	0.811	0.001
		Total	1	119.570	119.570	3.905	0.050	0.019
Personal Values		NoSLM	1	2.805	2.805	0.292	0.590	0.003
		SLM	1	12.415	12.415	0.273	0.603	0.003
		Total	1	0.313	0.313	0.027	0.870	0.000
Valuing Others		NoSLM	1	5.692	5.692	0.639	0.426	0.006
		SLM	1	3.890	3.890	0.478	0.491	0.005
		Total	1	0.725	0.725	0.088	0.767	0.000
Enjoyment	Foreign Language at University	NoSLM	1	-	-	-	-	-
		SLM	1	166.507	166.507	4.014	0.047	0.037
		Total	1	25.959	25.959	0.441	0.507	0.002
Tolerance		NoSLM	1	-	-	-	-	-
		SLM	1	32.776	32.776	0.956	0.330	0.009
		Total	1	2.982	2.982	0.097	0.755	0.000
Personal Values		NoSLM	1	-	-	-	-	-
		SLM	1	9.617	9.617	1.286	0.259	0.012
		Total	1	50352	50352	0.463	0.497	0.002
Valuing Others		NoSLM	1	-	-	-	-	-
		SLM	1	18.621	18.621	2.588	0.111	0.024
		Total	1	0.441	0.441	0.054	0.817	0.000

Results showed that after controlling for all covariates, the participation of students in cross-cultural group work produced a significant influence for the *NoSLM* group for the tolerance dimension only $F(1,105) = 3.883, p = 0.051, \eta_p^2 = 0.036$ explaining 3.6% - a small effect size (Cohen, 1988).

All students' mentoring experience was affected by whether they had participated in subjects with internationalised content for the enjoyment dimension, but the separate groups were not specifically affected. Participation in subjects with internationalised content significantly

affected the mentoring experience for the *SLM* students in the personal values dimension $F(1,105) = 8.440, p = 0.004, \eta^2 = 0.074$ explaining 7.4% of the variance - a medium-sized effect(Cohen, 1988). Again for the *SLM* students, studying a foreign language at university affected their mentoring experience for the enjoyment dimension $F(1,105) = 4.041, p = 0.047, \eta^2 = 0.037$ explaining 3.7% of the variance - a small-sized effect (Cohen, 1988).

5.5.6.1 Differences within each group for their pre- and post-responses per dimension- internal international experiences

Full previous on-shore academic experience results were presented in Table 5.10j. Analysis of the effect of each covariate – within groups - was conducted for both groups separately, controlling for all other covariates. Where significant differences in responses were identified for the various dimensions, Cohen’s (1988) criterion was applied to establish whether the effect size was small, medium or large.

Table 5.10j:
Within-groups – Previous internal international experiences

Previous internal international experiences			<i>d</i> <i>f</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>p</i>	η_p^2
Enjoyment	International Curriculum	NoSLM	1	1.155	31.155	0.063	0.428	0.006
		SLM	1	2.158	22.158	0.052	0.472	0.005
		Total	1	9.577	69.577	1.497	0.223	0.008
Tolerance		NoSLM	1	7.851	7.851	0.217	0.642	0.002
		SLM	1	0.048	0.048	0.001	0.970	0.000
		Total	1	1.037	1.037	0.029	0.865	0.000
Personal Values		NoSLM	1	0.507	0.507	0.056	0.813	0.001
		SLM	1	0.193	0.193	0.025	0.873	0.000
		Total	1	0.191	0.191	0.017	0.898	0.000
Valuing Others		NoSLM	1	0.140	0.140	0.012	0.912	0.000
		SLM	1	10.729	10.729	1.476	0.227	0.000
		Total	1	4.823	4.823	0.538	0.464	0.003
Enjoyment	International Group Work	NoSLM	1	0.844	0.844	0.017	0.897	0.000
		SLM	1	18.013	18.013	0.423	0.517	0.004
		Total	1	0.652	0.652	0.014	0.906	0.000
Tolerance		NoSLM	1	52.213	52.213	1.463	0.229	0.001
		SLM	1	2.037	2.037	0.059	0.809	0.001
		Total	1	34.742	34.742	0.977	0.324	0.005
Personal Values		NoSLM	1	31.013	31.013	3.540	0.063	0.033
		SLM	1	2.229	2.229	0.295	0.588	0.003
		Total	1	19.997	19.997	1.738	0.189	0.009
Valuing Others		NoSLM	1	72.420	72.420	6.717	0.011	0.060
		SLM	1	5.292	5.292	0.723	0.397	0.007
		Total	1	52.478	52.478	5.851	0.016	0.029

Enjoyment	Foreign Language at University	NoSLM SLM Total	1 1 1	- 355352.89 0169.78	- 355352.8 90169.78	- 7044.2 64.654	- 0.000 0.057	- 0.985 0.018
Tolerance		NoSLM SLM Total	1 1 1	- 56447.614 7.825	- 56447.61 47.825	- 1989.174 0.220	- 0.000 0.640	- 0.950 0.001
Personal Values		NoSLM SLM Total	1 1 1	- 39772.623 12.919	- 39772.623 12.919	- 4483.9 961.123	- 0.000 0.291	- 0.977 0.006
Valuing Others		NoSLM SLM Total	1 1 1	- 47149.922 16.311	- 47149.922 16.311	- 5796.424 1.819	- 0.000 0.179	- 0.982 0.009

Results show that having participated in cross-cultural group work had a significant influence on the change in responses from the pre- to the post-test for the students in the *NoSLMS* group on the valuing others dimension $F(1,105) = 6.717, p = 0.011, \eta p2 = 0.060$ explaining 6.0% of the variance - a medium sized effect. (Cohen, 1988). As only students in the *SLM* group had studied a language at university, changes in their pre- and post-test scores had a significant influence on all four dimensions. For the enjoyment dimension $F(1,105) = 7044.264, p = 0.000, \eta p2 = 0.985$, explaining 98.5% of the variation – a large effect size (Cohen, 1988). For the tolerance dimension $F(1,105) = 1989.174, p = 0.000, \eta p2 = .0950$, explaining 95% of the variation – a large effect size (Cohen, 1988). For the personal values dimension $F(1,105) = 4483.996, p = 0.000, \eta p2 = 0.977$, explaining 97.7% of the variation – a large effect size (Cohen, 1988). For the valuing others dimension $F(1,105) = 5796.424, p = 0.000, \eta p2 = 0.982$, explaining 98.2% of the variation – a large effect size (Cohen, 1988).

H6a hypothesised that completing a subject with internationalised content would influence students' cross-cultural adaptability in the *SLM* group as measured by the dimensions of enjoyment, tolerance, personal values or valuing others relative to students who did not seek help from a *SLM*. The MANCOVA results indicated that it was a factor for the total cohort but cannot be broken into the two groups for the enjoyment and the tolerance dimension. For the *SLM* group and the personal values dimension only, providing limited support for hypothesis H6a.

H6b hypothesised that working in cross-cultural groups would influence students' cross-cultural adaptability in the *SLM* group as measured by the dimensions of enjoyment, tolerance, personal values or valuing others relative to students who did not seek help from a *SLM*. The MANCOVA results indicated that such group work was a factor for the *NoSLM* group

for the enjoyment and valuing others dimensions, providing limited support for hypothesis H6b.

H6c hypothesised that studying a foreign language at university would influence students' cross-cultural adaptability in the *SLM* group as measured by the dimensions of enjoyment, tolerance, personal values or valuing others relative to students who did not seek help from a *SLM*. The MANCOVA results indicated that for the *SLM* group, only foreign language study was a factor for all dimensions. Therefore, hypothesis H6c was significant for the *SLM* group only.

5.5.7 Research question two summary

The overarching hypothesis investigated whether demographics, socio-economic factors, socialising, previous private international experiences, previous offshore academic experiences and previous onshore international experiences had a significant influence on a student's cross-cultural adaptability. The MANCOVA summary of results was presented in Table 5.11.

Table 5.11
Covariates hypotheses summary

Covariate	Group	Dimension	Significant/Not significant
H2a: For students had a cross-cultural mentoring experience with a <i>SLM</i> , - age will have a significant influence on their cross-cultural adaptability in both the pre- and post-tests as measured by the dimensions of enjoyment, tolerance, personal values or valuing others relative to students who did not seek help from a <i>SLM</i>	<i>NoSLM</i>	Valuing Others	Significant
	<i>SLM</i>	None	Not significant
H2b: For students had a cross-cultural mentoring experience with a <i>SLM</i> , - gender will have a significant influence on their cross-cultural adaptability in both the pre- and post-tests as measured by the dimensions of enjoyment, tolerance, personal values or valuing others relative to students who did not seek help from a <i>SLM</i>	<i>NoSLM</i>	Tolerance	Significant
	<i>SLM</i>	None	Not significant
H2c: For students had a cross-cultural mentoring experience with a <i>SLM</i> , - ethnicity will have a significant influence on their cross-cultural adaptability in both the pre- and post-tests as measured by the dimensions of enjoyment, tolerance, personal values or valuing others relative to students who did not seek help from a <i>SLM</i>	<i>NoSLM</i>	Personal Values	Significant
	<i>SLM</i>	None	Not significant
H2d: For students having a cross-cultural mentoring experience with a <i>SLM</i> , - mothers' education level will have a significant influence on their cross-cultural adaptability in both the pre- and post-tests as measured by the dimensions of enjoyment, tolerance, personal values or valuing others relative to students who did not seek help from a <i>SLM</i>	<i>NoSLM</i>	Enjoyment Tolerance Personal Values	Significant Significant Significant
	<i>SLM</i>	Valuing Others	Significant

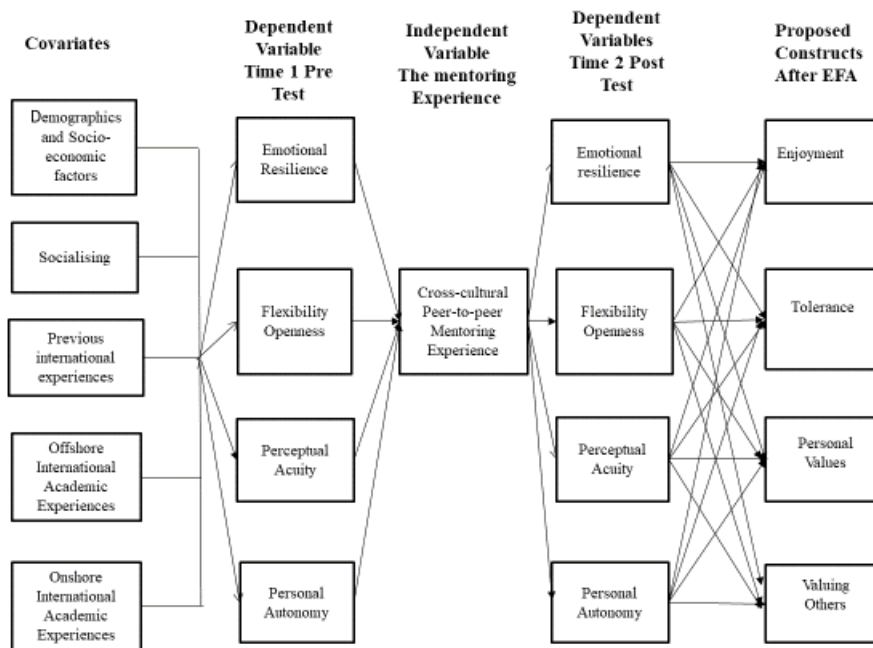
H2e: For Students having a cross-cultural mentoring experience with a <i>SLM</i> , - fathers' education level will have a significant influence on their cross-cultural adaptability in both the pre- and post-tests as measured by the dimensions of enjoyment, tolerance, personal values or valuing others relative to students who did not seek help from a <i>SLM</i>	<i>NoSLM</i>	Personal Values	Significant
	<i>SLM</i>	Valuing Others	Significant
H3a: Hours spent socialising will influence students' cross-cultural adaptability in the <i>SLM</i> group as measured by the dimensions of enjoyment, tolerance, personal values, or valuing others relative to students who did not seek help from a <i>SLM</i> .	<i>NoSLM</i>	None	Not significant
	<i>SLM</i>	Enjoyment	Significant
H3b: Having friends/family from a different culture will influence students' cross-cultural adaptability in the <i>SLM</i> group as measured by the dimensions of enjoyment, tolerance, personal values or valuing others relative to students who did not seek help from a <i>SLM</i> .	<i>NoSLM</i>	Personal Values Valuing Others	Significant Significant
	<i>SLM</i>	None	Not significant
H4a: Having been on private holidays in countries different from where the student was born will influence students' cross-cultural adaptability in the <i>SLM</i> group as measured by the dimensions of enjoyment, tolerance, personal values or valuing others relative to students who did not seek help from a <i>SLM</i> .	<i>NoSLM</i>	None	Not significant
	<i>SLM</i>	None	Not significant
H4b: Having studied a foreign language at school will influence students' cross-cultural adaptability in the <i>SLM</i> group as measured by the dimensions of enjoyment, tolerance, personal values or valuing others relative to students who did not seek help from a <i>SLM</i> .	<i>NoSLM</i>	None	Not significant
	<i>SLM</i>	None	Not significant
H5a: Having been on an exchange program will influence students' cross-cultural adaptability in the <i>SLM</i> group as measured by the dimensions of enjoyment, tolerance, personal values or valuing others relative to students who did not seek help from a <i>SLM</i> .	<i>NoSLM</i>	None	Not significant
	<i>SLM</i>	Enjoyment	Significant
H5b: Having attended an international study tour will influence students' cross-cultural adaptability in the <i>SLM</i> group as measured by the dimensions of enjoyment, tolerance, personal values or valuing others relative to students who did not seek help from a <i>SLM</i> .	<i>NoSLM</i>	None	Not significant
	<i>SLM</i>	None	Not significant
H5c: Having completed an international internship will influence students' cross-cultural adaptability in the <i>SLM</i> group as measured by the dimensions of enjoyment, tolerance, personal values or valuing others relative to students who did not seek help from a <i>SLM</i> .	<i>NoSLM</i>	None	Not significant
	<i>SLM</i>	Personal Values	Significant
H6a: Completing a subject with internationalised content will influence students' cross-cultural adaptability in the <i>SLM</i> group as measured by the dimensions of enjoyment, tolerance, personal values or valuing others relative to students who did not seek help from a <i>SLM</i> .	<i>NoSLM</i>	Enjoyment Valuing others	Significant Significant
	<i>SLM</i>	None	Not significant
H6b: Working in cross-cultural groups will influence students' cross-cultural adaptability in the <i>SLM</i> group as measured by the dimensions of enjoyment, tolerance, personal values or valuing others relative to students who did not seek help from a <i>SLM</i> .	<i>NoSLM</i>	Enjoyment Tolerance	Significant
	<i>SLM</i>	Enjoyment Tolerance Personal Values	Significant Significant Significant
H6c: Studying a foreign language at university will influence students' cross-cultural adaptability in the <i>SLM</i> group as measured by the dimensions of enjoyment, tolerance, personal values or valuing others relative to students who did not seek help from a <i>SLM</i> .	<i>NoSLM</i>	None	Not significant
	<i>SLM</i>	Enjoyment Tolerance Personal Values Valuing others	Significant Significant Significant Significant

5.6 Conclusion

This study assessed whether cross-cultural peer-to-peer mentoring influenced the cross-cultural adaptability of the respondents, and whether these changes were significant. Table 5.9 on page 143 summarised the results of research question one. Analysis was also undertaken to determine whether demographics, socio-economic factors, socialising, previous private international experiences, external international academic experiences, or internal international academic experiences influenced the respondents' cross-cultural adaptability. Table 5.11 summarised the results of research question two. This study applied the CCAI™ (Kelley & Meyers 1987, 1992) to a different cohort, and used EFA to determine which questions came together to represent the cultural dimensions. As a result of EFA, the dimensions were re-defined as enjoyment, tolerance, personal values and valuing others.

Overall, the results suggested that participation in the *SLM* program did not influence students' cross-cultural adaptability, but further MANCOVA testing suggested that in some circumstances, students' prior demographic and socio-economic factors, international academic experiences either abroad or 'at home' may have influenced students' cross-cultural adaptability, and that different dimensions were affected depending on whether the student was in the *NoSLM* or the *SLM* group. The MANCOVA results illustrated what covariates were inferential for the cultural dimensions, but they were not able to provide directional information.

Figure 5.5 showed the proposed conceptual model and the pathways of influence that were tested during this study. Although hypotheses 1a, 1b, 1c and 1d were found not to be significant, H2, H5 and H6 were found to have some significant covariates within each grouping that did influence students' cross-cultural adaptability.



Pathways of influence----->

Figure 5.5 The proposed conceptual model

Chapter six discussed these key findings and evaluated these results, examining why they may have differed from expected outcomes and compared them to previous research. Contributions to academic literature, higher education institutes, global businesses and higher education students were be discussed. Limitations of this study were also presented, and future research recommendations were provided.

Chapter 6

DISCUSSION AND CONCLUSION

6.1 Introduction

Chapter five presented the findings related to the research questions central to the focus of this quasi-experimental study. It assessed whether cross-cultural peer-to-peer mentoring influenced the cross-cultural adaptability of the participants. Analysis was also undertaken to determine whether demographics, socio-economic factors, socialising, previous private international experiences, external international academic experiences or internal international academic experiences may have influenced the respondents' cross-cultural adaptability as defined by Kelley and Meyers (1987, 1992). The chapter also introduced and discussed the development of the new measurement instrument (IECCA) for future use. It also proposed a conceptual model for future consideration as an analytical tool and tested the six sets of proposed hypotheses.

Chapter six presented an overview regarding the interpretation of the proposed ETPV conceptual model and a discussion of the analysis presented in the thesis. The purpose of this chapter was fourfold. First, the chapter presented an overview of the results of hypothesis testing. Second, it reflected upon the contributions this thesis makes to the literature, both at a conceptual level and at a practical level in terms of graduates and universities' pedagogies and university marketing implications. The third aim of this chapter was to identify the limitations of this study, and the fourth and final aim of this chapter was to identify and suggest recommendations and opportunities for future research in this field of study.

This chapter discussed the aims and research questions that were addresses in this study. The specific aims of this study were:

1. To identify which drivers are the most important in understanding the students' cross-cultural adaptability

2. To identify what aspects of students' previous experiences further influence the proposed conceptual model.

The research questions posed in this thesis were:

1. To investigate whether exposure to a cross-cultural experience via peer-to-peer mentoring influences the 'cross-cultural adaptability' of university students
2. To test whether the effects of demographic, socio-economic, socialising, previous private international experiences, external (offshore) international experiences and internal (at home) international experiences factors influence the understanding of cross-cultural adaptability in this context.

6.2 Hypotheses: An Overview

The first set of hypotheses proposed that a cross-cultural peer-to-peer mentoring experience would have a significant influence on the cross-cultural adaptability of students as measured in the post-test relative to the pre-test. Table 6.1 provides a summary of the mixed model ANOVA analysis which was found to not support any of the four hypotheses.

Table 6.1

Hypotheses set one – mixed-model analysis of variance

<i>H1a</i> : Those students who had a cross-cultural experience at <i>SLM</i> will have a significant change in their cross-cultural adaptability in the enjoyment dimension compared to students who did not meet with a <i>SLM</i> .	Not Significant
<i>H1b</i> : Those students who had a cross-cultural experience at <i>SLM</i> will have a significant change in their cross-cultural adaptability in the tolerance dimension compared to students who did not meet with a <i>SLM</i> .	Not Significant
<i>H1c</i> : Those students who had a cross-cultural experience at <i>SLM</i> will have a significant change in their cross-cultural adaptability in the personal values dimension compared to students who did not meet with a <i>SLM</i> .	Not Significant
<i>H1d</i> : Those students who had a cross-cultural experience at <i>SLM</i> will have a significant change in their cross-cultural adaptability in the valuing others' dimension compared to students who did not meet with a <i>SLM</i> .	Not Significant

The second set of hypotheses proposed the likelihood of demographics and socio-economic factors affecting the cross-cultural adaptability of students. Table 6.2 provides a summary of the findings, suggesting that demographics and socio-economic factors influence students'

cross-cultural adaptability dependent on the cohort (*NoSLM* or *SLM*). The influence of these demographic and socio-economic factors is variable. Gender, age group, ethnicity, mothers and fathers' education levels all had a significant influence on the *NoSLM* students for at least one cultural dimension, but for the *SLM* group, only the socio-economic factors of mothers' and fathers' education had a significant influence on the valuing others dimension.

Table 6.2
Hypotheses set two – repeated measures analysis of covariance

Covariate	Group	Dimension	Significant/Not significant
H2a: Gender Age is a factor in determining the influence on a student's cross-cultural adaptability	<i>NoSLM</i>	Valuing Others	Significant
	<i>SLM</i>	None	Not significant
H2b: Age Group Age group is a factor in determining the influence on a student's cross-cultural adaptability	<i>NoSLM</i>	Tolerance	Significant
	<i>SLM</i>	None	Not significant
H2c: Ethnicity The country in which a student is born is a factor in determining the influence on a student's cross-cultural adaptability	<i>NoSLM</i>	Personal Values	Significant
	<i>SLM</i>	None	Not significant
H2d: Mothers Ed A Mother's educational level is a factor in determining the influence on a student's cross-cultural adaptability	<i>NoSLM</i>	Enjoyment Tolerance Personal Values	Significant Significant Significant
	<i>SLM</i>	Valuing Others	Significant
H2e: Fathers Ed A Father's educational level is a factor in determining the influence on a student's cross-cultural adaptability	<i>NoSLM</i>	Personal Values	Significant
	<i>SLM</i>	Valuing others	Significant

The third set of hypotheses proposed the likelihood of time spent socialising and having friends and family from different cultures affecting the cross-cultural adaptability of students. The summary in Table 6.3 shows the outcomes varied across both student cohorts and the different dimension of cross-cultural adaptability. For the *SLM* group, only socialising had a significant influence on the enjoyment dimension. For the *NoSLM* group only, having international friends or family had a significant influence on personal values and valuing others.

Table 6.3
Hypotheses set three– repeated measures analysis of covariance

H3a: Hours Socialising Socialising with others is a factor in determining the influence on a student's cross-cultural adaptability	<i>NoSLM</i>	None	Not significant
	<i>SLM</i>	Enjoyment	Significant
H3b: International Friends Family Having friends/family from a different country/culture is a factor in determining the influence on a student's cross-cultural adaptability	<i>NoSLM</i>	Personal Values Valuing Others	Significant Significant
	<i>SLM</i>	None	Not significant

The fourth set of hypotheses proposed that exposure to foreign cultures via private overseas experiences and language studies would affect the cross-cultural adaptability of students. Table 6.4 illustrates that neither variable had an influence on any cross-cultural adaptability dimension for any students in either group.

Table 6.4

Hypotheses set four– repeated measures analysis of covariance

H4a: Private international holidays Having been on private holiday/s in country/s different from that in which the student was born is a factor in determining the influence on a student's cross-cultural adaptability	<i>NoSLM</i>	None	Not significant
	<i>SLM</i>	None	Not significant
H4b: Foreign language study at school Previous foreign language/s understanding is a factor in determining the influence on a student's cross-cultural adaptability	<i>NoSLM</i>	None	Not significant
	<i>SLM</i>	None	Not Significant

The fifth set of hypotheses proposed that more formal academic exposure to foreign cultures via an international exchange, study tour or international internship would influence the cross-cultural adaptability of students. As can be seen in Table 6.5, there was an indication that cross-cultural adaptability could be influenced for the *SLM* group only, for the enjoyment and personal values dimensions.

Table 6.5

Hypotheses set five– repeated measures analysis of covariance

H5a: Exchange Participation in an international exchange is a factor in determining the influence on a student's cross-cultural adaptability	<i>NoSLM</i>	None	Not significant
	<i>SLM</i>	Enjoyment	Significant
H5b: Study Tour Participation in an international study tour is a factor in determining the influence on a student's cross-cultural adaptability	<i>NoSLM</i>	None	Not significant
	<i>SLM</i>	None	Not significant
H5c: Foreign Internship Participation in an international internship is a factor in determining the influence on a student's cross-cultural adaptability	<i>NoSLM</i>	None	Not significant
	<i>SLM</i>	Personal Values	Significant

The final set of hypotheses proposed that universities may have the potential to positively influence students' cross-cultural adaptability by encouraging them to work in cross-cultural groups, via subjects with internationalised content and through tertiary language studies. Results found in table 6.6 indicated that some of the cross-cultural dimensions were influenced, but not across all students for all cultural dimensions.

Table 6.6**Hypotheses set six – repeated measures analysis of covariance**

H6a: Cross-cultural group work Working in cross-cultural groups on assignments is a factor in determining the influence on a student's cross-cultural adaptability	<i>NoSLM</i>	Enjoyment Valuing others	Significant Significant
	<i>SLM</i>	None	Not significant
H6b: International Subject Content Completion of a subject/s that contained any international content is a factor in determining the influence on a student's cross-cultural adaptability	<i>NoSLM</i>	Enjoyment Tolerance	Significant
	<i>SLM</i>	Enjoyment Tolerance Personal Values	Significant Significant Significant
H6c: Foreign language at university The current study of a foreign language at university is a factor in determining the influence on a student's cross-cultural adaptability	<i>NoSLM</i>	None	Not significant
	<i>SLM</i>	Enjoyment Tolerance Personal Values Valuing others'	Significant Significant Significant Significant

6.3 Cross-cultural skills development in graduates

Our rapidly changing globalised world is continuing to converge and integrate. Due to increased mobility, open borders, technological, financial, political, educational and cultural forces, the development of cross-cultural adaptability skills in our graduates is more important than ever. Universities must, therefore, ensure that every graduate possesses the cross-cultural skills that are explicitly stated in their mission statements or strategic plans (RMIT, 2015; Monash, 2018; UNSW, 2018). Even if higher education students do not participate in an offshore international experience during their studies, international 'at home' experiences must develop these cross-cultural skills.

This thesis was predicated on the assumption that cross-cultural adaptability in higher education students as found in Kim's (2001) cross-cultural adaptability theory and as shown by the original four cross-cultural dimensions emanating from the CCAI™ (Kelley & Meyers, 1987, 1992) was required by graduates to ensure success in their current and future careers (McArthur et al., 2017; Delpechitre & Baker, 2017; DAE, 2017). The CCAI™ had been used in over 45 studies previously and was considered a measurement instrument with high validity and reliability (Kelley & Meyers, 1992; Kitsantas & Meyers, 2001; Kraemer, 2003; Elmuti et al., 2008)). The CCAI™ had been tested on hundreds of respondents from various cultures and with different demographic characteristics (Majunidar et al., 1999; Kitsantas & Meyers, 2011; Connolly et al., 2004; Kraemer, 2003; DeWald, 2009)

6.4 Development of the proposed conceptual model

To date, there have been many theoretical models and foundational theories of cross-cultural skills development used in past research and applied in different contexts. This study sought to validate and apply the CCAI™ in an education context by developing a new measurement instrument (IECCA) and then proposing a new conceptual model (ETPV) that encapsulated enjoyment, tolerance, personal values and valuing others. The first cultural dimension relating to the enjoyment of life was the ability to deal with stress and having confidence in everyday situations. The second was being tolerant of new experiences and having a positive attitude; The next included maintaining personal values and trusting one's ability. Finally, valuing others related to respect for people from other cultures as well as learning about them. Translated into a measurement instrument, the IECCA measurement instrument was based on the original CCAI™ questions and was extended to include these pre-existing demographic, socio-economic, socialising and previous international experiences as factors that were posited to influence a students' cross-cultural adaptability. The IECCA was also utilised in a completely different area, that of peer-to-peer mentoring in a higher education context.

It was hypothesised that the peer-to-peer mentoring experience would have a significant influence on the cross-cultural adaptability of students who participated in the cross-cultural mentoring experience compared to those students who did not participate. In addition, it was hypothesised that pre-existing factors and experiences may have already had a positive influence on students' cross-cultural skills (Rokeach, 1973; Shoham et al., 1988; Hurtado et al., 1998), thereby potentially mitigating the influence of *SLMs* on those who participated in the program. These additional questions provided more in-depth analysis when testing the cross-cultural adaptability of students using the peer-to-peer *SLM* service. Six sets of hypotheses were proposed relating to the mentoring experience and the students' pre-existing conditions and experiences.

6.5 Contributions of this thesis to literature

The following sections discussed the contributions of this thesis to literature both on an academic and practical level through proposing a new conceptual model (the ETPV) and the measurement instrument (IECCA) that emerged from this research.

6.5.1 Internal drivers of cross-cultural adaptability

Specifically, this study's significant contribution was the development of a new measurement instrument, the International Experience Cross-Cultural Adaptability questionnaire (IECCA), designed by adding background questions to the original CCAI™. It included relevant background information, such as students' previous characteristics and experiences in the original questionnaire, enhancing the relevance of the IECCA in the context of a peer-to-peer mentoring in a higher education setting. This newly developed measurement instrument can be used in other contexts in higher education settings to assess whether other pedagogical methods have a significant influence on students' cross-cultural adaptability skills.

6.5.2 External drivers of cross-cultural adaptability - covariates

The addition of the external drivers of cross-cultural adaptability – demographics, socio-economic factors, socialising and previous international experiences - to the original questionnaire assisted in developing the new IECCA questionnaire and influenced the development of the proposed ETPV conceptual model to be tested in future research. These drivers strengthen the theory of the CCAI™ by including previously unexplored background information and previous international experiences of the respondents. These additional questions provided the opportunity to develop a richer understanding of the factors that may drive cross-cultural adaptability by examining the possible relationship between the four newly developed and proposed cultural dimensions and the responses from these additional questions. Analysis of additional background information provided further insight into the mechanisms that may influence cross-cultural adaptability.

This study found significant influences of demographic, socio-economic, socialising and previous international experiences on all or some of the four cultural dimensions found as a result of the IECCA questionnaire and the four cultural dimensions. Each covariate's influence on cross-cultural adaptability of higher education students follows.

6.5.2.1 Demographics and socio-economic factors

The findings of this study show that being female, older, from a different country than Australia and having parents from a higher socio-economic SES level all influence their cross-cultural adaptability. Seminal research by Siddique (1963) reported that there was no relationship between gender, religion, education of the father, occupation of the father and local students' interaction with international students. However, his findings were contrary to those of Hassan (1961) who showed in his study, that students who came from families of high status interacted with local (American students) more than international students. This information can be used by universities to aid them in recruiting more ethnically diverse *SLMs* as well as recruiting more female mentors where possible. SES data are collected from all students when they enrol in a university. This information could be used to recruit students, but this may be problematic due to privacy requirements.

6.5.2.2 Socialising

The association between the various cultural dimensions and the two socialising factors (hours spent socialising with others from different cultures and friends/family from other cultures) supports the finding of existing literature (Allport, 1954; Pettigrew & Tropp, 2006; Kets de Vries & Mead, 1992; Eichenger et al., 2015; Jon, 2013; McKenzie & Baldassar, 2017). Although in this study this finding applied only to the *NoSLM* cohort, building friendships have previously been found to be essential for cross-cultural skills development (Jon, 2013; Amit, 2010; Barnick, 2010; Leask, 2004, 2008, 2010, 2016). It may be in the best interests of universities to continue to create activities outside the formal curriculum that encourage friendships between local and international students to aid in the development of cross-cultural sensitivity. Those who participated in *SLM* may not have considered the mentee-mentor relationship as friendship forming, potentially supporting the findings from literature on the lack of friendships developing between local and international students while at university (Trice, 2004; Gareis, 2015; Bennet et al., 2013) – at least as they apply to the academic mentoring process. These findings highlight the potential problem of university reliance on international students to provide a resource for their internationalisation 'at home' strategy.

6.5.2.3 Private international experiences

Previous research has found that the more cultural experiences people have, the more flexible they will be to adapt to new cultures (De Verthelyi, 1995; Tomich et al., 2000, Merryfield, 2000). This was not supported by the current research in terms of private holidays. Despite the extensive body of literature on the influences on students' cross-cultural adaptability skills of participating in a SAP for example (Kelley & Meyers, 1987, 1992; Leong , 2007; Kim, 2001; Knight, 2004; Vande Berg et al., 2009; Scharoun, 2016; Castro et al., 2016), the findings of this study (significant influence only for *SLM* students and only for one cultural dimension) tend to support the opposing results from Pederson, Larimer and Lee (2010) and Chang et al., (2013). This suggests that further research is required to establish whether these international academic experiences influence students' cross-cultural adaptability as requested in studies by Littrell et al., (2005) and Anderson, Lawton, Rexeisen & Hubbard (2005).

6.5.2.4 External international academic experiences

Offshore programs have long been primary strategies for university students to develop the cross-cultural skills that employers are demanding (RMIT, 2015; West, 2017), but there had been few previous studies on the connection between offshore programs and graduate employability (Crossman & Clarke, 2010; Cai, 2013). This study extended the body of literature around offshore experiences by finding that they do have a significant influence on students' cross-cultural adaptability, but in this study for the enjoyment dimension only. As cross-cultural adaptability is a critical generic skill, this finding added to literature on this neglected area of employability skills. Study abroad experiences have been extensively studied, but usually from the experience of a local participating in an international experience. This study, therefore, extended the literature in this area as it included the international inbound students who were completing a study abroad program by studying in Australia as well as the domestic outbound students.

This study contributed to the body of knowledge on the influence of completing an international internship by finding that international internships had a significant influence on the *SLM* group for the personal values dimension. Even though only eleven students in the

SLM group enrolled in an international internship and only four from the *NoSLM* group were enrolled, reasons for this would be that many students in this study were in their first and second year of their degree, and the opportunity to enrol in any of these experiences were usually offered to students commencing their third or fourth year. Even though the numbers were low, this was encouraging as this extended the body of literature on international Work Integrated Learning (WIL) experiences which were an internationally recognised way for placements in industry to enhance graduate employability (Knight & Yorke, 2004; Peach & Matthews, 2011; Ferns & Moore, 2012; Smith et al., 2016). This study added to the body of literature on the effects of undertaking a WIL experience in the under-reported international sphere. It also confirmed the findings of Bollen (1989), whose study defined the six major factors that students gained from their internship, one of which was the development of cross-cultural skills.

6.5.2.5 Internal international academic experiences

This study's findings corroborated previous literature on 'internationalisation of the curriculum' and indicated that 'at home' academic factors influenced students' cross-cultural adaptability. Although there was some variability between cohorts and dimensions, both groups were influenced to some degree. It has long been believed that cross-cultural skills could be developed without international travel (Pruegger & Rogers, 1994; Soria et al., 2014; Leask, 2011; Leask & Carroll, 2011; Kimmel & Volet, 2012; Leask & Bridge, 2013; Jon, 2013). However, previous researchers raised the need for gains in cross-cultural skills from the participation in subjects with an internationalised curriculum to be assessed. This study did assess students' cross-cultural adaptability after studying internationalised content and extends our understanding in this area.

The findings that cross-cultural group work had a significant influence on students' cross-cultural adaptability, add to the dearth of literature on the interaction of international and multi-cultural groups at university. A study by Volet and Ang (2012) found that both domestic and international students prefer working with similar students due to cultural connectedness, language, pragmatism and negative stereotypes. Research by Volet (1999) undertaken in Australia found that domestic students had negative attitudes toward culturally mixed groups. This research found that this defeated one of the primary purposes of attending an

international university. Additional research by Summers and Volet (2008) indicated that as students progressed through their degree, their attitudes to working in culturally mixed groups became more unfavourable. This study's findings that cross-cultural group work did significantly influence students' cross-cultural adaptability resonated with research by De Vita (2002) who found that the myth that multi-cultural groups received lower marks than monocultural groups was incorrect. The results of this study added to the limited research into the positive effects of cross-cultural group work, and also suggested that academics could consider requiring multi-cultural groups in their subjects, but most do not want to make these compulsory (Peacock & Harrison, 2009).

Previous research found that inter-cultural communication competence had positively influenced cultural adaptation (Lin & Yi, 1997; Redmond & Bunyi, 1993; Sawyer & Chen, 2012), but this study found conflicting results between the influence of university language study and that of foreign language study at school. These results may be explained by the students' more recent language study at university compared with earlier study at school, or by the difference in fluency attained by a few years of foreign language secondary study compared to the fluency achieved after 2-3 years of tertiary study (Gregory, personal communication, October 27, 2019).

As there were international students in the *NoSLM* group who had studied a foreign language at school, even though none of these studied a language at university, the findings from this group refute previous research that learning the language of the foreign country being visited would influence students' cross-cultural skills (Reimers, 2008). These findings are of concern because previous studies had shown that students' second language skills built relationships with locals and this enabled students to handle stress and have a more positive outlook on their international study experience (Hammer et al., 1998; MacIntyre et al., 2001; Yashima et al., 2004; Tanaka, 2007).

International students are expected to have inter-cultural communication competence when adapting to a new culture, but this is often not the case (Mckay-Semmler & Kim, 2014; Kim, 2001; Zimmermann, 1995). These differing literacy skills are of global concern in education as all graduates will be part of a diverse workforce (Hartman, Renquette & Seig, 2018; Gardner & Perry, 2011; Chang et al., 2013). These divided findings of this study extended the

body of knowledge around the connection between language competence and cross-cultural skills development.

This thesis, therefore, extended the understanding of and provided valuable insight into the pathways of influence and relationships between students and cross-cultural experiences, both at home and overseas. Understanding the previous life experiences that each student brought to the development of cross-cultural adaptability skills would give universities the chance to tailor the international experiences that they offer to students as well as their pedagogical development of 'at home' international experiences.

6.5.3 Results of the peer-to-peer mentoring experience

Significantly, the results of the peer-to-peer mentoring experience highlight that the *SLM* peer-to-peer mentoring experience was an insufficient mechanism for developing student cross-cultural sensitivity. This study found that the mentoring process, despite having a rich diversity of student mentors and mentees does not contribute to student cross-cultural development and may have the reverse effect. Universities hoping to capitalise on their existing mentoring structures as a vehicle for indirectly influencing student cross-cultural abilities may need to direct resources to more active approaches such as international experiences abroad and at home – the external drivers of student cross-cultural adaptability.

However, these findings contributed to the body of knowledge around cross-cultural dyads in peer-to-peer mentoring. Although there have been many studies on the effects of peer-to-peer mentoring on higher education students (Kemlo, 2010; Hall & Jaugietis, 2010; Chester et al., 2013), there have been fewer studies on cross-cultural student mentoring dyads and their effects on cross-cultural skills development (Arkoudis et al., 2010; Caligiuri & Tarique, 2012; Woods et al., 2013). Given that previous mentoring literature focused predominately on western students (Woods et al., 2013; Arkoudis et al., 2010; Caligiuri & Tarique, 2012; Mosey et al., 2012) the current study was able to extend the focus through the use of both local and international students (most of whom are from Eastern countries) in an Australian setting.

The decrease in the *SLM* group's results from the pre- to the post-test refuted the central tenants of Allport's (1954) Contact Theory and may be reflective of the different nature of the study undertaken, the cohort used or the location of the study. Alternatively, the findings may

have reflected students' academic struggles at the end of the semester. Also plausible is that students' academic difficulty increased stereotypes and increased prejudice as a result of their contact with mentors from a different background during a time when they were least receptive to differences. Students may have sought *SLM* support because they were struggling academically, further changing the dynamics of the relationship. Results highlighted the complexity of relationship development. This critical finding extended current contact theory literature (Allport, 1954; Pettigrew & Tropp, 2006), by examining a unique cohort experience, not necessarily during a positive time, but in a time that students may feel pressured and insecure in their knowledge. The findings also countered social learning theory (Bandura, 1977) which suggested that casual and informal contact such as that in the *SLM* area would positively influence students' cross-cultural adaptability.

6.6 Managerial / Business contributions

This study investigated whether there was any significant influence on students' cross-cultural adaptability by students participating in a cross-cultural peer-to-peer mentoring experience. It was hypothesised that this informal mentoring experience 'at home' would have a significant influence on each of the four cultural dimensions. It was proposed that this would give employers additional information on graduates' cross-cultural adaptability skills after participating in this cross-cultural experience and thus increase employers' confidence that the graduates they employed would be able to work cross-culturally, either locally or globally, in a diverse workforce.

Even though the original set of hypotheses relating to the peer-to-peer-mentoring experience were not found to be significant, the most significant results were that two direct offshore experiences and all three 'at home' academic experiences provided by the university did have a significant influence on students' cross-cultural adaptability. As employers may look elsewhere for their employees if they perceived that university graduates were not cross-culturally adaptable and work-ready, these direct academic experiences need to be emphasised by both graduates and universities to provide evidence that these formal academic experiences may better prepare graduates for the challenges of global business.

6.7 Higher Education contributions

The additional background and experience factors from this study that were found to have an influence on students' cross-cultural adaptability and were therefore relevant to universities were: socialisation, exchanges, international internships, studying subjects with internationalised content, cross-cultural group work and learning a foreign language at university. All these factors were considered here.

Cross-cultural social experiences (socialisation, friends), offshore programs (exchange and internships) and 'at home' experiences (internationalised curriculum, cross-cultural group work, learning a foreign language) all significantly influenced students' cross-cultural adaptability. These results were significant for higher education institutions in eight respects. Firstly, universities are reliant on international students as a critical source of income (OECD, 2017; UA, 2019). Australian universities have relied on these students being part of the resources for domestic students to develop their cross-cultural skills (Ryan, 2011; McKenzie & Baldassar, 2017).

Secondly, the lack of interaction between domestic and international students and the preferences of local students to work with others from their own culture has been reported extensively (Smith, 2006; Trice, 2004; Gareis, 2012; Bennett et al., 2013; Smart et al., 2000; Woods et al., 2013). Universities are responsible for international students having rewarding experiences at university in another country, but because of this lack of personal interaction with students from other countries, all students are missing out on this vital experience, which would develop their cross-cultural adaptability skills. Universities should continue any 'buddy' program they have implemented between domestic and international students and that this should continue into higher years; thus, friendships may develop. Local students and *SLMs* should receive additional cross-cultural skills training and should be advised of the benefits they too will receive from the 'buddy' or *SLM* experience. The aim would be to ensure that local students participate willingly.

Thirdly, studies from Australia have also found that international and local students do not spend time conversing together (Robertson et al., 2000; Volet & Ang, 1998, 2012; Rosenthal, Russell & Thomson, 2007; Nesdale & Todd, 1993). This lack of meaningful interaction has

resulted in many universities developing ‘at home’ programs (Arkoudis et al., 2010). Some universities were proposing to build these cross-cultural relationships as outcomes of these programs (Amit, 2010; Barnick, 2010; Leask, 2004, 2008, 2016). If universities could provide meaningful ways to develop these relationships through internationalised subjects, cross-cultural group work, or learning a foreign language at university, then this should develop students’ cross-cultural skills. Universities should, therefore, encourage students who studied a foreign language at school to continue this into their university studies. Universities should also arrange events that included students from all cultures, then both local and international students may gain the cross-cultural experiences that they expect.

Fourthly, for this to happen, there is a need for the professional development of academics on how to create cross-cultural groups without alienating domestic students, and to get the most out of all students. Academics are the facilitators of student interaction (Leask & Beelen, 2009; Soria & Triosi 2004). As a study by McKenzie and Baldassar (2017) showed, friendships between local and international students may develop freedom and knowledge. Another study by De Vita (2002) noted that although domestic students believed that working with international students would lower their subject results, this was not the case. Therefore, it is recommended that students be placed in mixed groups wherever possible, but without ‘swamping’ the group with too many international students, which incorporated the suggestion from Peacock and Harrison (2009). International ‘at home’ academic experiences should also be expanded to include international connections with industry, not only international internships but increased local internship placements in global companies located in Melbourne. Virtual industry placements and opportunities for students to work across countries, time zones, cultures and in multinational teams would also give students experiences in how global business functions.

Another important finding that emerged from this study was the influence of exchange and international internships on students’ cross-cultural adaptability. These offshore experiences were the premier academic experience that have been promoted by universities to develop students’ cross-cultural skills and have been the subject of many studies (Knight, 2004; Vande Berg et al., 2009; Sison & Brennan, 2012; Scharoun, 2016; Castro et al., 2016; RMIT, 2015; West, 2017; Crossman & Clarke, 2010; Cai, 2013; West, 2017). Based on these findings, universities should provide additional resources for their off-shore programs. The number of students who had these offshore experiences was small, and the cohort for this study was

primarily from first and second-year students who had not been able to enrol in these study tours. As previous studies proved that shorter offshore programs also develop students' cross-cultural skills (West, 2017; Castro et al., 2016) they should be increased in number and offered to students earlier in their degree. To make these offshore experiences more affordable, universities' professional staff in the global program areas should increase their applications for scholarship funding from Australian and global governments. However, training prior to departure is essential for all types of offshore programs and should be increased to include history, geography, politics, language and cultural studies.

Universities can utilise the new IECCA questionnaire to support other pedagogical developments such as the use of cross-cultural groups during the semester. As the use of these is the subject of disagreement (Volet, 1999; DeVita, 2002, Summers & Volet, 2008, 2010; Leask, 2009), additional studies will support or refute the recommendation that academics make these cross-cultural groups mandatory in their classes. This measurement instrument can also be used in the study of foreign language learners at other universities to support claims that foreign language study at university is vital for students' future career. It can also be used in the SAP area to add to the existing literature on the effects of these programs on students and gain more insight into the students' international experiences. The questionnaire can be also be used in 'at home' pedagogy development. As future ideas such as Artificial Intelligence and virtual industry experiences become mainstream, their effectiveness on cross-cultural adaptability development can be assessed. This will also add to robustness checks on the measurement instrument's use in higher education, by being used in different areas. The measurement instrument can also be utilised in contexts other than Higher Education. Schools and Technical and Further Education (TAFE) Colleges can also use the measurement instrument to assess the cross-cultural influence of their pedagogical developments. A range of businesses can utilise this tool to assess whether international exposure has any effect on their employees. The inclusion of background information in this questionnaire may highlight other aspects of respondents' backgrounds that may negatively affect their expatriate experience before taking up an overseas posting. This could save companies considerable expense in expatriate failure which has been estimated to be as high as 83% (McFarland, 2006; Crowne, 2013).

If both local and international students are not receiving the cross-cultural experiences and development of the generic skills that they need in their years at university, then the

international relationships and global reputation of the home university may decline (Czinkota, 2005; Kehm, 2005; Marginson & Van der Wende, 2013), resulting in fewer students choosing that university over another global one. Employers may also look to different universities from anywhere in the world, to find graduates who, they perceive, are cross-culturally adaptable and work-ready. If Australian universities do not develop these demonstrable skills in their graduates, then students may choose to study elsewhere, and Australia's reliance on international students as a source of funds may be at risk. This potential problem would not only be devastating for Australia's currently fourth largest export earner, but also for the domestic economy, which would inevitably result in reduced income from both international students and local students who choose to study offshore instead.

6.8 Limitations of this thesis

This study took place in one university in one major city – Melbourne, in one state – Victoria, and not nationwide across Australia, either in different cities, states or regions. Students in this study came from one of the most multi-cultural cities in Australia. Melbourne, in Victoria, has received waves of immigrants since the gold rush era of the 1850s, through to current immigration from many countries around the world.

A broad assumption was that the students in each group (*NoSLM* or *SLM*) were similar. All students responding to the questionnaire were completing (or were mentoring in) the subjects that were chosen for this study, and they all achieved high school ATAR (university entry) results of a high enough standard for acceptance into university. *SLMs* were high achievers as only those who had received the highest marks (Distinction or High Distinction) were invited to become mentors. Most mentors also obtained high results on leaving school, which may have resulted in higher initial cross-cultural scores. This may be due to more interaction with people from other cultures, or friends or family with whom they spent time. Also, although many of the students who completed this questionnaire do not have English as their primary language, the assumption was that they were able to understand the questions and answer them correctly. Finally, respondents from each of the semesters in 2017 were also assumed to be a similar cohort, as subjects and experiences were available to all students throughout the year.

This study used the CCAI™ questionnaire which has copyright restrictions. Permission was granted for this study and would need to be requested for any further use. The questionnaire was sent to students studying business subjects in Higher Education only and has no respondents from the business community or other areas such as science, engineering, health, design, social and urban studies. The final response numbers after the removal of the 20 respondents who had not had a cross-cultural mentoring experience with a *SLM* ($n=214$), are consistent with other studies in this area (Prasad, Showler, Schmitt, Ryab & Nye, 2017; Hua, Fan, Walker, Hou, Zheng, Debode, 2018). The questionnaire was distributed in week four and then again in week twelve of the semester. This was only eight weeks apart. As the students were self-reporting, their responses may have been biased, as they may have inflated their responses. There was also no information collected on the number of hours that either the mentor or the mentee had attended the *SLM* service. This was due to privacy restrictions.

Furthermore, the mentoring experience lasted only eight weeks, and this may be too short to build relations and friendships between the mentors and the mentees and thus affect cross-cultural skills development. It is also hard to observe and model new behaviours over eight weeks, all of which may explain the effects of the mentoring experience reducing the post-test scores for the *SLM* group. During the semester, respondents matured both in their age and as a result of other experiences they may have experienced during the semester. Information on any additional international experiences by students within the semester was not collected again in week 12, as most of these experiences take place outside semester. Many respondents would also have remembered the questions from the pre-test, causing fatigue and adding to the possibility that their post-test scores may be inflated.

The total cohort for this study was mostly from first- and second-year students. For the group who did not meet with a *SLM*, they may not have had the confidence to attend, or they may have deemed their English skills to be insufficient. They may also think that asking for help at *SLM* would result in a 'loss of face', as approximately 45% of RMIT's student base are international students, many from Asia (Parliamentary Library, 2019). Not many of the mentees were able to enrol in study abroad programs as these are mostly offered to students in later years. There was a minimal number of students who were studying a language at university. This limits the generalisability of the results for this factor.

Finally, a common statistical phenomenon ‘regression to the mean’ (RTM) over time may have been involved in this study, taking already inflated scores in each cultural dimension and reducing over time to regress towards the mean. RTM occurs when a non-random sample such as in this study and two imperfectly correlated variables are measured. RTM would have occurred during this study as the questionnaire was distributed twice and measured the same factors (Barnett, van der Pols & Dobson, 2004). As first discussed by Galton in 1886, the more extreme the pre-test scores were from the total population mean, the more room there is for them to regress to the mean (Morton & Torgerson, 2003). Especially for the *SLM* group, this may have been a reason why their scores decreased between the very high pre- and post-test results.

6.9 Further research recommended

Through the interpretation of results and acknowledgement of limitations, the thesis has identified several opportunities, all of which suggest directions for future research.

For the proposed ETPV conceptual model to be interpreted into a measurement instrument that reflects reliability, validity and statistical precision, the use of Confirmatory Factor Analysis (CFA) is required to determine the construct validity of hypothesis-based testing instruments. Confirmatory methods attempt through chi square goodness of fit and other fit indices to optimally match the observed and theoretical factor structures for a given data set in order to determine the ‘goodness of fit’ of the predetermined factor model. In other words, a ‘middle ground’ methodology partly which is partly exploratory and partly confirmatory (Lages and Fernandez 2005) can effectively employ EFA as the initial tool in recovering an underlying measurement model (in this study the ETPV proposed conceptual model, which can then be evaluated with CFA (Gerbing and Hamilton 1986). Golob (2003, p. 4) concurs that ‘exploratory factor analysis is sometimes used to guide construction of an SEM measurement model’, given the large number of possible combinations in a measurement model.

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The measurement instrument – the IECCA questionnaire, which was created in this study, can be used for future research into graduate cross-cultural generic skills development after permission is gained from Kelley and Meyers to use the CCAI™ questions as part of any future studies. As acknowledged in this study and others (Reichard et al., 2015; Chang et al., 2013; Deardorff, 2006; Caliguiri, 2006; Bennett, 2004), it is vital that graduates understand and can provide evidence to their employers of the cross-cultural skills they have accumulated by the time they complete their studies. This evidence should include details of their offshore and onshore international experiences and cross-cultural skills test results where they are available. This will provide employers with evidence of the cross-cultural skills required (Yorke & Knight, 2004; Jackson, 2013). Possessing these cross-cultural skills will also enhance graduates' work-readiness and give these students a competitive advantage over others without these skills (Brown, 2003; Brown & Hesketh, 2004; Brown & Tannock, 2009; Brown et al., 2011; Tomlinson, 2008; Bathmaker et al., 2013).

This study found that many students' previous international experiences do have a significant effect on their cross-cultural skills development. This suggests that this is where universities should commit their future resources. The IECCA measurement instrument can be used at universities both in Australia and globally to investigate the effects of other pedagogical developments in both offshore and 'at home' areas. Replication of this study in alternate settings will facilitate ongoing refinement of the proposed scales and the investigation of the pathways of influence suggested by the ETPV model discussed in chapter five.

However, although the conceptual framework suggests a way to understand students' cross-cultural adaptability, it is by no means a comprehensive model. Personality constructs such as attitudes, beliefs, customs, behavioural patterns, motivation, enthusiasm and emotional and cultural intelligence, identified by prior research as relevant and pertinent in influencing students' cross-cultural adaptability may be worth adding to the questionnaire (Meyers et al.,

2008; Spitzberg & Changnon, 2009; Fantini, 2005; Cohen, 2007; Bennett, 1993). Adding extra information about the number of cross-cultural interactions students had with their *SLM* mentor during the time that *SLM* was available (Allport, 1954, Bandura, 1977; Pettigrew & Tropp, 2006) may produce additional insight into the time that mentors and mentees spend together. This could provide additional findings from any replication of this study. Information on students' grade point average (GPA) was not included in this study, and its addition may result in more in-depth analysis on whether students with different GPAs have different cross-cultural adaptability skills.

This thesis provides a platform for further application of the proposed model to investigate the influence of the new cultural dimensions and associated factors in terms of the importance of these same factors in comparable educational contexts. This study could be replicated in the areas of international internships, exchange and study tours as separate cohorts. This may give more meaningful insights on the cross-cultural skills development of students who undertake these offshore experiences. Future study of these experiences for a larger cohort may also result in a greater understanding of whether students who participated are less prejudiced after the completing of their experience than others from different cultures. It may also show whether they are influenced by existing stereotypes between the start of their experience and its conclusion (Allport, 1954). Studies of these experiences will enable requisite pre-departure training to be strengthened and address these potential issues.

The sample from which this research was based was drawn from a specific university, which prevents the generalisation of these findings in a broader context. One advantage may be that the population as a cohort may exhibit similar underlying characteristics, but the results may differ in other higher education contexts (Worthington & Higgs, 2004). There is also no way of knowing, without further study, if the significant demographic, socio-economic, socialising or previous international experiences, originating from this sample, are representative of other universities.

Building on findings from this thesis, another avenue of future research could be comparing different faculties and their student academic peer-to-peer mentoring resources. Different universities may have different cultural cohorts, who either do or do not use the academic mentoring services provided. The thesis did not distinguish between degrees within the Faculty of Business in the analysis. The assumption that respondents have similar

backgrounds within the Faculty could be further considered as a possible future research avenue, investigating any variability that may exist. A re-examination of different degrees may provide further understanding as to why the *SLM* experience in the model had some negative findings in comparison to the students who did not meet with a *SLM*.

Repeating the questionnaire at the university investigated in this study to gain additional respondents who attended *SLM* but did NOT have a cross-cultural experience would add to the understanding of any influence of *SLM* participation on students' cross-cultural adaptability. Also, distinguishing between mentor and mentee within the *SLM* experience should be investigated, as many studies in the peer-to-peer mentoring area have discussed the different effects of mentoring on each of the students involved (Mullen, 1994; Wanberg et al., 2003; Scandura, 1992; Allen, Russell & Maetke, 1997b; Arkoudis et al., 2010; Caligiuri & Tarique, 2012). This would provide a specific segment of students (the mentors) to consider and find whether there are any effects of the cross-cultural mentoring experience on students from later years in their degree. Mentors are more likely to have completed offshore programs, for example, due to their being enrolled in later years of their degree.

Further information on respondents' ethnicity was collected but was not used in this study. Further analysis of ethnicity with relation to local or international students would give extra information for segmenting groups in a different way. Ethnicity can be explored further with additional questions that can be added to the questionnaire to delve into whether the respondent was a local student who was a first-generation Australian. This may give rich information on any effects of further ethnic segmentation.

Different methods of analysis could be implemented. This study only utilised quantitative methods, with ANOVA and MANCOVA analysis and the addition of interviews would give information on why the respondents answered the questions in a particular manner, and to explore why the pre-test scores were high across both groups, and how the students in both groups developed cross-cultural skills during their time at university.

Finally, longitudinal studies would add to research in the development of cross-cultural skills. Students could be questioned at the start of their degree program and then at the end, usually three to four years' later, rather than at the end of only eight weeks. Information on the effect of all international experiences during their time at university, would enable a greater

understanding of the influence of all factors. Longitudinal studies conducted with alumni three to five years post university would add information on the effectiveness of their cross-cultural skills development at university and beyond.

6.10 Conclusion

The higher education sector is the fourth largest export industry in Australia, behind iron ore and coal (DoE, 2019a). In addition, international students added \$35.2 billion to Australia's economy in 2018 (DoE, 2019a). Employers, universities and other higher education institutes are looking for graduates who can work in the globally integrated world economy and participate productively in a diverse workforce (Chang et al., 2013; Caligiuri, 2006; Bennett, 2004). The current and future requirements from businesses have presented new challenges and opportunities to the higher education sector in meeting these needs.

6.10.1 Employability skills

The focus of Higher Education worldwide is currently on graduate employability skills. Universities may not be able to guarantee employment but are expected to develop their graduates' employability skills (Pegg et al., 2012; Wilton, 2011; Helyer & Lee, 2014). Professional, discipline-specific, generic, key and non-technical skills (Yorke & Knight, 2004; Jackson, 2013) are vital to strengthening graduate work-readiness. This includes the ability of graduates to engage with people from different social, ethnic and religious backgrounds.

6.10.2 Cross-cultural skills development

Universities have tried many ways to develop students' cross-cultural skills development. Offshore experiences such as exchange, study tours and international internships are still the pre-eminent way for global universities to develop these skills (RMIT, 2015; Brewer & Leask, 2012; Monash, 2019). Undergraduate students as a cohort are recognised as a relevant and vital segment by tertiary institutions, but few studies have investigated the cross-cultural skills development of students during their time at university in areas other than study abroad programs.

6.10.3 Results of this study

This study investigated the effects of an ‘at home’ cross-cultural peer-to-peer mentoring experience on students who attended the *SLM* academic mentoring service, over eight weeks, as part of an in-depth understanding of cross-cultural skills development. This quasi-experiment compared students who did participate in a cross-cultural peer-to-peer mentoring experience with students who did not participate in the cross-cultural mentoring experience.

In total, 214 respondents were included in this study. The students who did not utilise the services of the *SLM* area were analysed separately from the students who did have a cross-cultural experience at *SLM*. Those students who attended *SLM* did not find that the peer-to-peer mentoring experience affected their cross-cultural adaptability. However, this study did find that factors such as: age; ethnicity; SES level (as developed from students’ mothers’ and fathers’ education levels); hours spent socialising; having friends or family from another country; going on exchange; participating in an international internship; working in cross-cultural groups; completing a subject with internationalised content and studying a foreign language at university, all influence the cross-cultural skills development of students.

6.10.4 Contributions of this thesis

This thesis extends an understanding of and provides invaluable insight into the pathways of influence and relationships between students’ cross-cultural peer-to-peer mentoring experiences, and introduced the constructs of *enjoyment, tolerance, personal values and valuing others* (ETPV) from the new IECCA questionnaire. With the addition of *demographic, socio-economic, socialising, previous international experiences* variables to the IECCA measurement instrument, as influential drivers, this new questionnaire can be utilised in different pedagogical areas in a tertiary education setting. By developing and testing this conceptual model (ETPV) and the IECCA questionnaire derived from it, indispensable contributions may influence universities to change their existing strategies to ensure they achieve their stated goals.

Armed with this insight, the staff at universities can encourage and support students wanting to enrol in offshore academic experiences. Enrolment in exchange programs, study tours and international internships could be accomplished by staff applying for government grants from

around the world. This would reduce the students' costs associated with attendance at offshore programs. Academics can also enrich their classes by using internationalised content and cross-cultural group work. Staff can add further cultural information to pre-departure training for students to develop their cross-cultural skills.

These cross-cultural skills are one of the generic skills that graduates need in this globalised workforce of the present and future. Findings suggest that one uniform approach to student cross-cultural skill development may not be appropriate. A multi-pronged approach may be required where students should be encouraged to develop these cross-cultural skills. Clear communication to students on the significant benefits of developing their cross-cultural adaptability will enrich students' resumes and may result in more considerable employability skills that both the graduate and employers require.

Marketing departments in higher education wish to reassure current and future students and their families that their graduates will develop these cross-cultural skills. The development of students' skills at university will be a long-term gain for the universities' global rankings. This in-depth understanding of the external drivers of cross-cultural adaptability becomes relevant in appealing to and retaining both local and international students.

If these skills are not developed by the time that students graduate, employers may look elsewhere for their employees and the university's global reputation will be tarnished, reducing the \$35.2 billion export income that Australia receives from the fourth highest export industry in Australia. This would have considerable ramifications on Australia's economy by encouraging future university students and their families to investigate other global universities that they perceive give their family member the requisite cross-cultural employability skills.

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Appendices

APPENDIX A - Ethics approval



Deputy Pro Vice-Chancellor
(Research & Innovation)
College of Business

GPO Box 2476
Melbourne VIC 3001
Australia

Notice of Approval

Date: 8 March 2016

Project number: 19617

Project title: *An exploration of the development of mentoring capabilities and cultural learning for student mentors in a formal cross-cultural mentoring program.*

Risk classification: Low Risk

Chief Investigator: Dr Foula Kopanidis
Student Investigator: Mrs Kathy Griffiths
Other Investigator: Dr Marion Steel

Project Approved: From: 8 March 2016 To: 22 July 2021

Terms of approval:

Responsibilities of the principal investigator

It is the responsibility of the principal investigator to ensure that all other investigators and staff on a project are aware of the terms of approval and to ensure that the project is conducted as approved by BCHEAN. Approval is only valid while the investigator holds a position at RMIT University.

1. *Amendments*
Approval must be sought from BCHEAN to amend any aspect of a project including approved documents. To apply for an amendment submit a request for amendment form to the BCHEAN secretary. This form is available on the Human Research Ethics Committee (HREC) website. Amendments must not be implemented without first gaining approval from BCHEAN.
2. *Adverse events*
You should notify BCHEAN immediately of any serious or unexpected adverse effects on participants or unforeseen events affecting the ethical acceptability of the project.
3. *Participant Information and Consent Form (PICF)*
The PICF must be distributed to all research participants, where relevant, and the consent form is to be retained and stored by the investigator. The PICF must contain the RMIT University logo and a complaints clause including the above project number.
4. *Annual reports*
Continued approval of this project is dependent on the submission of an annual report.
5. *Final report*
A final report must be provided at the conclusion of the project. BCHEAN must be notified if the project is discontinued before the expected date of completion.
6. *Monitoring*
Projects may be subject to an audit or any other form of monitoring by BCHEAN at any time.
7. *Retention and storage of data*
The investigator is responsible for the storage and retention of original data pertaining to a project for a minimum period of five years.

Regards,

Associate Professor Penny Weller
Chairperson
RMIT BCHEAN

APPENDIX B – Permission from the Head of School to question students from the Economics, Finance and Marketing School at RMIT University

On 23 February 2016 at 15:10, Kathleen Griffiths wrote:

Hi Tim,

I previously got your permission to use RMIT students in my PhD study, but my project has changed since then. So, again as part of my PhD studies, I am wishing to use some of the students enrolled at RMIT. They will form part of a quasi-experiment and I will be administering two questionnaires in a pre- and post- test.

None of these students are mine as they all come from the SLM area.

Please let me know of your approval so that I can attach it to my ethics application.

Many thanks

Kathy

Mrs. Kathleen Griffiths
(BEc., M.B.A., MEd)
Subject Co-ordinator and Lecturer in Global Marketing
Subject Co-ordinator Internships
RMIT University
Building 80 Level 10

From: Tim Fry
Date: 23 February 2016 at 15:10
Subject: Re: PhD
From: Tim.fry@rmit.edu.au
To: Kathleen Griffiths <kathleen.griffiths@rmit.edu.au>
Happy to approve

Tim R.L. Fry
Professor of Econometrics and Head of School
School of Economics, Finance & Marketing
RMIT University

APPENDIX C – Permission from the Manager of the Student Learning Advisor Mentors (SLM) at RMIT University

From: Lila Kemlo

Date: 5 November 2015 at 11:09:59 AM AEDT

To: Kathleen Griffiths

Cc: Marion Steel, Foula Kopanidis

Subject: RE: Use of the SLM students in my research

Hi Kath,

This email confirms that I have agreed that you are able to use the SLM team as a part of the research that you require for your PhD.

Cheers

Lila

APPENDIX D – Plain Language Statement



PARTICIPANT INFORMATION AND CONSENT FORM (PICF)

INVITATION TO PARTICIPATE IN A RESEARCH PROJECT

PARTICIPANT INFORMATION

Project Title: “The influence of a cross-cultural peer-to-peer mentoring experience on “international mindedness” of higher education students.

Investigators:

1. Dr. Foula Kopanidis (Senior Lecturer in Marketing, Chief investigator)
School of Economics Finance and Marketing
2. Dr. Marion Steel (Lecturer Marketing, co-investigator)
School of Economics Finance and Marketing
3. Kathleen Griffiths (PhD Candidate, student researcher)
School of Economics, Finance and Marketing

Dear SLAMs Mentor/Mentee,

You are invited to participate in a research project being conducted by RMIT University. Please read this sheet carefully and be confident that you understand its contents before deciding whether to participate. If you have any questions about the project, please ask one of the investigators.

The RMIT Human Research Ethics Committee has approved this project. This project is being done as part of Kathleen's work for her Doctor of Philosophy Studies here at RMIT. This research project will investigate the functional outcomes of a cross-cultural formal peer-to-peer mentoring experience on students' international orientation.

Who is involved in this research project? Why is it being conducted?

This research project is led by Dr Foula Kopanidis, Dr Marion Steel and Ms Kathleen Griffiths of the School of Economics, Finance, and Marketing, RMIT University.

Lila Kemlo, the SLAMs Manager, has been fully briefed on the project and has given her permission for us to contact her SLAMs students. All emails to you will go through Lila for distribution.

Why have you been approached?

This project is investigating the outcomes of a cross-cultural SLAMs mentoring experience students' international/global mindedness. Therefore, it is important to obtain the opinions and ideas of people who are involved in the mentoring experience in Melbourne. You have been asked to participate based on your involvement in the SLAMs mentoring experience.

What is the project about?

The project aims to:

- Understand the effects of the cross-cultural SLAMs peer-to-peer mentoring experience on international/global mindedness

If I agree to participate, what will I be required to do?

You will be asked to complete an online questionnaire that covers your international/global mindedness PRIOR to commencing any SLAMs mentoring. This will give the researchers a baseline on your international/global mindedness. The questionnaire will then be distributed again at the completion of the semester. An anonymous identifying tag (eg. Respondent 1 = R1) will be on your questionnaires to match them with your first questionnaire. After the second questionnaire has been matched with the first, the anonymous identifying tag will be removed. Each questionnaire should take about 15-20 minutes to complete.

Your participation is completely voluntary. You can choose to answer all questions or be selective while answering the questions based on your comfort level. You can withdraw from the questionnaire at any time if you feel it is uncomfortable.

To thank you for your time in responding, you are invited to enter a draw for either a \$100 Coles Myer voucher or a \$100 iTunes voucher. If you wish to enter the draw, you will be asked to enter a separate part of the questionnaire to submit your student number and mobile number. After the draw has been held, this information will be destroyed. This part of the questionnaire has no link or bearing to the main part of the questionnaire, so there are no identifying elements.

What are the possible risks or disadvantages?

There are no perceived risks resulting from your participation in the questionnaires outside your normal day-to-day activities. No personal or sensitive information will be collected. If you are unduly concerned about your responses to any of the questions or if you find participation in the project distressing, you should contact Dr. Foula Kopanidis or Dr. Marion Steel as soon as convenient. Dr. Kopanidis and Dr. Steel will discuss your concerns with you confidentially and suggest appropriate referral services, if necessary

What are the benefits associated with participation?

This study will provide information on whether the use of the SLAMs peer-to-peer mentoring experience between students from different countries results in an increase in your international/global mindedness. Industry expects that students are able to cope in a diverse cultural environment for their long-term global employment.

What will happen to the information I provide?

All the information you provide will be handled in a confidential manner. Your information will only be disclosed if: (1) it is to protect you or others from harm; (2) if specifically required or allowed by law; or (3) you provide the researchers with written permission. The results of the research will be presented in an aggregated and de-identified form. No individual will be identified unless we have express written permission. A summary of findings/results from this research is expected to be published and disseminated via report/s and presentation/a, as well as to the wider community via journal/conference publications/presentations. A publication is an Appropriate Durable Record (ADR), and any publications developed as a result of this project will enter the RMIT Repository (a publicly accessible online library of research papers). Please note that the data you provide will be kept securely by the RMIT researchers (physically in locked offices, and digitally via password protected computers and folders) for 5 years after publication, before being destroyed, and will not be handed over to any third parties. Only the research investigator, co-investigator and student researcher will have the access to that information. The final research paper/s will remain online and/or in print. The information you provide may be used in future projects and publications, however, this information will remain anonymous.

What are my rights as a participant?

You have the right to:

- The right to withdraw from participation at any time

- The right to have any unprocessed data withdrawn and destroyed, provided it can be reliably identified, and provided that so doing does not increase the risk for the participant.
- The right to have any questions answered at any time.

Whom should I contact if I have any questions?

If you have any queries related to your participation or the research please contact Dr. Foula Kopanidis, Dr. Marion Steel or Kathleen Griffiths on the given contact details. We will be grateful to assist you with your queries

Yours sincerely

Dr Foula Kopanidis (Senior supervisor)

PhD, M.Ed, B.Bus (Marketing), GradDip., B.Ed, Dip.T

Email: foula.kopanidis@rmit.edu.au

Dr Marion Steel (Joint supervisor)

PhD, M.Train &Dev, B.Bus

Email: marion.steel@rmit.edu.au

Ms Kathleen Griffiths (Research student)

M.Ed., M.B.A., B.Ec.

Email: Kathleen.griffiths@rmit.edu.au

If you have any concerns about your participation in this project, which you do not wish to discuss with the researchers, then you can contact the Ethics Officer, Research Integrity, Governance and Systems, RMIT University, GPO Box 2476V VIC 3001. Tel: (03) 9925 2251 or email human.ethics@rmit.edu.au

☐ By ticking this box and proceeding onto the next page (the beginning of the questionnaire), I agree to take part in the above RMIT University project. I have read the above statement (and have printed/saved it for my records) and understand the research project. I understand that my participation is voluntary – that I can choose not to participate in part or all of the project, and that I can withdraw at any state of the project without giving any reasons and without being penalized or disadvantaged in any way.

APPENDIX E – Copyright permission to use the CCAI

From: Judith Meyers
Sent: Monday, November 26, 2018 9:30 AM
Subject: RE: Using the CCAI questions in my PhD study

Hi Kathleen,

I apologize for the delay in getting back to you. I appreciate your help in tracking down when the questions for the CCAI entered into the public domain. I also realize that you were trying to do the right thing by reaching out to the authors in order to get permission to use it in your dissertation. Given all that has transpired, I would say that you could go ahead, as long as the questions aren't published in the dissertation. At least we can try for some data protection at this point.

Best,
Dr. Meyers
Judith Meyers, Psy.D.
3435 Camino Del Rio South, Suite 217 San Diego, CA 92108

On Tue, 13 Nov 2018 at 02:20, Judith Meyers
Hi Kathleen

Thank you for your reply. Option 1 would be satisfactory. Thank you,
Judith Meyers

From: Anne Lennox
Date: Mon, 12 Nov 2018 at 05:29
Subject: RE: Using the CCAI questions in my PhD study
Email: Anne.leenox@rmit.edu.au
To: Kathleen.griffiths@rmit.edu.au

Hi Kathleen,

We do have a statement that can be used. The statement is:

When publishing the final archive copy of your thesis you have two options with regard to copyright works:

1. Remove them and place reference statements in their place

The following text can be used as a placeholder when removing works due to copyright restrictions. Don't forget to include the citation under the copyright work so others can source the image if needed.

<Copyright work removed due to copyright restrictions>

Regards,
Anne Lennox

APPENDIX F - Outline of Questionnaire

Hypotheses and Research Questions	Independent Variable	Section and Question Number
PART A All Hypotheses in section (1) are related to determining these variables' influence on a student's cross-cultural adaptability <i>H1a</i> : Age <i>H1b</i> : Gender <i>H1c</i> : Ethnicity <i>H1d</i> : A Mother's educational level <i>H1e</i> : A Father's educational level	Qualifying information Demographic and socio-economic factors	BQ1 Is this the first time you are completing this questionnaire? BQ2 In what year were you born? BQ3 What is your gender? BQ4 In what country were you born? Please specify BQ5 What is your mother's highest level of education? BQ6 What is your father's highest level of education?
PART B All hypotheses in section (2) are related to determining these socialisation variables' influence on a students' pre-existing cross-cultural adaptability <i>H2a</i> : Socialising with others <i>H2b</i> : Having friends/family from a different country/culture	Socialisation factors	CQ1 How many hours do you socialise/play sport/have leisure time on average per week during the semester? CQ2 Do you have any friends or family from a different country/culture than you?
PART C All Hypotheses in section (3) are related to determining these private experience variables influence on a students' pre-existing cross-cultural adaptability <i>H3a</i> : Having been on private holiday/s in different country/ies from that is which the student was born <i>H3b</i> : Previous study of a foreign language	Private international experiences	DQ2 Have you been on holiday/s in country/ies other than that in which you were born? DQ1 Did you study a foreign language at school? DQ1a If so, what language/s did you study?

<p>PART D</p> <p>All Hypotheses in section (4) are related to previous external academic experiences and determining these variables' influence on a student's cross-cultural adaptability</p> <p><i>H4a:</i> Having been on an international exchange for 6-12 months+</p> <p><i>H4b:</i> Having been on an international study tour</p> <p><i>H4c:</i> Having been on an international internship</p>	<p>External academic international experiences</p>	<p>EQ1 Have you ever been on an exchange? (6 months – 12 months+) Please state which countries</p> <p>EQ2: Have you ever been on an international study tour? Please state which countries</p> <p>EQ3: Have you been on an international internship? Please state which countries</p>
<p>PART E</p> <p>All Hypotheses in section (5) are related to previous internal academic experiences and determining these variables' influence on a student's cross-cultural adaptability</p> <p><i>H5a:</i> Completion of a subject/s that contained any international content</p> <p><i>H5b:</i> Working in cross-cultural groups</p> <p><i>H5c:</i> Study of a foreign language at university</p>	<p>Internal academic international experiences</p>	<p>FQ1 Have you ever worked in group/s or on assignments with students who were from a different country/culture than you?</p> <p>FQ2 Have you ever completed any subjects in your degree program that have contained any international content?</p> <p>FQ3 Are you studying a language at university? If so, please enter language/s</p>
<p>Qualifying and grouping questions</p>	<p>Use of peer-to-peer mentoring service</p>	<p>GQ1 Are you currently a SLAMs mentor?</p> <p>GQ2 If so, have you mentored any students from a different country/culture than you?</p> <p>GQ3 Have you ever used the services of SLAMs?</p> <p>GQ4 Were you ever mentored by someone from a different country/culture than you?</p>

APPENDIX G - Correlation matrix 50 questions from the CCAI.

	Q1Pre	Q2Pre	Q3Pre	Q4Pre	Q5Pre	Q6Pre	Q7Pre	Q8Pre	Q9Pre	Q10 Pre	Q11Pre	Q12Pre	Q13Pre	Q14Pre
Q1Pre	1.000	0.295	0.323	0.437	0.205	0.390	0.197	0.172	0.272	-0.149	0.116	-0.028	0.272	-0.062
Q2Pre	0.295	1.000	0.408	0.250	0.268	0.270	0.250	0.286	0.176	-0.208	0.300	0.237	0.320	-0.105
Q3Pre	0.323	0.408	1.000	0.356	0.436	0.205	0.142	0.400	0.306	-0.192	0.299	0.194	0.257	-0.026
Q4Pre	0.437	0.250	0.356	1.000	0.335	0.538	0.217	0.284	0.386	-0.108	0.227	0.053	0.257	-0.055
Q5Pre	0.205	0.268	0.436	0.335	1.000	0.356	0.143	0.526	0.257	-0.030	0.263	0.241	0.273	-0.139
Q6Pre	0.390	0.270	0.205	0.538	0.356	1.000	0.273	0.273	0.324	0.019	0.183	0.114	0.248	-0.222
Q7Pre	0.197	0.250	0.142	0.217	0.143	0.273	1.000	0.192	0.282	-0.100	0.104	0.164	0.338	-0.233
Q8Pre	0.172	0.286	0.400	0.284	0.526	0.273	0.192	1.000	0.341	-0.142	0.317	0.365	0.263	-0.156
Q9Pre	0.272	0.176	0.306	0.386	0.257	0.324	0.282	0.341	1.000	-0.216	0.274	0.142	0.241	-0.089
Q10 Pre	-0.149	-0.208	-0.192	-0.108	-0.030	0.019	-0.100	-0.142	-0.216	1.000	-0.107	-0.285	-0.208	0.034
Q11Pre	0.116	0.300	0.299	0.227	0.263	0.183	0.104	0.317	0.274	-0.107	1.000	0.232	0.233	-0.160
Q12Pre	-0.028	0.237	0.194	0.053	0.241	0.114	0.164	0.365	0.142	-0.285	0.232	1.000	0.337	-0.054
Q13Pre	0.272	0.320	0.257	0.257	0.273	0.248	0.338	0.263	0.241	-0.208	0.233	0.337	1.000	-0.190
Q14Pre	-0.062	-0.105	-0.026	-0.055	-0.139	-0.222	-0.233	-0.156	-0.089	0.034	-0.160	-0.054	-0.190	1.000
Q15Pre	0.194	0.324	0.360	0.240	0.302	0.188	0.227	0.346	0.167	-0.139	0.352	0.148	0.174	-0.202
Q16Pre	0.257	0.440	0.300	0.348	0.395	0.419	0.262	0.399	0.351	-0.047	0.359	0.269	0.240	-0.123
Q17Pre	0.149	0.075	0.033	0.107	0.092	0.226	0.204	0.099	0.152	0.002	0.072	-0.070	-0.045	-0.189
Q18Pre	0.183	0.472	0.175	0.298	0.326	0.381	0.247	0.319	0.269	-0.313	0.131	0.272	0.318	-0.117
Q19Pre	0.095	0.066	0.102	0.173	0.078	0.117	0.010	0.045	0.055	0.324	0.084	0.029	0.041	0.200
Q20Pre	0.224	0.211	0.374	0.243	0.330	0.129	0.095	0.226	0.438	-0.246	0.287	0.114	0.244	-0.091
Q21Pre	0.179	0.089	0.181	0.347	0.317	0.215	0.115	0.248	0.363	-0.108	0.257	0.163	0.318	-0.213
Q22Pre	0.041	-0.014	0.099	0.107	0.177	0.019	-0.072	0.173	0.041	0.170	0.123	0.096	0.052	0.185
Q23Pre	0.054	0.065	0.042	0.003	-0.029	-0.034	0.024	0.075	-0.076	0.024	0.005	0.185	0.207	0.288
Q24Pre	-0.006	0.204	0.283	0.077	0.168	0.086	0.170	0.216	0.195	-0.412	0.196	0.544	0.366	-0.031
Q25Pre	0.028	0.150	0.048	0.122	0.015	0.182	0.140	0.066	0.161	0.014	0.120	0.115	0.117	-0.034
Q26Pre	0.213	0.216	0.138	0.327	0.189	0.434	0.449	0.144	0.334	-0.100	0.195	0.333	0.413	-0.147
Q27Pre	0.112	0.089	0.294	0.112	0.234	0.048	0.072	0.140	0.113	0.002	0.164	0.190	0.178	0.078
Q28Pre	0.082	0.127	0.189	0.023	0.027	-0.074	-0.104	-0.014	0.087	-0.301	0.091	-0.031	0.039	-0.044
Q29Pre	0.220	0.257	0.297	0.233	0.162	0.176	0.255	0.222	0.290	-0.220	0.185	0.304	0.636	-0.173
Q30Pre	0.211	0.261	0.169	0.084	0.066	0.074	0.093	0.064	0.164	-0.209	0.132	0.171	0.269	-0.080
Q31Pre	0.295	0.203	0.226	0.299	0.186	0.255	0.102	0.230	0.199	-0.047	0.188	0.050	0.205	-0.128
Q32Pre	-0.008	0.054	0.125	-0.009	0.137	0.022	0.007	0.068	0.007	0.087	0.055	0.243	0.077	0.266
Q33Pre	0.070	0.143	0.336	0.066	0.160	0.110	0.131	0.218	0.233	-0.204	0.243	0.397	0.275	-0.024
Q34Pre	0.078	0.014	0.172	0.242	0.185	0.143	0.083	0.127	0.153	0.075	0.053	0.044	0.131	0.156
Q35Pre	0.125	0.115	0.069	0.108	0.003	0.226	0.239	0.116	0.147	0.017	0.027	0.040	0.109	-0.226
Q36Pre	0.344	0.316	0.347	0.462	0.421	0.433	0.298	0.382	0.335	-0.201	0.288	0.161	0.418	-0.138
Q37Pre	-0.013	0.018	0.130	0.068	0.144	-0.012	-0.137	0.145	-0.055	0.197	0.021	0.186	0.119	0.186
Q38Pre	0.051	0.087	0.155	0.112	0.082	0.014	0.011	0.037	0.116	-0.287	0.179	-0.028	0.099	0.095
Q39Pre	0.255	0.211	0.281	0.399	0.311	0.346	0.267	0.171	0.354	-0.183	0.212	0.068	0.362	-0.200
Q40Pre	0.171	0.259	0.386	0.174	0.365	0.104	0.154	0.290	0.277	-0.289	0.288	0.273	0.328	-0.034
Q41Pre	0.156	0.185	0.150	0.169	0.153	0.302	0.353	0.148	0.167	0.057	0.167	0.224	0.275	-0.132
Q42Pre	0.187	0.248	0.233	0.357	0.342	0.292	0.391	0.195	0.347	-0.074	0.224	0.163	0.434	-0.156
Q43Pre	0.212	0.211	0.277	0.278	0.348	0.287	0.168	0.416	0.296	-0.056	0.393	0.203	0.312	-0.146
Q44Pre	0.291	0.281	0.413	0.402	0.326	0.292	0.270	0.375	0.316	-0.174	0.235	0.253	0.384	-0.112
Q45Pre	0.210	0.112	0.171	0.294	0.154	0.391	0.327	0.133	0.318	-0.020	0.165	0.126	0.225	-0.002
Q46Pre	0.185	0.247	0.312	0.174	0.268	0.173	0.287	0.326	0.237	-0.198	0.263	0.222	0.233	-0.168
Q47Pre	0.156	0.193	0.273	0.115	0.229	0.154	0.251	0.225	0.118	-0.166	0.247	0.307	0.248	-0.024
Q48Pre	0.329	0.173	0.311	0.316	0.287	0.339	0.262	0.320	0.405	-0.033	0.224	0.153	0.368	-0.128
Q49Pre	0.255	0.220	0.285	0.254	0.181	0.242	0.201	0.248	0.173	-0.290	0.058	0.220	0.285	-0.254
Q50Pre	0.269	0.244	0.409	0.239	0.245	0.075	0.179	0.383	0.217	-0.264	0.180	0.204	0.306	0.009

	Q15Pre	Q16Pre	Q17Pre	Q18Pre	Q19Pre	Q20Pre	Q21Pre	Q22Pre	Q23Pre	Q24Pre	Q25Pre	Q26Pre	Q27Pre	Q28Pre
Q1Pre	0.194	0.257	0.149	0.183	0.095	0.224	0.179	0.041	0.054	-0.006	0.028	0.213	0.112	0.082
Q2Pre	0.324	0.440	0.075	0.472	0.066	0.211	0.089	-0.014	0.065	0.204	0.150	0.216	0.089	0.127
Q3Pre	0.360	0.300	0.033	0.175	0.102	0.374	0.181	0.099	0.042	0.283	0.048	0.138	0.294	0.189
Q4Pre	0.240	0.348	0.107	0.298	0.173	0.243	0.347	0.107	0.003	0.077	0.122	0.327	0.112	0.023
Q5Pre	0.302	0.395	0.092	0.326	0.078	0.330	0.317	0.177	-0.029	0.168	0.015	0.189	0.234	0.027
Q6Pre	0.188	0.419	0.226	0.381	0.117	0.129	0.215	0.019	-0.034	0.086	0.182	0.434	0.048	-0.074
Q7Pre	0.227	0.262	0.204	0.247	0.010	0.095	0.115	-0.072	0.024	0.170	0.140	0.449	0.072	-0.104
Q8Pre	0.346	0.399	0.099	0.319	0.045	0.226	0.248	0.173	0.075	0.216	0.066	0.144	0.140	-0.014
Q9Pre	0.167	0.351	0.152	0.269	0.055	0.438	0.363	0.041	-0.076	0.195	0.161	0.334	0.113	0.087
Q10Pre	-0.139	-0.047	0.002	-0.313	0.324	-0.246	-0.108	0.170	0.024	-0.412	0.014	-0.100	0.002	-0.301
Q11Pre	0.352	0.359	0.072	0.131	0.084	0.287	0.257	0.123	0.005	0.196	0.120	0.195	0.164	0.091
Q12Pre	0.148	0.269	-0.070	0.272	0.029	0.114	0.163	0.096	0.185	0.544	0.115	0.333	0.190	-0.031
Q13Pre	0.174	0.240	-0.045	0.318	0.041	0.244	0.318	0.052	0.207	0.366	0.117	0.413	0.178	0.039
Q14Pre	-0.202	-0.123	-0.189	-0.117	0.200	-0.091	-0.213	0.185	0.288	-0.031	-0.034	-0.147	0.078	-0.044
Q15Pre	1.000	0.401	0.138	0.157	0.127	0.209	0.126	0.027	0.020	0.166	0.082	0.152	0.125	0.226
Q16Pre	0.401	1.000	0.202	0.327	0.226	0.283	0.211	0.130	0.028	0.245	0.238	0.336	0.199	0.061
Q17Pre	0.138	0.202	1.000	0.122	-0.128	0.043	0.052	-0.214	-0.201	-0.102	0.066	0.086	-0.245	0.181
Q18Pre	0.157	0.327	0.122	1.000	-0.077	0.091	0.205	-0.029	-0.030	0.266	0.025	0.296	0.121	0.047
Q19Pre	0.127	0.226	-0.128	-0.077	1.000	-0.034	0.106	0.453	0.283	0.096	0.353	0.203	0.403	-0.102
Q20Pre	0.209	0.283	0.043	0.091	-0.034	1.000	0.434	0.029	-0.056	0.275	0.150	0.240	0.224	0.275
Q21Pre	0.126	0.211	0.052	0.205	0.106	0.434	1.000	0.230	0.054	0.214	0.199	0.285	0.215	0.070
Q22Pre	0.027	0.130	-0.214	-0.029	0.453	0.029	0.230	1.000	0.330	0.063	0.241	0.048	0.380	-0.078
Q23Pre	0.020	0.028	-0.201	-0.030	0.283	-0.056	0.054	0.330	1.000	0.210	0.067	0.116	0.329	-0.048
Q24Pre	0.166	0.245	-0.102	0.266	0.096	0.275	0.214	0.063	0.210	1.000	0.322	0.416	0.313	0.087
Q25Pre	0.082	0.238	0.066	0.025	0.353	0.150	0.199	0.241	0.067	0.322	1.000	0.449	0.215	0.084
Q26Pre	0.152	0.336	0.086	0.296	0.203	0.240	0.285	0.048	0.116	0.416	0.449	1.000	0.309	-0.024
Q27Pre	0.125	0.199	-0.245	0.121	0.403	0.224	0.215	0.380	0.329	0.313	0.215	0.309	1.000	-0.010
Q28Pre	0.226	0.061	0.181	0.047	-0.102	0.275	0.070	-0.078	-0.048	0.087	0.084	-0.024	-0.010	1.000
Q29Pre	0.157	0.264	-0.111	0.265	0.135	0.246	0.313	0.107	0.302	0.523	0.210	0.468	0.291	0.143
Q30Pre	0.164	0.236	0.021	0.186	0.123	0.232	0.181	-0.042	0.032	0.320	0.246	0.295	0.187	0.195
Q31Pre	0.113	0.269	0.062	0.156	0.092	0.095	0.189	0.195	0.003	0.117	0.179	0.266	0.051	0.063
Q32Pre	-0.002	0.097	-0.210	0.073	0.400	0.054	0.065	0.365	0.374	0.223	0.131	0.186	0.491	-0.192
Q33Pre	0.178	0.228	-0.166	0.080	0.158	0.299	0.233	0.076	0.158	0.515	0.289	0.363	0.309	-0.052
Q34Pre	0.050	0.104	-0.179	0.119	0.344	0.080	0.200	0.383	0.283	0.115	0.173	0.192	0.386	-0.143
Q35Pre	0.163	0.198	0.305	0.026	-0.100	0.061	0.105	-0.160	-0.084	0.049	0.282	0.175	-0.126	0.071
Q36Pre	0.323	0.485	0.129	0.414	0.077	0.405	0.278	0.038	0.094	0.264	0.153	0.446	0.191	0.151
Q37Pre	0.039	0.149	-0.272	-0.039	0.431	-0.084	0.089	0.502	0.330	0.057	0.086	-0.022	0.353	-0.104
Q38Pre	0.199	-0.005	0.113	0.074	-0.181	0.239	0.064	-0.242	-0.057	0.144	-0.013	0.083	-0.061	0.301
Q39Pre	0.238	0.271	0.141	0.333	0.057	0.312	0.352	0.060	-0.015	0.251	0.232	0.419	0.192	0.212
Q40Pre	0.233	0.241	-0.116	0.199	0.167	0.363	0.264	0.155	0.184	0.555	0.263	0.334	0.290	0.156
Q41Pre	0.217	0.273	0.122	0.028	0.215	0.142	0.161	0.077	0.122	0.266	0.493	0.464	0.171	0.036
Q42Pre	0.247	0.342	0.059	0.198	0.194	0.337	0.440	0.157	0.150	0.305	0.331	0.455	0.230	0.117
Q43Pre	0.265	0.362	0.051	0.270	0.196	0.257	0.231	0.217	0.097	0.272	0.274	0.324	0.210	0.144
Q44Pre	0.279	0.359	0.011	0.253	0.140	0.359	0.305	0.157	0.119	0.316	0.175	0.330	0.238	0.148
Q45Pre	0.066	0.206	0.059	0.146	0.074	0.094	0.067	0.024	-0.043	0.121	0.123	0.399	-0.012	-0.012
Q46Pre	0.658	0.292	0.031	0.238	0.044	0.267	0.205	0.026	0.126	0.307	0.073	0.278	0.166	0.136
Q47Pre	0.100	0.133	0.100	0.110	0.101	0.114	0.154	0.159	0.113	0.300	0.228	0.293	0.119	0.015
Q48Pre	0.293	0.296	0.049	0.175	0.197	0.318	0.382	0.177	0.083	0.308	0.316	0.472	0.149	0.070
Q49Pre	0.215	0.311	0.172	0.356	-0.130	0.134	0.211	-0.093	-0.026	0.235	0.029	0.200	-0.017	0.097
Q50Pre	0.211	0.204	0.021	0.140	-0.004	0.268	0.264	-0.010	0.137	0.224	0.040	0.193	0.109	0.164

	Q29Pre	Q30Pre	Q31Pre	Q32Pre	Q33Pre	Q34Pre	Q35Pre	Q36Pre	Q37Pre	Q38Pre	Q39Pre	Q40Pre	Q41Pre	Q42Pre
Q1Pre	0.220	0.211	0.295	-0.008	0.070	0.078	0.125	0.344	-0.013	0.051	0.255	0.171	0.156	0.187
Q2Pre	0.257	0.261	0.203	0.054	0.143	0.014	0.115	0.316	0.018	0.087	0.211	0.259	0.185	0.248
Q3Pre	0.297	0.169	0.226	0.125	0.336	0.172	0.069	0.347	0.130	0.155	0.281	0.386	0.150	0.233
Q4Pre	0.233	0.084	0.299	-0.009	0.066	0.242	0.108	0.462	0.068	0.112	0.399	0.174	0.169	0.357
Q5Pre	0.162	0.066	0.186	0.137	0.160	0.185	0.003	0.421	0.144	0.082	0.311	0.365	0.153	0.342
Q6Pre	0.176	0.074	0.255	0.022	0.110	0.143	0.226	0.433	-0.012	0.014	0.346	0.104	0.302	0.292
Q7Pre	0.255	0.093	0.102	0.007	0.131	0.083	0.239	0.298	-0.137	0.011	0.267	0.154	0.353	0.391
Q8Pre	0.222	0.064	0.230	0.068	0.218	0.127	0.116	0.382	0.145	0.037	0.171	0.290	0.148	0.195
Q9Pre	0.290	0.164	0.199	0.007	0.233	0.153	0.147	0.335	-0.055	0.116	0.354	0.277	0.167	0.347
Q10Pre	-0.220	-0.209	-0.047	0.087	-0.204	0.075	0.017	-0.201	0.197	-0.287	-0.183	-0.289	0.057	-0.074
Q11Pre	0.185	0.132	0.188	0.055	0.243	0.053	0.027	0.288	0.021	0.179	0.212	0.288	0.167	0.224
Q12Pre	0.304	0.171	0.050	0.243	0.397	0.044	0.040	0.161	0.186	-0.028	0.068	0.273	0.224	0.163
Q13Pre	0.636	0.269	0.205	0.077	0.275	0.131	0.109	0.418	0.119	0.099	0.362	0.328	0.275	0.434
Q14Pre	-0.173	-0.080	-0.128	0.266	-0.024	0.156	-0.226	-0.138	0.186	0.095	-0.200	-0.034	-0.132	-0.156
Q15Pre	0.157	0.164	0.113	-0.002	0.178	0.050	0.163	0.323	0.039	0.199	0.238	0.233	0.217	0.247
Q16Pre	0.264	0.236	0.269	0.097	0.228	0.104	0.198	0.485	0.149	-0.005	0.271	0.241	0.273	0.342
Q17Pre	-0.111	0.021	0.062	-0.210	-0.166	-0.179	0.305	0.129	-0.272	0.113	0.141	-0.116	0.122	0.059
Q18Pre	0.265	0.186	0.156	0.073	0.080	0.119	0.026	0.414	-0.039	0.074	0.333	0.199	0.028	0.198
Q19Pre	0.135	0.123	0.092	0.400	0.158	0.344	-0.100	0.077	0.431	-0.181	0.057	0.167	0.215	0.194
Q20Pre	0.246	0.232	0.095	0.054	0.299	0.080	0.061	0.405	-0.084	0.239	0.312	0.363	0.142	0.337
Q21Pre	0.313	0.181	0.189	0.065	0.233	0.200	0.105	0.278	0.089	0.064	0.352	0.264	0.161	0.440
Q22Pre	0.107	-0.042	0.195	0.365	0.076	0.383	-0.160	0.038	0.502	-0.242	0.060	0.155	0.077	0.157
Q23Pre	0.302	0.032	0.003	0.374	0.158	0.283	-0.084	0.094	0.330	-0.057	-0.015	0.184	0.122	0.150
Q24Pre	0.523	0.320	0.117	0.223	0.515	0.115	0.049	0.264	0.057	0.144	0.251	0.555	0.266	0.305
Q25Pre	0.210	0.246	0.179	0.131	0.289	0.173	0.282	0.153	0.086	-0.013	0.232	0.263	0.493	0.331
Q26Pre	0.468	0.295	0.266	0.186	0.363	0.192	0.175	0.446	-0.022	0.083	0.419	0.334	0.464	0.455
Q27Pre	0.291	0.187	0.051	0.491	0.309	0.386	-0.126	0.191	0.353	-0.061	0.192	0.290	0.171	0.230
Q28Pre	0.143	0.195	0.063	-0.192	-0.052	-0.143	0.071	0.151	-0.104	0.301	0.212	0.156	0.036	0.117
Q29Pre	1.000	0.427	0.269	0.211	0.455	0.241	0.144	0.377	0.130	0.135	0.391	0.351	0.274	0.447
Q30Pre	0.427	1.000	0.275	0.119	0.269	0.100	0.191	0.222	0.041	0.085	0.343	0.264	0.318	0.329
Q31Pre	0.269	0.275	1.000	-0.008	0.133	0.118	0.166	0.408	0.145	-0.044	0.223	0.159	0.145	0.208
Q32Pre	0.211	0.119	-0.008	1.000	0.332	0.440	-0.146	0.099	0.443	-0.037	-0.024	0.284	0.118	0.172
Q33Pre	0.455	0.269	0.133	0.332	1.000	0.137	0.148	0.211	0.074	0.095	0.241	0.484	0.382	0.319
Q34Pre	0.241	0.100	0.118	0.440	0.137	1.000	-0.143	0.152	0.368	-0.012	0.173	0.186	0.094	0.219
Q35Pre	0.144	0.191	0.166	-0.146	0.148	-0.143	1.000	0.182	-0.185	-0.047	0.163	-0.037	0.397	0.214
Q36Pre	0.377	0.222	0.408	0.099	0.211	0.152	0.182	1.000	0.055	0.146	0.417	0.306	0.276	0.457
Q37Pre	0.130	0.041	0.145	0.443	0.074	0.368	-0.185	0.055	1.000	-0.322	-0.099	0.116	-0.039	0.121
Q38Pre	0.135	0.085	-0.044	-0.037	0.095	-0.012	-0.047	0.146	-0.322	1.000	0.268	0.214	0.097	0.139
Q39Pre	0.391	0.343	0.223	-0.024	0.241	0.173	0.163	0.417	-0.099	0.268	1.000	0.316	0.334	0.463
Q40Pre	0.351	0.264	0.159	0.284	0.484	0.186	-0.037	0.306	0.116	0.214	0.316	1.000	0.361	0.393
Q41Pre	0.274	0.318	0.145	0.118	0.382	0.094	0.397	0.276	-0.039	0.097	0.334	0.361	1.000	0.506
Q42Pre	0.447	0.329	0.208	0.172	0.319	0.219	0.214	0.457	0.121	0.139	0.463	0.393	0.506	1.000
Q43Pre	0.379	0.260	0.314	0.190	0.297	0.216	0.108	0.406	0.135	0.199	0.331	0.456	0.414	0.443
Q44Pre	0.508	0.370	0.311	0.198	0.299	0.340	0.072	0.466	0.201	0.181	0.396	0.397	0.337	0.486
Q45Pre	0.204	0.171	0.227	0.102	0.208	0.216	0.153	0.362	0.026	0.119	0.149	0.154	0.267	0.317
Q46Pre	0.317	0.251	0.205	0.062	0.352	0.109	0.205	0.369	0.015	0.158	0.259	0.358	0.310	0.332
Q47Pre	0.194	0.100	0.128	0.110	0.160	0.056	0.075	0.212	0.080	0.077	0.183	0.271	0.225	0.318
Q48Pre	0.522	0.282	0.277	0.143	0.342	0.299	0.148	0.393	0.035	0.118	0.471	0.400	0.356	0.407
Q49Pre	0.299	0.217	0.241	-0.061	0.208	-0.049	0.193	0.340	-0.096	0.015	0.244	0.144	0.150	0.229
Q50Pre	0.369	0.159	0.154	0.075	0.291	0.151	0.021	0.321	0.035	0.220	0.179	0.310	0.125	0.256

	Q43Pre	Q44Pre	Q45Pre	Q46	Q47Pre	Q48Pre	Q49Pre	Q50Pre
Q1Pre	0.212	0.291	0.210	0.185	0.156	0.329	0.255	0.269
Q2Pre	0.211	0.281	0.112	0.247	0.193	0.173	0.220	0.244
Q3Pre	0.277	0.413	0.171	0.312	0.273	0.311	0.285	0.409
Q4Pre	0.278	0.402	0.294	0.174	0.115	0.316	0.254	0.239
Q5Pre	0.348	0.326	0.154	0.268	0.229	0.287	0.181	0.245
Q6Pre	0.287	0.292	0.391	0.173	0.154	0.339	0.242	0.075
Q7Pre	0.168	0.270	0.327	0.287	0.251	0.262	0.201	0.179
Q8Pre	0.416	0.375	0.133	0.326	0.225	0.320	0.248	0.383
Q9Pre	0.296	0.316	0.318	0.237	0.118	0.405	0.173	0.217
Q10 Pre	-0.056	-0.174	-0.020	-0.198	-0.166	-0.033	-0.290	-0.264
Q11Pre	0.393	0.235	0.165	0.263	0.247	0.224	0.058	0.180
Q12Pre	0.203	0.253	0.126	0.222	0.307	0.153	0.220	0.204
Q13Pre	0.312	0.384	0.225	0.233	0.248	0.368	0.285	0.306
Q14Pre	-0.146	-0.112	-0.002	-0.168	-0.024	-0.128	-0.254	0.009
Q15Pre	0.265	0.279	0.066	0.658	0.100	0.293	0.215	0.211
Q16Pre	0.362	0.359	0.206	0.292	0.133	0.296	0.311	0.204
Q17Pre	0.051	0.011	0.059	0.031	0.100	0.049	0.172	0.021
Q18Pre	0.270	0.253	0.146	0.238	0.110	0.175	0.356	0.140
Q19Pre	0.196	0.140	0.074	0.044	0.101	0.197	-0.130	-0.004
Q20Pre	0.257	0.359	0.094	0.267	0.114	0.318	0.134	0.268
Q21Pre	0.231	0.305	0.067	0.205	0.154	0.382	0.211	0.264
Q22Pre	0.217	0.157	0.024	0.026	0.159	0.177	-0.093	-0.010
Q23Pre	0.097	0.119	-0.043	0.126	0.113	0.083	-0.026	0.137
Q24Pre	0.272	0.316	0.121	0.307	0.300	0.308	0.235	0.224
Q25Pre	0.274	0.175	0.123	0.073	0.228	0.316	0.029	0.040
Q26Pre	0.324	0.330	0.399	0.278	0.293	0.472	0.200	0.193
Q27Pre	0.210	0.238	-0.012	0.166	0.119	0.149	-0.017	0.109
Q28Pre	0.144	0.148	-0.012	0.136	0.015	0.070	0.097	0.164
Q29Pre	0.379	0.508	0.204	0.317	0.194	0.522	0.299	0.369
Q30Pre	0.260	0.370	0.171	0.251	0.100	0.282	0.217	0.159
Q31Pre	0.314	0.311	0.227	0.205	0.128	0.277	0.241	0.154
Q32Pre	0.190	0.198	0.102	0.062	0.110	0.143	-0.061	0.075
Q33Pre	0.297	0.299	0.208	0.352	0.160	0.342	0.208	0.291
Q34Pre	0.216	0.340	0.216	0.109	0.056	0.299	-0.049	0.151
Q35Pre	0.108	0.072	0.153	0.205	0.075	0.148	0.193	0.021
Q36Pre	0.406	0.466	0.362	0.369	0.212	0.393	0.340	0.321
Q37Pre	0.135	0.201	0.026	0.015	0.080	0.035	-0.096	0.035
Q38Pre	0.199	0.181	0.119	0.158	0.077	0.118	0.015	0.220
Q39Pre	0.331	0.396	0.149	0.259	0.183	0.471	0.244	0.179
Q40Pre	0.456	0.397	0.154	0.358	0.271	0.400	0.144	0.310
Q41Pre	0.414	0.337	0.267	0.310	0.225	0.356	0.150	0.125
Q42Pre	0.443	0.486	0.317	0.332	0.318	0.407	0.229	0.256
Q43Pre	1.000	0.585	0.264	0.358	0.192	0.446	0.171	0.205
Q44Pre	0.585	1.000	0.348	0.414	0.185	0.496	0.227	0.389
Q45Pre	0.264	0.348	1.000	0.271	0.241	0.377	0.155	0.186
Q46Pre	0.358	0.414	0.271	1.000	0.119	0.353	0.234	0.326
Q47Pre	0.192	0.185	0.241	0.119	1.000	0.345	0.153	0.153
Q48Pre	0.446	0.496	0.377	0.353	0.345	1.000	0.230	0.335
Q49Pre	0.171	0.227	0.155	0.234	0.153	0.230	1.000	0.355
Q50Pre	0.205	0.389	0.186	0.326	0.153	0.335	0.355	1.000

APPENDIX H - Component matrix from initial Principal Component Analysis (PCA)

Extraction Method: Principal Component Analysis. - 12 Components extracted												
Component Matrix												
	Component											
	1	2	3	4	5	6	7	8	9	10	11	12
Q1Pre-	0.430											
Q2Pre-	0.484											
Q3Pre-	0.562											
Q4Pre-	0.535											
Q5Pre-	0.534			0.431								
Q6Pre-	0.503		0.510									
Q7Pre-	0.439											
Q8Pre-	0.537											
Q9Pre-	0.536											
Q10 Pre-			0.599									
Q11Pre-	0.454											
Q12Pre-	0.424				- 0.532							
Q13Pre-	0.601											
Q14Pre-		0.424						0.422				
Q15Pre-	0.468					0.504						
Q16Pre-	0.595											
Q17Pre-		- 0.509										
Q18Pre-	0.458											
Q19Pre-		0.619										
Q20Pre-	0.502											
Q21Pre-	0.499							- 0.450				
Q22Pre-		0.647										
Q23Pre-		0.544										
Q24Pre-	0.549		- 0.492									
Q25Pre-				- 0.498								
Q26Pre-	0.639			- 0.414								
Q27Pre-		0.559										
Q28Pre-					0.449							
Q29Pre-	0.656											
Q30Pre-	0.451											

	Component											
	1	2	3	4	5	6	7	8	9	10	11	12
Q31Pre-	0.419											
Q32Pre-		0.679										
Q33Pre-	0.528											
Q34Pre-		0.524										
Q35Pre-				- 0.400								
Q36Pre-	0.687											
Q37Pre-		0.686										
Q38Pre-					0.436							
Q39Pre-	0.595											
Q40Pre-	0.608											
Q41Pre-	0.523			- 0.525								
Q42Pre-	0.673											
Q43Pre-	0.634											
Q44Pre-	0.701											
Q45Pre-	0.429							0.467				
Q46Pre-	0.561											
Q47Pre-										0.473		
Q48Pre-	0.670											
Q49Pre-	0.424											
Q50Pre-	0.483											

APPENDIX I - Pattern matrix from Principal Component Analysis (PCA)

Pattern Matrix – Extraction method – PCA, Rotation method – Oblimin, Kaiser Normalisation (12 factors)

	1	2	3	4	5	6	7	8	9	10	11	12
Q1Pre-							0.563					
Q2Pre-									0.590			
Q3Pre-							0.412					
Q4Pre-												
Q5Pre-												
Q6Pre-									0.492			
Q7Pre-												
Q8Pre-												
Q9Pre-												- 0.595
Q10 Pre-			0.459									
Q11Pre-												
Q12Pre-			- 0.657									
Q13Pre-	0.630											
Q14Pre-	- 0.411	0.505										
Q15Pre-						0.842						
Q16Pre-									0.470			
Q17Pre-												
Q18Pre-									0.812			
Q19Pre-		0.716										
Q20Pre-												- 0.717
Q21Pre-												- 0.687
Q22Pre-		0.579										
Q23Pre-		0.605										
Q24Pre-			- 0.706									
Q25Pre-				- 0.710								
Q26Pre-												
Q27Pre-		0.668										
Q28Pre-					0.676							
Q29Pre-	0.583											
Q30Pre-												
Q31Pre-											- 0.709	
Q32Pre-		0.670										
Q33Pre-			- 0.654									
Q34Pre-		0.579										
Q35Pre-				- 0.605								

Q36Pre-												
Q37Pre-		0.595										
Q38Pre-					0.703							
Q39Pre-												
Q40Pre-			- 0.403									
Q41Pre-				- 0.617								
Q42Pre-	0.454											
Q43Pre-											- 0.422	
Q44Pre-												
Q45Pre-								0.788				
Q46Pre-						0.761						
Q47Pre-										0.785		
Q48Pre-												
Q49Pre-							0.448					
Q50Pre-							0.551					

APPENDIX J - Communalities from Principal Component Analysis (PCA)

Communalities – Extraction method – PCA

	Initial	Extraction
Q1Pre-	1.000	0.572
Q2Pre-	1.000	0.582
Q3Pre-	1.000	0.611
Q4Pre-	1.000	0.614
Q5Pre-	1.000	0.601
Q6Pre-	1.000	0.653
Q7Pre-	1.000	0.619
Q8Pre-	1.000	0.645
Q9Pre-	1.000	0.556
Q10 Pre-	1.000	0.647
Q11Pre-	1.000	0.462
Q12Pre-	1.000	0.674
Q13Pre-	1.000	0.632
Q14Pre-	1.000	0.664
Q15Pre-	1.000	0.741
Q16Pre-	1.000	0.625
Q17Pre-	1.000	0.496
Q18Pre-	1.000	0.735
Q19Pre-	1.000	0.648
Q20Pre-	1.000	0.658
Q21Pre-	1.000	0.669
Q22Pre-	1.000	0.651
Q23Pre-	1.000	0.603
Q24Pre-	1.000	0.719
Q25Pre-	1.000	0.681
Q26Pre-	1.000	0.691
Q27Pre-	1.000	0.630
Q28Pre-	1.000	0.641
Q29Pre-	1.000	0.732
Q30Pre-	1.000	0.588
Q31Pre-	1.000	0.619
Q32Pre-	1.000	0.607
Q33Pre-	1.000	0.720
Q34Pre-	1.000	0.561
Q35Pre-	1.000	0.587
Q36Pre-	1.000	0.566
Q37Pre-	1.000	0.668
Q38Pre-	1.000	0.688
Q39Pre-	1.000	0.610
Q40Pre-	1.000	0.580
Q41Pre-	1.000	0.676
Q42Pre-	1.000	0.618

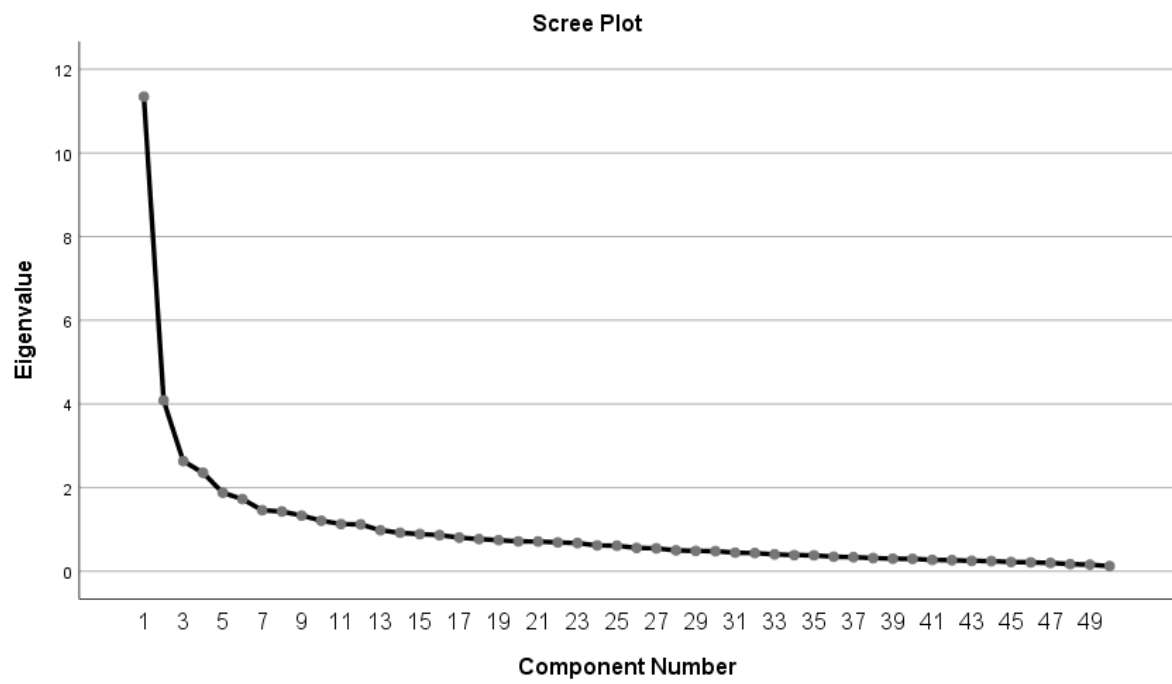
Q43Pre-	1.000	0.678
Q44Pre-	1.000	0.648
Q45Pre-	1.000	0.684
Q46Pre-	1.000	0.698
Q47Pre-	1.000	0.703
Q48Pre-	1.000	0.601
Q49Pre-	1.000	0.531
Q50Pre-	1.000	0.606

APPENDIX K - Total variance explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings
	Total	% of Variance	Cumulative %				
1	11.345	22.689	22.689	11.345	22.689	22.689	4.484
2	4.086	8.172	30.861	4.086	8.172	30.861	4.184
3	2.631	5.262	36.123	2.631	5.262	36.123	3.669
4	2.354	4.708	40.831	2.354	4.708	40.831	3.188
5	1.878	3.756	44.587	1.878	3.756	44.587	2.316
6	1.724	3.448	48.035	1.724	3.448	48.035	5.135
7	1.459	2.919	50.954	1.459	2.919	50.954	2.770
8	1.428	2.856	53.810	1.428	2.856	53.810	3.564
9	1.330	2.660	56.469	1.330	2.660	56.469	4.661
10	1.208	2.417	58.886	1.208	2.417	58.886	3.079
11	1.128	2.255	61.141	1.128	2.255	61.141	3.295
12	1.120	2.240	63.381	1.120	2.240	63.381	5.099
13	0.979	1.957	65.339				
14	0.919	1.839	67.178				
15	0.888	1.776	68.954				
16	0.863	1.726	70.680				
17	0.804	1.609	72.289				
18	0.769	1.539	73.827				
19	0.742	1.484	75.312				
20	0.714	1.428	76.740				
21	0.711	1.422	78.162				
22	0.690	1.379	79.542				
23	0.673	1.347	80.888				
24	0.618	1.236	82.124				
25	0.611	1.222	83.346				
26	0.558	1.116	84.462				
27	0.547	1.094	85.557				
28	0.499	0.998	86.555				
29	0.486	0.973	87.528				
30	0.480	0.959	88.487				

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings
	Total	% of Variance	Cumulative %				
31	0.445	0.890	89.377				
32	0.434	0.869	90.246				
33	0.404	0.807	91.053				
34	0.384	0.768	91.821				
35	0.380	0.761	92.582				
36	0.347	0.694	93.277				
37	0.337	0.674	93.951				
38	0.315	0.630	94.581				
39	0.301	0.603	95.184				
40	0.295	0.591	95.774				
41	0.272	0.545	96.319				
42	0.265	0.530	96.849				
43	0.249	0.498	97.346				
44	0.244	0.489	97.835				
45	0.220	0.441	98.275				
46	0.212	0.425	98.700				
47	0.199	0.399	99.099				
48	0.169	0.338	99.437				
49	0.157	0.314	99.751				
50	0.125	0.249	100.000				

APPENDIX L - Catell's scree plot test



APPENDIX M - Parallel Analysis

Monte Carlo PCA for Parallel Analysis

4/03/2019 11:59:38 AM
Number of variables: 50
Number of subjects: 234
Number of replications: 100

```
+++++
Eigenvalue #      Random Eigenvalue      Standard Dev
+++++
1                2.0426                  .0546
2                1.9362                  .0524
3                1.8449                  .0406
4                1.7732                  .0341
5                1.7164                  .0363
6                1.6593                  .0329
7                1.6025                  .0268
8                1.5537                  .0257
9                1.5079                  .0291
10               1.4633                  .0265
11               1.4218                  .0238
12               1.3821                  .0221
13               1.3393                  .0238
14               1.2998                  .0259
15               1.2612                  .0214
16               1.2251                  .0213
17               1.1902                  .0208
18               1.1578                  .0206
19               1.1237                  .0207
20               1.0910                  .0210
21               1.0624                  .0189
22               1.0326                  .0186
23               1.0001                  .0168
24               0.9721                  .0158
25               0.9458                  .0151
26               0.9184                  .0155
27               0.8919                  .0150
28               0.8645                  .0163
29               0.8373                  .0148
30               0.8105                  .0170
31               0.7838                  .0150
32               0.7586                  .0157
33               0.7337                  .0147
34               0.7090                  .0165
35               0.6847                  .0177
36               0.6577                  .0171
37               0.6338                  .0159
38               0.6131                  .0148
39               0.5899                  .0144
40               0.5662                  .0145
41               0.5414                  .0147
42               0.5184                  .0132
43               0.4966                  .0129
44               0.4713                  .0152
45               0.4495                  .0151
46               0.4255                  .0153
47               0.4004                  .0146
48               0.3745                  .0150
49               0.3484                  .0164
50               0.3161                  .0201
+++++
```

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Monte Carlo PCA for Parallel Analysis

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APPENDIX N – Total variance with five factors

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	11.345	22.689	22.689	11.345	22.689	22.689	8.489
2	4.086	8.172	30.861	4.086	8.172	30.861	4.402
3	2.631	5.262	36.123	2.631	5.262	36.123	4.542
4	2.354	4.708	40.831	2.354	4.708	40.831	6.848
5	1.878	3.756	44.587	1.878	3.756	44.587	3.816
6	1.724	3.448	48.035				
7	1.459	2.919	50.954				
8	1.428	2.856	53.810				
9	1.330	2.660	56.469				
10	1.208	2.417	58.886				
11	1.128	2.255	61.141				
12	1.120	2.240	63.381				
13	0.979	1.957	65.339				
14	0.919	1.839	67.178				
15	0.888	1.776	68.954				
16	0.863	1.726	70.680				
17	0.804	1.609	72.289				
18	0.769	1.539	73.827				
19	0.742	1.484	75.312				
20	0.714	1.428	76.740				
21	0.711	1.422	78.162				
22	0.690	1.379	79.542				
23	0.673	1.347	80.888				
24	0.618	1.236	82.124				
25	0.611	1.222	83.346				
26	0.558	1.116	84.462				
27	0.547	1.094	85.557				
28	0.499	0.998	86.555				
29	0.486	0.973	87.528				
30	0.480	0.959	88.487				
31	0.445	0.890	89.377				
32	0.434	0.869	90.246				
33	0.404	0.807	91.053				
34	0.384	0.768	91.821				
35	0.380	0.761	92.582				
36	0.347	0.694	93.277				
37	0.337	0.674	93.951				
38	0.315	0.630	94.581				

39	0.301	0.603	95.184				
40	0.295	0.591	95.774				
41	0.272	0.545	96.319				
42	0.265	0.530	96.849				
43	0.249	0.498	97.346				
44	0.244	0.489	97.835				
45	0.220	0.441	98.275				
46	0.212	0.425	98.700				
47	0.199	0.399	99.099				
48	0.169	0.338	99.437				
49	0.157	0.314	99.751				
50	0.125	0.249	100.000				

APPENDIX O – Final Rotated Factor Matrix – Principle Axis Factoring (PFA) with Varimax rotation

	1	2	3	4	5
Q1Pre-	0.484				
Q2Pre-	0.492				
Q3Pre-	0.499				
Q4Pre-	0.637				
Q5Pre-	0.606				
Q6Pre-	0.636				
Q8Pre-	0.579				
Q9Pre-	0.466				
Q10 Pre-				-0.474	-0.408
Q12Pre-				0.688	
Q15Pre-	0.415				
Q16Pre-	0.616				
Q17Pre-		-0.417			
Q18Pre-	0.542				
Q19Pre-		0.603			
Q20Pre-					0.508
Q22Pre-		0.652			
Q23Pre-		0.468			
Q24Pre-				0.694	
Q25Pre-			0.643		
Q26Pre-			0.579		
Q27Pre-		0.598			
Q28Pre-					0.447
Q32Pre-		0.647			
Q33Pre-				0.447	
Q34Pre-		0.568			
Q35Pre-			0.449		
Q36Pre-	0.639				
Q37Pre-		0.688			
Q38Pre-					0.515
Q40Pre-					0.457
Q41Pre-			0.744		
Q42Pre-			0.481		
Q43Pre-	0.430				
Q44Pre-	0.504				
Q48Pre-	0.411		0.414		

APPENDIX P - Q-Q scatterplots

Figure 1 Q-Q scatterplot testing normality for enjoyment dimension

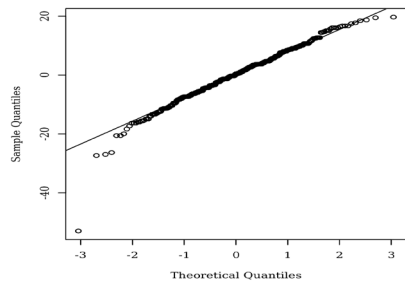


Figure 2 Q-Q scatterplot testing normality for tolerance dimension

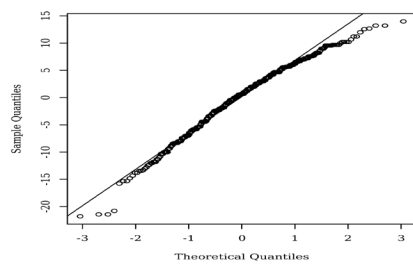


Figure 3 Q-Q scatterplot testing normality for personal values dimension

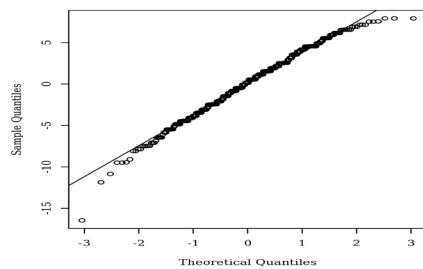
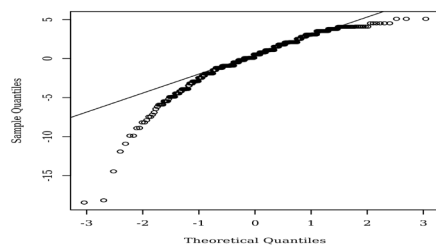


Figure 4 Q-Q scatterplot testing normality for valuing others dimension



APPENDIX Q - Summary Shapiro Wilk tests results

Variable	W	<i>p</i>
Total		
EnjoymentPre	0.95	.000
TolerancePre	0.97	.000
PersonalValuesPre	0.98	.001
ValuingOthersPre	0.83	.000
EnjoymentPost	0.99	.281
TolerancePost	0.98	.004
PersonalValuesPost	0.98	.010
ValuingOthersPost	0.93	.000
No SLAMS		
EnjoymentPre	0.91	.000
TolerancePre	0.96	.004
PersonalValuesPre	0.96	.002
ValuingOthersPre	0.84	.000
EnjoymentPost	0.97	.031
TolerancePost	0.97	.011
PersonalValuesPost	0.98	.045
ValuingOthersPost	0.91	.000
SLAMs		
EnjoymentPre	0.99	.701
TolerancePre	0.96	.002
PersonalValuesPre	0.98	.206
ValuingOthersPre	0.83	.000
EnjoymentPost	0.99	.841
TolerancePost	0.97	.036
PersonalValuesPost	0.98	.126
ValuingOthersPost	0.93	.000

APPENDIX R – Scatterplots of predicted values and model residuals

Figure 1 Scatterplots– enjoyment dimension

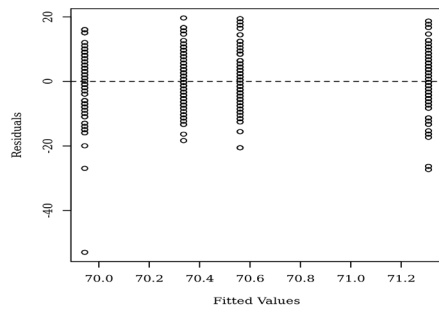


Figure 2 Scatterplots – tolerance dimension

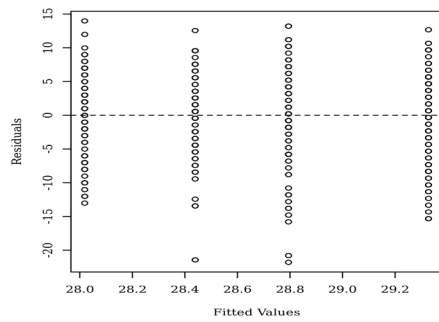


Figure 3 Scatterplots–personal values dimension

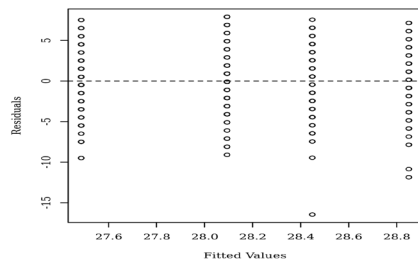
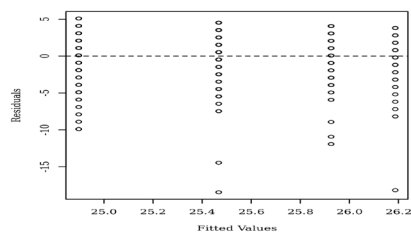


Figure 4 Scatterplots–valuing others dimension



APPENDIX S - Spearman Correlation coefficients

NoSLM group

Combination	r_s	Lower	Upper	p
Enjoyment Pre Tolerance Pre	0.29	0.11	0.46	.002
Enjoyment Pre Personal values Pre	0.56	0.42	0.68	<.001
Enjoyment Pre Valuing Others Post	0.47	0.31	0.61	<.001
Enjoyment Pre Enjoyment Post	0.73	0.62	0.81	<.001
Enjoyment Pre Tolerance Post	0.34	0.16	0.50	<.001
Enjoyment Pre Personal Values Post	0.43	0.27	0.58	<.001
Enjoyment Pre Valuing Others Post	0.39	0.22	0.54	<.001
Tolerance Pre Personal Values Pre	0.36	0.18	0.51	<.001
Tolerance Pre Valuing Others Post	0.50	0.34	0.63	<.001
Tolerance Pre Enjoyment Post	0.35	0.17	0.51	<.001
Tolerance Pre Tolerance Post	0.62	0.49	0.72	<.001
Tolerance Pre Personal Values Post	0.33	0.15	0.49	<.001
Tolerance Pre Valuing Others Post	0.39	0.21	0.54	<.001
Personal Values Pre Valuing Others Pre	0.48	0.32	0.62	<.001
Personal Values Pre Enjoyment Post	0.50	0.34	0.63	<.001
Personal Values Pre Tolerance Post	0.30	0.12	0.47	.001
Personal Values Pre Personal Values Post	0.58	0.44	0.69	<.001
Personal Values Pre Valuing Others Post	0.29	0.10	0.45	.003
Valuing Others Pre Enjoyment Post	0.41	0.24	0.56	<.001
Valuing Others Pre Tolerance Post	0.33	0.15	0.49	<.001
Valuing Others Pre Personal Values Post	0.19	-0.00	0.36	0.55
Valuing Others Pre Valuing Others Post	0.54	0.39	0.66	<.001
Enjoyment Post Tolerance Post	0.40	0.23	0.55	<.001
Enjoyment Post Personal Values Post	0.60	0.47	0.71	<.001
Enjoyment Post Valuing Others Post	0.63	0.50	0.73	<.001
Tolerance Post Personal Values Post	0.28	0.10	0.45	.003
Tolerance Post Valuing Others Post	0.48	0.32	0.61	<.001
Personal Values Post Valuing Others Post	0.45	0.28	0.59	<.001

Note. The confidence intervals were computed using $\alpha = 0.05$; $n = 107$; Holm corrections used to adjust p -values.

Spearman Correlation coefficients

SLM group

Combination	r_s	Lower	Upper	p
Enjoyment Pre Tolerance Pre	0.39	0.22	0.54	<.001
Enjoyment Pre Personal values Pre	0.47	0.31	0.61	<.001
Enjoyment Pre Valuing Others Post	0.53	0.38	0.66	<.001
Enjoyment Pre Enjoyment Post	0.62	0.49	0.72	<.001
Enjoyment Pre Tolerance Post	0.34	0.13	0.50	<.001
Enjoyment Pre Personal Values Post	0.40	0.3	0.55	<.001
Enjoyment Pre Valuing Others Post	0.29	0.11	0.46	.002
Tolerance Pre Personal Values Pre	0.24	0.06	0.41	.012
Tolerance Pre Valuing Others Post	0.44	0.27	0.58	<.001
Tolerance Pre Enjoyment Post	0.36	0.18	0.51	<.001
Tolerance Pre Tolerance Post	0.55	0.40	0.67	<.001
Tolerance Pre Personal Values Post	0.36	0.18	0.51	<.001
Tolerance Pre Valuing Others Post	0.36	0.19	0.52	<.001
Personal Values Pre Valuing Others Pre	0.44	0.27	0.58	<.001
Personal Values Pre Enjoyment Post	0.38	0.20	0.53	<.001
Personal Values Pre Tolerance Post	0.25	0.06	0.42	.010
Personal Values Pre Personal Values Post	0.58	0.44	0.70	<.001
Personal Values Pre Valuing Others Post	0.28	.0.10	0.45	.003
Valuing Others Pre Enjoyment Post	0.36	0.19	0.52	<.001
Valuing Others Pre Tolerance Post	0.17	-0.02	0.35	0.72
Valuing Others Pre Personal Values Post	0.37	0.19	0.52	<.001
Valuing Others Pre Valuing Others Post	0.54	0.39	0.66	<.001
Enjoyment Post Tolerance Post	0.45	0.28	0.59	<.001
Enjoyment Post Personal Values Post	0.60	0.46	0.71	<.001
Enjoyment Post Valuing Others Post	0.48	0.32	0.61	<.001
Tolerance Post Personal Values Post	0.29	0.11	0.46	.002
Tolerance Post Valuing Others Post	0.32	0.13	0.48	<.001
Personal Values Post Valuing Others Post	0.57	0.43	0.69	<.001

Note. The confidence intervals were computed using $\alpha = 0.05$; $n = 107$; Holm corrections used to adjust p -values.