WORK-STUDY BOUNDARY CONGRUENCE

The Role of Work-Study Boundary Congruence in the Study and Life Outcomes of Working Students

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Abstract

Boundary congruence, which is defined as the match between the person’s role management preferences and the constraints of the environment, is associated with work-study conflict, work-study facilitation (Butler, 2007), well-being (LeComte-Hinely, 2013; Li, Wang, You, & Gao, 2015), and academic performance (Butler, 2007). Boundary congruence is a role management process (Kreiner, Hollensbe, & Sheep, 2009), which is especially important for university students who are working while studying (Butler, 2007); that is, have multiple roles to manage and balance in their lives (Lingard, 2012).

As there was no measure of work-study boundary congruence suitable for use with university students, and there was little consensus over the conceptualisation and operationalisation of the work-study boundary congruence construct, the main aims of this research program were to (a) develop and validate a psychometrically sound measure of work-study boundary congruence for university students who work, and (b) apply the scale to assess mediation and moderation models of work-study boundary congruence. This research was guided by boundary management, person-environment fit (Kreiner, Hollensbe, & Sheep, 2009), and conservation of resources theories (Hobfoll, 1988; Hobfoll, Freedy, Lane, & Geller, 1990), so as to increase our understanding of how students manage the dual, competing roles of work and study.

This PhD thesis reports a series of three studies presented as three journal articles, which meet these objectives: Study 1 addresses the first aim; with Studies 2 and 3 fulfilling the second aim.
Study 1 involved conducting focus groups, generating and reviewing items, and piloting and testing a Work-Study Congruence Scale suitable for use with working students. A 16-item scale, with four key dimensions of work-study boundary congruence with university demands/resources, occupation, family, and leisure was devised. Data from a large sample of Australian university students (N = 511; 70% female; M\text{age} = 24.02 years) were collected and analysed for item suitability and factorial structure (exploratory and confirmatory analyses). Scale reliability and validity were assessed.

Study 2 used the newly developed scale to examine potential mechanisms (i.e., work-study facilitation and work-study conflict) underpinning the associations between work-study boundary congruence and the general well-being and engagement of university students. This study employed a sample of Australian university students (N = 251; 70% female; M\text{age} = 24.68 years). The results showed that work-study boundary congruence was related to more work-study facilitation and less work-study conflict. Conflict was associated with less well-being, while facilitation was associated more with well-being and greater university engagement. Work-study boundary congruence was associated positively with well-being via both work-study facilitation and work-study conflict.

Study 3 used a sample of Australian university students (N = 401; 67% female; M\text{age} = 21.71 years) and investigated the mediating effect of work-study boundary congruence on the associations between contextual supports (of family and work) and well-being, effort at university, and perceived future employability. The study also assessed the moderating role of proactive
personality in these associations. The results showed that contextual supports were associated with well-being, academic performance, and perceived employability via work-study boundary congruence, and that lower levels of proactivity strengthened the associations between both contextual supports and work-study boundary congruence, which, in turn, strengthened the indirect links between the contextual supports and outcomes via work-study boundary congruence.

The development and validation of a new work-study boundary congruence scale suitable for use with university students, which is theory-driven, will contribute to the boundary management research and literature. University students, and those who work to assist them, will benefit from understanding the effect of work-study boundary congruence on student well-being, university engagement, academic performance, and perceived employability. In addition, they will also benefit from understanding the roles that contextual supports and personal resources play in boundary management, especially where there are risks of working students experiencing poor well-being and/or discontinuing with their studies at university due to an inability to manage conflicting life roles. Increasing research in this area will also inform training and intervention programs that can help students manage their multiple roles.
STATEMENT OF ORIGINALITY

This work has not previously been submitted for a degree or diploma in any university.

To the best of my knowledge and belief, the thesis contains no material previously published or written by another person except where due reference is made in the thesis itself.

Moong Li Chu

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# TABLE OF CONTENTS

ABSTRACT .................................................................................................................. ii

STATEMENT OF ORIGINALITY ........................................................................ v

TABLE OF CONTENTS .......................................................................................... vi

ACKNOWLEDGEMENT ............................................................................................ viii

LIST OF TABLES .................................................................................................... x

LIST OF FIGURES ................................................................................................... xi

LIST OF APPENDICES ........................................................................................... xii

PUBLICATIONS ARISING FROM THIS PHD RESEARCH PROGRAM ......................... xiii

ACKNOWLEDGEMENT OF PUBLICATIONS INCLUDED IN THE THESIS ..................... xv

CHAPTER 1 INTRODUCTION ...................................................................................... 1

CHAPTER 2 REVIEW OF THE THEORETICAL BACKGROUND .................................... 14

The Role of Conflict and Facilitation ...................................................................... 14

History of Boundary Management .......................................................................... 26

Work-study Boundary Congruence ......................................................................... 39

Existing Measures of Congruence ......................................................................... 40

Overview of Research Program ............................................................................ 43

Antecedent Variables to Work-Study Congruence ................................................ 47

Overview of Studies ............................................................................................... 58

CHAPTER 3 STUDY 1: DEVELOPMENT AND INITIAL VALIDATION OF A WORK-STUDY CONGRUENCE SCALE FOR UNIVERSITY STUDENTS .......................................................... 60

Statement from Authors on Authorship ................................................................. 61

Paper 1: Development and initial validation of a work-study congruence scale for university students ................................................................. 62

CHAPTER 4 STUDY 2: WORK-STUDY BOUNDARY CONGRUENCE: ITS RELATIONSHIP WITH STUDENT WELL-BEING AND ENGAGEMENT .......................................................... 86

Statement from Authors on Authorship ................................................................. 87

Paper 2: Work-study boundary congruence: Its relationship with student well-being and engagement ................................................................. 88
CHAPTER 5 STUDY 3: WORK-STUDY BOUNDARY CONGRUENCE, CONTEXTUAL SUPPORTS, AND PROACTIVITY IN UNIVERSITY STUDENTS WHO WORK: A MODERATED-MEDIATION MODEL
OUTCOMES................................................................. 113

Statement from Authors on Authorship........................................ 114

Paper 3: Work-study boundary congruence, contextual supports, and proactivity in university students who work: A moderated-mediation model ................................................................. 115

CHAPTER 6 GENERAL DISCUSSION AND CONCLUSIONS .......... 142

Summary of Findings....................................................................... 142
Practical Implications ........................................................................ 150
Limitations and Future Directions ..................................................... 153
Conclusions ......................................................................................... 156

CHAPTER 10 REFERENCES ............................................................ 158

APPENDICES .................................................................................. 200
ACKNOWLEDGEMENT

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LIST OF TABLES

Chapter 3 Table 1 Summary Data and Bivariate Correlations ................... 75
Chapter 3 Table 2 Factor Loadings: Sample A (N = 251) ......................... 79
Chapter 3 Table 3 Fit Statistics: Sample B (N = 260) ............................. 81
Chapter 4 Table 1 Summary Data, Bivariate (below diagonal) and Latent
Variable Correlations (above diagonal; N = 251) .................................. 100
Chapter 5 Table 1 Summary Data, Bivariate (below diagonal) and Latent
Variable Correlations (above diagonal; N = 401) .................................. 128
Chapter 5 Table 2 Summary Data for Moderated Mediation Models (N =
401)  ........................................................................................................ 132
LIST OF FIGURES

Chapter 1 Figure 1 Outline of Thesis Aims .................................................. 10
Chapter 2 Figure 2 Integrated Hypothesised Framework for the Research Program ................................................................................................. 45
Chapter 2 Figure 3 Hypothesised Model for Study 2 ........................................ 58
Chapter 2 Figure 4 Hypothesised Model for Study 3 ....................................... 59
Chapter 4 Figure 1 Hypothesized Model ........................................................... 90
Chapter 4 Figure 2 Final Model .......................................................................... 103
Chapter 5 Figure 1 Hypothesized Model ............................................................ 123
Chapter 5 Figure 2 Mediation Model .................................................................. 131
Chapter 5 Figure 3 Proactive Personality Moderates the associations between Family Support and Work Support and Congruence ...................... 133
Chapter 5 Figure 4 Proactive Personality Moderates the Indirect Effects of Family Support on Well-being (a), Academic Performance (b), and Employability (c), Work Support on Well-being (e), Academic Performance (f), and Employability (g) via Work-Study Congruence ....... 135
LIST OF APPENDICES

Appendix A: Letter of Approval from Griffith University Human Research Ethics Committee (Study 1, Study 2, and Study 3) .................................................. 200

Appendix B: Study Information for Focus Group Participants ............... 202

Appendix C: Study Booklet: Study Information, Prize Draw Entry and Contact Forms, and Research Questionnaire (Study 1, Study 2, and Study 3) .................................................................................. 207

Appendix D: Letter of Acceptance and Notification of the Publication by the International Journal for Educational and Vocational Guidance of Study 1 “Development and Initial Validation of a Work-Study Congruence Scale for University Students” ........................................................................... 230

Appendix E: Confirmation of Submission of Study 2 “Work-Study Boundary Congruence: Its Relationship with Student Well-Being and Engagement” .................................................................................. 232


Appendix G: Confirmation of Poster Acceptance for the Australian Psychology Learning and Teaching Conference “Working while studying: How do students manage?” .............................................................................. 235

Appendix H: Confirmation of Acceptance for the 25th Biennial Meeting of the International Society for the Study of Behavioural Development Conference “Work-study conflict and facilitation mediate between work-study congruence and engagement and well-being of students: The important role for family congruence” ......................................................... 236
LIST OF PUBLICATIONS ARISING FROM
THIS PHD RESEARCH PROGRAM

Journal Articles

(Listed in order in which these articles appear in this thesis):


Posters


Presentations

as part of a symposium at the 25th Biennial Meeting of the International Society for the Study of Behavioural Development Conference in Gold Coast, Australia on 18th July 2018.
ACKNOWLEDGEMENT OF PUBLICATIONS
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Included in this thesis are three journal articles, as Chapter 3, 4, and 5, which are co-authored with other researchers. My contribution to the co-authored publications is outlined at the front of the relevant chapters. The three articles are presented in the form they were accepted/submitted for publication, except that the references have been integrated with other references from the thesis at the end of the dissertation. Presenting them in this form has not breached copyright policies of the relevant publishing companies on the use of one’s own articles in a thesis (Personal note, Editorial Manager, Elsevier).

_____________ (Moong Li Chu) 11/2018

_____________ (Peter A. Creed) 11/2018

_____________ (Elizabeth G. Conlon) 11/2018
CHAPTER ONE: GENERAL INTRODUCTION

Overview/Justification for Study

Undertaking paid work concurrently with study is an essential commitment for up to 80% of university students. In the past thirty years, there has been a gradual increase in the proportion of fulltime undergraduate students undertaking work during their tertiary education (Darmody & Smyth, 2008; Hall, 2010; Ryan, Barns, & McAuliffe, 2011). The “routinisation” of students integrating work with study is becoming common practice in Australia (Vickers, Lamb, & Hinkley, 2003). In Australia in 1971, 20% of tertiary students were working in full or part-time work while studying (Australian Bureau of Statistics [ABS], 2009). This percentage grew to 54% in 2001, 72% in 2007 (ABS, 2009; Devlin, James, & Grigg, 2008) and was 76% in 2012 (Coates, 2015). These growth trends have also been found in other Western countries including the USA (72% to 80%; Davis, 2012) and the UK (70% to 77%; Endsleigh, 2015). Students work while studying to fund their education, to gain financial independence from family, to learn generic work skills (Broadbridge & Swanson, 2006; Curtis & Shani, 2002), to generate discretionary disposable income (Devlin et al., 2008; Richardson, Evans, & Gbadamosi, 2014), and to network (Lingard, 2007). Understanding how working while studying influences students’ academic experiences and outcomes is thus important for teaching institutions and the community.

Benefits of Combining Work and Study

Studies suggest that students who work gain more professional opportunities and better social and educational benefits than those who do not (Lucas, 1997; Lucas & Lammont, 1998; Watts, 2002; Watts & Pickering,
Carlson, Kacmar, Wayne, and Grzywacz (2006) have classified this phenomenon as inter-role facilitation, when the benefits gained through experiences in one role improve the functioning in another role. For example, Watts and Pickering (2000) proposed that the development of organisational as well as time management skills obtained from work can be transferred to other settings, with working students able to apply these skills in their study. In addition, these students gain experience that enhances their interpersonal skills (Lucas & Lammont, 1998), and if work is related to the students’ academic coursework, it could be particularly useful when it comes to academic knowledge and career prospects (ABS, 2013; Lingard, 2007).

Research has shown that this inter-role facilitation helps to improve students’ university engagement as well as their well-being (Creed, French, & Hood, 2015). However, semester-time work can also have detrimental effects on students and their study (Lingard, 2007).

**Adverse Effects of Combining Work and Study**

**Adverse effects on academic activities.** Combining work and study can affect students’ academic activities as well as their well-being. Working long hours can have a negative influence on students’ academic activities (e.g., academic performance and university engagement; Hansen & Jarvis, 2000), because of reduced time available for study, tiredness, and, on occasions, the necessity to miss classes because of work commitments (Sorensen & Winn, 1993). Research has found that working students have difficulty engaging in independent learning activities, for example, spending time using library resources and preparing materials prior to classes due to their work commitments (Lingard, 2012). Research in the UK has found that,
each year, many students in part-time work would have obtained a higher academic grade had they not been working (Lindsay & Paton-Saltzberg, cited in Curtis & Williams, 2002).

Furthermore, research has found that students who work more than the average number of hours per week are especially prone to experiencing detrimental academic effects (Curtis & Lucas, 2001). In Australia, on average students work 13 to 15 hours per week during academic semesters (James, Bexley, Devlin, & Marginson, 2007; James, Krause, & Jennings, 2010; Long & Haydon, 2001, as cited in McInnis & Hartley, 2002). The number of students working 16 to 20 hours per week exceeds one third, while almost one fifth of all students, on average, work more than 21 hours per week (McInnis & Hartley, 2002). Other studies have suggested that students who work from 10 to 15 hours per week benefit from the work, but that working longer hours can have a negative influence (Curtis & Lucas, 2001). Vickers et al. (2003), for example, found that students who worked 20 to 29 hours per week were about 1.6 times more likely to drop out of study than students who did not work. Additionally, students who worked more than 30 hours per week were twice as likely as non-working students to drop out (Vickers et al., 2003).

Thus, students who work more than about 15 hours per week are less likely to engage in their studies, and this can ultimately affect their academic activities, which is crucial for their current and future academic and career development.

**Adverse effects on well-being.** Students are often overburdened because of their academic workload, personal commitments, part-time jobs, and family responsibilities. Studies have shown high levels of stress among university students generally (Abouserie, 1994; Brown & Ralph, 1999; Bush,
Thompson, & Van Tuvergen, 1985; Cotton, Dollard, & Jonge, 2002; Felsten & Wilcox, 1992), which can affect their ability to complete their degrees (Perna, 2010). Additionally, the excessive demands from the conflicting roles of work and study increase the likelihood that well-being will suffer (Andrews & Wilding, 2004; Schaufeli & Enzmann, 1998).

When university students are involved in work and study simultaneously, they experience inter-role conflict and stress (Vickers et al., 2003), which can result in reduced well-being and poorer academic performance, including poorer university engagement (Creed et al., 2015). This stress is partly influenced by university students struggling to balance the competing demands from work and study roles (Humphrey et al., 1998; Lingard, 2012). One study found that perceived stress was a predictor of burnout in the working university student population in the USA (Chang, Rand, & Strunk, 2000), and burnout has been associated with poorer academic performance (Schaufeli, Martinez, Marques Pinto, Salanova, & Bakker, 2002). Further, emotional exhaustion (a component of burnout) was associated with greater disengagement from university life (Schaufeli et al., 2002). Academic staff also report that students working either excessive or unsocial hours, which is the case with many part-time jobs, can experience excessive tiredness as well as depression/stress (Rolfe, 2002). Therefore, it is important to examine the possible factors that could reduce the impact of working and studying on the well-being of students.

Whitman, Spendlove, and Clark (1985) reported that it is necessary for universities to expose all students to eustress, or functional stress (Brown & Ralph, 1999), as this can assist students to learn appropriate skills, which can
help them deal effectively with emergencies and crises (Schafer, 1996). However, when functional stress develops into dysfunctional stress, or distress caused by inter-role conflict and other stressors, psychological, emotional, and physical difficulties can occur (Irfan & Azmi, 2014). Due to the importance of understanding the relationship between inter-role conflict (i.e., between work and study) and stress, there has been an increased focus by researchers on role-conflict and its outcomes (Cinamon, 2016).

Research has found that role conflict is a stressor potentially experienced by most people, as, typically, everyone has more than one role to manage (Butler & Constantine, 2005). Role conflict occurs when concurrent and incompatible role expectations result when compliance with one role compromises meeting the duties and responsibilities of other roles (Drury, 1984; Kahn, Wolfe, Quinn, Snoek, & Rosenthal, 1964; Thompson & Powers, 1983). As working students have more than one important role to manage (e.g., working role and university role), they can encounter difficulties fulfilling the expectations of both roles and experience role conflict.

**Boundary Management**

The boundary management theoretical approach (Nippert-Eng, 1996) has been used to explain how individuals use strategies and develop mental frameworks to manage their competing roles, including work and study roles. Boundary management strategies are focused either on maintaining separation/segmentation among roles (i.e., strategies used to keep competing roles separate), or focused on the integration of roles (i.e., strategies that facilitate and manage the merging of multiple roles; Nippert-Eng, 1996). One of the most recent and effective boundary management strategies is to
generate boundary congruence. Boundary congruence was derived from person-environment fit theory, which explains that boundary congruence occurs when there is a fit between a person’s own preferences and the environmental demands that are exerted by a given domain, such as work or study (Kreiner Hollensbe, & Sheep, 2009). Boundary congruence between a person and his/her environment (e.g., workplace, family, study, and leisure) usually produces beneficial results like satisfaction, and boundary incongruence generates undesirable results like strain and conflict (Kulka, 1979).

Kreiner et al. (2009) and Chen, Powell, and Greenhaus (2009) proposed that there is a positive association between work-family boundary congruence and work-family facilitation, and a positive association between work-family boundary incongruence and work-family conflict. Research has also evaluated how these associations occur. For example, studies have found that contextual supports (i.e., supports from the surroundings within the domains, such as family and workplace supervisors and colleagues) were associated with greater congruence (Bell, Somogyi-Zalud, & Masaki, 2010; Methot & LePine, 2016; Rothbard, Phillips, & Dumas, 2005; Ten Brummelhuis & Bakker, 2012). While others have shown that congruence is related to important outcomes such as increased well-being, better academic performance, and better perceived career development (Ballout, 2007; Butler, 2007).

However, past research has focused mainly on the balance between work and family commitments. Little attention has been paid to working students who are facing multiple roles and need to manage the boundaries
between them. Students need to find some means to maintain their learning activities while concurrently working and fulfilling other family and leisure pursuits (Maor & Volet, 2007; McInnis & Hartley, 2002). Anderson (2006) showed that 78% of Australian university students felt that work negatively affected their study. Therefore, work-study boundary congruence is an important factor to be investigated among working students. This thesis aimed to determine whether work-study boundary congruence was related to important student outcomes (i.e., general well-being and university engagement), and whether levels of reported work-study conflict and work-study facilitation could account for these associations. In addition, as it is important to understand how work-study boundary congruence can be developed, the study investigated potentially important antecedents to work-study boundary congruence, namely contextual supports (i.e., family and workplace supports).

Research from the work-family domain has also shown that personal resources can be a factor in improving the effectiveness of managing multiple roles (Hobfoll, Freedy, Lane, & Geller, 1990). Several studies have shown that personality can influence the individual’s ability to manage work and family roles (Michel & Clark, 2013; Michel, Mitchelson, Pichler, & Cullen, 2010; Ten Brummelhuis & Bakker, 2012), and others have shown that personality traits (i.e., conscientiousness and agreeableness) moderated the association between social support and work-family conflict (Selvarajan, Singh, & Cloninger, 2016). Thus, it is important to investigate the effect of personal resources in combination with other sources of support in managing multiple roles (cf. Kossek, Lewis, & Hammer, 2010). Therefore, this thesis
also aimed to assess whether proactive personality (i.e., the individual’s capacity to minimise situational constraints and achieve positive outcomes; Bateman & Crant, 1993) affects the associations between contextual supports and work-study boundary congruence, and whether proactive personality indirectly influences the associations between contextual supports and student outcomes (i.e., well-being, academic performance, and perceived employability). Therefore, this thesis has three main aims:

(a) to develop and validate a measure of work-study boundary congruence for university students that assesses the perceived boundary congruence or fit between students’ work and study demands and responsibilities (this step was important as there was no currently available measure of work-study boundary congruence available that was suitable for assessing this construct);

(b) to examine the associations between work-study boundary congruence and important student outcomes (i.e., affective well-being and university engagement) and test the mediating roles of work-study conflict and facilitation, which have been found to be important intervening variables in the work-family area (Chen et al., 2009), and;

(c) to investigate the moderating effect of proactive personality (i.e., the person variable) on the associations between contextual supports (i.e., family and work) and work-study boundary congruence, and to test whether proactive personality influences the indirect associations between contextual supports and student outcomes (psychological well-being, academic performance, and perceived employability) via work-study boundary congruence. See Figure 1.
Summary of Thesis Chapters

Chapter 2 presents the literature review for the thesis and describes the main theories applied in the study. These include (a) boundary management theories (boundary theory and border theory), which address the main construct investigated in the thesis, (b) conflict and enrichment theories, which account for the associations between work-study congruence and student outcomes, and (c) person-environment fit theory, which deals with the strategies used to manage boundary conflict. Chapter 2 also describes how contextual supports can improve congruence between work and study, which is explained by the theory of conservation of resources (CoR). A detailed description of the theoretical framework and research aims for the whole research program, is presented.

Chapter 3 reports the first empirical study, which is the development and initial validation of a brief, multidimensional scale suitable to assess work-study boundary congruence in university students. Study 1 contributes to the existing literature by providing a measure that assesses the important boundary domains (i.e., university demands and resources, occupation, family, and leisure) that are commonly managed by university students who are working while studying.

Study 2 is presented in Chapter 4. This study applies the newly developed scale to investigate if work-study boundary congruence is related to important student outcomes (i.e., affective well-being and university engagement). The study tests whether work-study conflict and facilitation mediates the associations between work-study boundary congruence and these outcomes. This study is both a test of the theoretical relationships proposed in
The Role of Work-Study Boundary Congruence in the Study and Life Outcomes of Working Students

**Aim 1**: To develop and validate a measure of work-study boundary congruence for university students that assesses university students’ perceived congruence or fit between their work and study demands and responsibilities.

**Aim 2**: To examine the associations between work-study boundary congruence and student outcomes (affective well-being and university engagement), and test whether these associations are mediated by work-study conflict and facilitation.

**Aim 3**: To test contextual supports as antecedents to work-study boundary congruence, and investigate whether proactive personality moderates the associations between contextual supports (family and work supports) and work-study boundary congruence, and moderates the indirect associations between contextual supports and student outcomes (psychological well-being, academic performance, and perceived employability), via boundary congruence.

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**Study 1** (Chapter 3)

*Purpose*: To develop and validate a measure of work-study boundary congruence for university students.

*Design*: Cross-sectional. \(N = 511\), mean age 24.02 years (70% female).

*Framework*: EFA and CFA.

*Addresses*: Aim 1

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**Study 2** (Chapter 4)

*Purpose*: To determine if boundary congruence is related to student outcomes of well-being and university engagement, via work-study conflict and facilitation.

*Design*: Cross-sectional. \(N = 251\), mean age 24.68 years (70% female).

*Framework*: Latent variable analysis, mediation analysis using bootstrapping.

*Addresses*: Aim 2

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**Study 3** (Chapter 5)

*Purpose*: To test contextual supports as antecedents to boundary congruence, and determine if proactive personality influences associations between context and congruence, and between context and outcomes via congruence.

*Design*: Cross-sectional. \(N = 401\), mean age 21.71 years (67% female).

*Framework*: Latent variable and moderated-mediation analyses.

*Addresses*: Aim 3

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*Figure 1*. Outline of thesis aims and corresponding empirical studies.
boundary theory and a validation of the newly devised scale. The study was informed by boundary (Nippert-Eng, 1996), border (Clark, 2000), conflict (Zedeck & Mosier, 1990), and enrichment theories (Carlson et al., 2006).

Previous literature has suggested that conflict and facilitation play important roles in student well-being and university engagement (Creed et al., 2015). For example, conflict reduces well-being and university engagement and facilitation enhances both (Creed et al., 2015). However, how and when conflict can be reduced and facilitation can be enhanced has not been investigated in students who are working while studying. Chen et al. (2009) suggested that boundary congruence reduces conflict and enhances facilitation in work and family domains. However, this link has not been established in students who are working while studying, and little is known about the boundary conditions for this path.

Study 2 used cross-sectional data to investigate the paths from work-study boundary congruence $\rightarrow$ work-study conflict and facilitation $\rightarrow$ well-being and university engagement. The study used the newly developed, multidimensional measure of work-study boundary congruence, and was the first to examine the associations between work-study boundary congruence and work-study conflict and facilitation in university students. The findings of this study contribute to a better understanding of the associations between work-study boundary congruence and student outcomes.

The final study of the thesis is presented in Chapter 5. Although work-study boundary congruence is promoted as a desired approach to better outcomes (Chen et al., 2009), the question as to how work-study boundary congruence is developed has not been investigated in students who are
working while studying. The theory of conservation of resources (CoR) suggests that people seek support from their surroundings to help them achieve their goals (Hobfoll, 1988; Hobfoll et al., 1990); thus, contextual supports are potential antecedents to the development of work-study boundary congruence and the achievement of goals.

Based on CoR theory and using a further cross-sectional sample, Study 3 examined the associations between contextual supports (family and work supports), work-study boundary congruence, and student outcomes (psychological well-being, academic performance, and perceived employability). The paths were contextual supports → work-study boundary congruence → well-being, academic performance, and perceived employability. Study 3 also investigated the influence of personal resource (i.e., proactive personality) on the paths from contextual supports → work-study boundary congruence, and the paths from contextual supports → work-study boundary congruence → outcomes; that is, assessed moderated-mediation pathways. This is the first study to examine these complex mediated associations. The findings of this study contribute to a better understanding of the underlying mechanisms that link contextual supports and student outcomes, which will assist practitioners who help university students to manage their work-study life.

The three studies constituting Chapters 3 to 5 are presented as three independent journal articles, which have either been accepted for publication or under review for publication. Study 1 has been accepted (27th of July 2018) for publication in the International Journal for Educational and Vocational Guidance; Studies 2 and 3 are submitted and currently under review.
Chapter 6 presents an integrated overview and discussion of the findings of the research program, and presents the practical implications of the program of study, the limitations, directions for future research, and conclusions.

The references for each chapter, including for Chapters 3 to 5, the empirical papers, have been integrated in the Reference Section at the end of the thesis. The empirical papers have been submitted to journals with references attached, but the references have been removed and added at the end of the thesis to improve the readability.

Finally, all supporting documents, such as the certificate for the ethical clearance of the project, questionnaires, informed consent forms, and notification/submission letters for the three studies, are presented in the Appendices Section.
CHAPTER TWO

The aim of the first part of this chapter is to identify and discuss the theories that explain conflict and facilitation between and among roles. In the second part of the chapter, boundary management theories will be introduced, as these have been developed to account for this role conflict and facilitation, and have been used to explain how role conflict can be reduced and role facilitation can be increased by understanding and applying the concept of boundary congruence. This research program focuses primarily on boundary management theories and strategies; especially from the perspective of boundary congruence. While examining these theories, the focus will be on how boundary management strategies and boundary congruence relate to the outcome variables that are examined (e.g., well-being and engagement/commitment). To augment the boundary congruence approach, the research program will also draw on the conservation of resources (CoR) theory, which proposes that personal resources and contextual supports can influence boundary congruence. This theory is discussed later in the chapter. Following this, at the end of the chapter, a general overview of the thesis is provided: this includes a brief introduction to the three studies included.

Role Conflict and Facilitation

A fundamental feature of the link between work and non-work life is the conflict between these two different, competing roles. Many theories have been applied to explain the conflict between roles, with the aim of understanding the phenomena and identifying ways for how conflict (i.e., activities in one role interfering with functioning in a second role) might be reduced, and facilitation (i.e., activities in one role benefitting activities in the
other) increased. The domains most studied in relation to role conflict and facilitation are work and family. Work and family are important life domains for adults, and researchers have developed, as well as verified, numerous models of the main antecedents (e.g., work hours, number of children) and outcomes (e.g., absenteeism, job satisfaction) of work-family conflict and facilitation. Less theoretical progression is associated with the types of inter-role conflict and facilitation that occur in other life domains, especially conflict between work and study roles in young adults in higher education settings. These young adults are the focus of this research program. Thus, the examination of conflict/facilitation and boundary management theories will draw substantially on the research undertaken in the work/family areas.

**Role Conflict Theory**

Conflict theory states that due to the presence of distinct and competing norms and necessities, the demands of two roles (e.g., work and family, work and study) can be incompatible, and thus produce conflict between the roles (Zedeck & Mosier, 1990). Work-family conflict is viewed “as a form of inter-role conflict in which the role pressures from the work and family domains are mutually incompatible in some respect” (Greenhaus & Beutell, 1985, p.77). This definition is based on role theory, which specifies that when each domain demands specific behaviours, and a person is required to be engaged in multiple, incompatible roles, conflict will result (Kahn et al., 1964). Three types of work-family conflict were proposed by Greenhaus and Beutell (1985): time-based conflict, strain-based conflict, and behaviour-based conflict. Time-based conflict occurs when time given to one role (e.g., work) negatively affects involvement in another role (e.g., family). Strain-based
conflict occurs when strain encountered in one role interferes with involvement in the other role (e.g., stress developed at work affects the way children are treated); and behaviour-based conflict occurs when a particular behaviour, which is appropriate in one role, is applied inappropriately in another (e.g., assertion and aggression; Greenhaus & Beutell, 1985).

Even though Greenhaus and Beutell (1985) indicated that work-family conflict was fundamentally non-directional, most work-family researchers differentiate between two kinds of inter-role conflict: (a) work-to-family conflict, dealing with circumstances where role demands at work hinder functioning and effectiveness at home; and (b) family-to-work conflict, dealing with role demands at home interfering with effectiveness at work (Leiter, Bakker, & Maslach, 2014). In this research program, the focus is one-directional – focusing on work-to-study conflict and disruption – as study, not part-time/casual work, is considered the more important role for university students (Lingard, 2012).

**Demands, resources, and work-family conflict.** When role demands (e.g., time commitment, energy expenditure) are challenging and resources (e.g., skills, emotional resources, social capital) are inadequate, the result can be exhaustion of both energy and time; that is, personal strain, which can then lead to psychological distress (Greenhause & Beutell, 1985). This is reflected in the *scarcity hypothesis*, where there are insufficient resources to adequately manage the multiple roles (Goode, 1960). This means that involvement in one role (e.g., work) is more challenging because of involvement in the second role (e.g., family or study; Greenhaus & Beutell, 1985).
The role scarcity hypothesis includes the notion of negative spillover; whereby affective and cognitive role demands and involvements are moved from one role (i.e., spillover) to another (Kabanoff, 1980; Leiter & Durup, 1996). This spillover has the potential to produce conflict between or among the roles (Edwards & Rothbard, 2000); for example, when feelings of inadequacy developed at work affect relationships in the other role. Leiter et al. (2014) proposed that it is difficult for people who have limited resources (e.g., time and energy), and who have to manage different roles, such as worker, spouse, parent, and student, to not experience role conflict. This is because these various roles all have high demands while the individual has scarce resources. Studies have shown, for example, that work pressure is the result of job demands, and that these are important predictors of work-family conflict (Dollard, Winefield, & Winefield, 2001; Grzywacz & Marks, 2000; Wallace, 1997), time scheduling, which adversely affects workers (Demerouti, Geurts, Bakker, & Euwema, 2004; Geurts, Rutte, & Peeters, 1999), work-role overload (Parasuraman, Purohit, Godshalk, & Beutel, 1996), and poorer relationships (Bakker & Geurts, 2004).

When job demands are high, the conflict between work and family is high (Bakker & Geurts, 2004; Demerouti et al., 2004; Dollard et al., 2001; Parasuraman et al., 1996). Increased job demands necessitate workers dedicating additional resources, for example, time and emotion to work, resulting in decreased resources that can be allocated to their family, resulting in increased work-family conflict (Frone, Yardley, & Markel, 1997). Employees who face work overload and have greater emotional demands encounter more difficulties in balancing their work and family lives (Allen,
Herst, Bruck, & Sutton, 2000; Amstad, Meier, Fasel, Elfering, & Semmer, 2011), which means family life can be disrupted when job demands spillover into the home environment (Leiter et al., 2014). Therefore, when a person has multiple role demands and has insufficient personal and other resources to deal with them, work-family conflict (and conflict among other domains) can result.

**Consequences for work-to-family/family-to-work conflict.** Role conflict causes strain and numerous work-related, non-work-related, and stress-related effects in the work and family domains. In the work domain, increased work-family conflict has been associated with poorer career progression (Martins, Eddleston, & Veiga, 2002; Stroh, Brett, & Reilly, 1996; Tenbrunsel, Brett, Maoz, Stroh, & Reilly, 1995) and lower job satisfaction (Frone, Russel, & Cooper, 1992a, b; Rice, Frone, & McFarlin, 1992; Thomas & Ganster, 1995; Wu & Norman, 2006). In addition, individuals with a higher level of work-family conflict have reported less subjective career success (Ballout, 2008). Research has also found that outcomes such as organisational commitment and turnover intentions are related to work-family and family-work conflict (Carson, Carson, Phillips, & Roe, 1996; Igbaria, 1991; Wu & Norman, 2006). For example, increased work-family and family-work conflict are associated with a higher intention to leave an organisation (Carson et al., 1996; Igbaria, 1991; Wu & Norman, 2006).

In terms of non-work-related consequences, Adams, King, and King (1996) found that family-work conflict was associated with reduced life and family satisfaction. In terms of stress-related outcomes, a meta-analysis conducted by Reichl, Leiter, and Spinath (2014) found that work-family and
family-work conflict resulted in increased burnout, greater work-related stress (Allen et al., 2000; Amstad et al., 2011; Kossek & Ozeki, 1999), stress-related illnesses, and generally poorer mental health (Thomas & Ganster, 1995) and well-being (Nordenmark, 2002; Walters, Eyles, Lenton, French, & Beardwood, 1998). Overall, studies have shown that work-family and family-work conflict are associated with poorer outcomes for individuals and their families. However, research has also shown that people can benefit from resources that spillover from one role to the other, which can be explained by enrichment theory.

**Enrichment Theory**

Enrichment theory, which both challenges and complements conflict theory, is based on the idea that the resources (e.g., skills, attitudes) obtained from one role can be used to enhance performance and mood in another role (Carlson, Kacmar, Wayne, & Grzywacz, 2006). Enrichment in the work-family domain has been considered as multi-directional (Greehaus & Powell, 2006). Similar to role conflict, enrichment theory predicts, for example, bi-directional associations from work-to-family (i.e., resources gained from work enriching family) and family-to-work (i.e., resources gained from family enriching work). A resource is defined as any “asset that may be drawn on when needed to solve a problem or cope with a challenging situation” (Greenhaus & Powell, 2006, p. 80), which enhances work-family enrichment or family-work enrichment, either through instrumental or affective pathways (Greenhaus & Powell, 2006). Where the instrumental path is concerned, the family role will be directly affected by resources obtained at work that lead to better functioning in the family role (Carlson et al., 2006; Crouter, 1984). For
example, communication skills learned at work can be used at home, resulting in less conflict, thereby improving the quality of family life. The affective path occurs when positive affect is created in the first role (e.g., enjoyment at work), which results in an improvement in performance and affect in the other role (e.g., greater positive emotional state at home; Carlson et al., 2006; Greenhaus & Powell, 2006). For example, an employee’s emotional state or mood at work will improve after successfully completing a work task, and this affect will be brought home, thereby improving the quality of life at home (Carlson et al., 2006).

Within this theoretical framework, researchers have examined the relationship between work-family enrichment in both work and family roles using the overlapping constructs of positive spillover (Crouter, 1984; Grzywacz, 2000), facilitation (Grzywacz, 2002), and enhancement (Sieber, 1974). Positive spillover refers to the transference of resources and experiences from one role to the other role; thereby enhancing benefits in the second role (Carlson et al., 2006; Edwards & Rothbard, 2000). Facilitation is the benefit gained through experiences in one role that will improve functioning in other role (Carlson et al., 2006; Grzywacz, 2002). Last, enhancement refers to improvements in the individual’s experience in one role influencing the other life role/s (Carlson et al., 2006; Sieber, 1974).

Researches have also identified factors that affect work-family enrichment and the outcomes of work-family enrichment. These factors, and their outcomes, are described below.

Resources, support, and work-to-family/family-to-work enrichment. Researchers who have examined work-family and family-work
facilitation have identified specific correlates related to each direction (i.e., work-family or family-work), and related to both directions (i.e., work-family and family-work; Bakker & Demerouti, 2007). For example, Wayne, Grzywacz, Carlson, and Kacmar (2007) found that the person characteristics of positive affectivity and high self-efficacy increased family-to-work facilitation, and that environmental resources, such as a job that offers developmental opportunities, a supportive supervisor, or a supportive work-family culture, were related to higher work-to-family facilitation. Another study showed that when a person’s values, and the resources that the environment provides to fulfil those values, were a good fit, the person had greater levels of work-family facilitation (Edwards & Rothbard, 1999).

Finally, Lu, Siu, Spector, and Shi (2009) showed that support from partners, family, and work colleagues were positive influences on both family-work and work-family enrichment.

**Consequences of work-family enrichment.** Most studies have suggested that there is a relationship between work-family facilitation (work-family and family-work) and individual well-being; that is, facilitation has a positive effect on psychological well-being. Grzywacz and Bass (2003) showed that lower work-family facilitation was associated with increased mental health problems such as depression, while Hanson, Hammer, and Colton (2006) found that more home resources led to better psychological well-being. Grzywacz (2000) also showed that positive spillover was associated with healthier psychological well-being.

Conflict and enrichment theories have provided compelling explanations for events in the work and family domains; explanations that
have strong research support. However, there has been less research in other life domains, including work-study conflict and facilitation, even though role conflict and facilitation in these areas is likely to produce similar outcomes for the individual. Specifically, there has been limited research examining role conflict and facilitation in students who are working while studying, including what are the outcomes associated with this. Research in this area is particularly important given the increasing number of students who are studying and working concurrently (Coates, 2015).

**Work-Study Conflict**

While most research into role conflict has examined work-family conflict, individuals experience conflict across other life domains. When researchers have examined conflict among other roles, they have also used the definition provided by Greenhaus and Beutell (1985; see page 15). For example, Lingard (2007) used this definition when examining work-study conflict. This definition by Greenhaus and Beutell will also be used in the current research program, where the foci are on work-study conflict and work-study facilitation. Examining these two domains is important, as work and study are two key domains for many young adults (Lingard, 2012).

Work-study conflict is defined as the degree to which work interferes with a person’s capability to handle the demands and responsibilities associated with their studies (Markel & Frone, 1998). Although this conflict could be considered as a bi-directional phenomenon, in the current study program, the focus will be on work-to-study conflict. The reasoning behind this is that for students, study-related outcomes are considered to be more
important than casual and temping work-related outcomes; the research will not examine study-to-work conflict (cf. Markel & Frone, 1998).

**Model of work-study conflict.** Work-study conflict was first proposed by Markel and Frone (1998) as an extension of their work-family conflict studies (Frone et al., 1992a; Frone et al., 1997). For adults with families, work and family roles (i.e., spouse and parent) are the two dominant life domains (Markel & Frone, 1998). In contrast to this, work and study are the two most important domains for young adults who are students and working. Conflict between these roles is expected to operate in a similar manner to work-family conflict (Markel & Frone, 1998); however, the evidence for this is limited. Consistent with the research on work-family conflict, time-based conflict, strain-based conflict, and workload-based conflict are considered the main predictor variables of work-study conflict (Frone et al., 1997; Greenhaus & Beutell, 1985).

**Consequences of work-study conflict.** Markel and Frone (1998) found that an increasing job workload, more hours worked on the job, and job dissatisfaction were each associated with more work-study conflict. Moreover, greater work-study conflict was associated with reduced university attendance and poorer coping with study demands (Markel & Frone, 1998). Adebayo (2006) found that greater conflict between work and study was associated with higher perceived workloads from work and study, and less social support. Lingard (2007) reported that students were less satisfied with their university life when conflict was higher. Psychological and physical fatigue caused by workload (both work and study) can also weaken a person’s ability and motivation to meet the commitments of the other role (Mortimer, Finch,
Dennehy, Lee, & Beebe, 1994). Park and Sprung (2013) showed work-study conflict to be the main stressor for poor psychological health in college students, and Brunel and Grima (2010) found that greater work-study conflict was associated with higher stress levels and turnover intention from both university and work. However, consistent with enrichment theory, when there are sufficient benefits and facilitation from the workplace, there can be positive consequences as well (Creed et al., 2015). Thus, benefits and resources obtained from work can facilitate the study role and lead to a reduction in conflict between the work and study roles (Carlson et al., 2006; Greenhaus & Powell, 2006).

**Consequences of work-study facilitation.** In terms of work and study roles, the enrichment model posits that engagement in the work role can encourage the student and facilitate outcomes that benefit them academically (Butler, 2007). Recently, researchers have found that the development of inter-role facilitation or enrichment at work can enhance involvement when studying (Creed et al., 2015; Friedman & Greenhaus, 2000; Greenhaus & Powell, 2006). Enabling resources are the skills and abilities generated in the work role and psychological rewards (e.g., privileges, status enhancement, and personality enrichment earned from one role that benefits the other role; Voydanoff, 2004). Involvement, the spillover of satisfaction and enthusiasm gained from one role, can motivate actions in another role (Allis & O'Driscoll, 2008). These processes can enhance role-to-role facilitation. From a facilitation perspective, being involved in one meaningful and satisfying role aids engagement in another role (Greenhaus & Powell, 2006).
Higher levels of work-study facilitation or enrichment are associated with higher levels of academic performance and satisfaction, and higher levels of work-study conflict are associated with poorer levels of academic performance (Butler, 2007, McNall & Michel, 2011). Creed et al. (2015) found that facilitation (work to study) was positively related to engagement in studies and well-being. However, the limited work-study research has not produced a comprehensive understanding of the effects of work-study conflict and facilitation. Additional research is required to identify the possible factors that influence this conflict and facilitation, and, thus, affect work-study outcomes.

The above research provides evidence that work-study conflict functions as a stressor in working students that can be harmful to their psychological health and academic performances and university engagement, and work-study facilitation functions to improve outcomes. Research related to the antecedents of work-study and work-study conflict and facilitation is also limited. First, Cinamon (2016) found similar results as work-family and family-work research. For example, social and academic supports were related to higher work-study/study-work facilitation, and financial support was related to lower work-study/study-work conflict. Other studies found that when learning experiences in university were related to work (i.e., there was some congruence between work undertaken and study undertaken), individuals had higher levels of work-study facilitation (Butler, 2007; Meeuwisse, De Meijer, Born, & Severiens, 2016).

Work-study conflict and facilitation can be influenced by how well students manage the boundaries between their work and study roles. Although
no research has examined how individuals manage their work-study role boundaries to reduce conflict and increase facilitation, boundary management theories provide an explanation of how people manage multiple roles, and this can be applied to work-study domains.

**Boundary Management**

Research in the work-family conflict and facilitation areas has focussed primarily on measuring and explaining conflict and facilitation between the work and family domains (Reichl et al., 2014). However, recently, researchers have started to investigate other methods that people might use to manage the boundaries between work and family; methods that could generate a sense of balance between the two domains (Kreiner et al., 2009). Despite this, to date, no attention has been given to how students manage their boundaries between work and study. Boundary management refers to how individuals manage their role boundaries (Kreiner, 2006), including work-study. Therefore, applying a boundary management approach to explain work-study conflict and facilitation has the potential to increase our understanding in this domain as well.

Boundary management originated with the notion of boundary work, which was used to explain how people make mental frameworks meaningful by engaging, sustaining, and confronting social classifications (Nippert-Eng, 1996). Applying the boundary construct to the work and home domains has allowed researchers to investigate a range of associations between work and home, ranging from where roles are extremely integrated (i.e., boundaries are very porous or loose) to extremely segmented (i.e., where boundaries are clearly defined and defended). This research has led to the identification of
numerous boundary management strategies that people use to structure their lives and provides insight to the functions of role boundaries when considering role conflict and facilitation.

Boundary management is considered as a continuum, with boundary separation/segmentation (i.e., when a person attempts to keep work and family roles separate) at one end, and boundary integration (i.e., when there is little separation of work and family roles) at the other end. For example, integrators talk about their work with their partners and family matters with their colleagues without any reservation, but segmentors prefer not to discuss their work with their partners or disclose any personal matters to their colleagues (Nippert-Eng, 1996). While these are the two extremes of segmentation/integration, it is assumed that the construct is normally distributed, with the majority of individuals falling in the middle of the distribution.

There are both positive and negative consequences for integration and segmentation. Integration can intensify role blurring, but at the same time can also help when transitioning from one role to another (Ashforth, Kreiner, & Fugate, 2000). On the other hand, while segmentation facilitates the formation of role boundaries and decreases role blurring, role interruptions are difficult, and it is more challenging to move between roles (Ashforth et al., 2000).

Researchers have developed two separate theories around the concept of boundary management. These are boundary theory (Ashforth et al., 2000) and border theory (Clark, 2000). Both theories attempt to explain how individuals form, sustain, accommodate, and cross the lines of demarcation between two roles (Clark, 2000).
Boundary Theory

Boundary theory attempts to explain how individuals form, sustain, and alter boundaries in order to simplify and categorise their environment (Ashforth et al., 2000; Zerubavel, 1991). Boundary theory was developed from Nippert-Eng’s (1996) sociological work, which sought to explain how people manage their everyday activities by classifying them and placing them within a framework. As used in work-family studies, boundary theory involves examining the cognitive, physical, and/or behavioural boundaries that exist between peoples’ work and family domains that differentiate the two entities (Ashforth et al., 2000; Hall & Richter, 1988; Nippert-Eng, 1996).

Boundaries can be scaled from greatest separation of work from family to the merging of work and family (Nippert-Eng, 1996).

Roles are restricted by space and time, which means that they have more “pull”, or are more influential in given situations and given periods of the day and week. For example, when a person is physically at the workplace, the work role is more likely to be enacted. On the other hand, during weekends and evenings, the family role will likely be the more salient (Ashforth et al., 2000). The focus of boundary theory is on how the structure of boundaries between and among roles affects the behaviours within and between those roles.

Border Theory

Border theory provides an explanation for how boundaries separate the times, locations, and individuals connected to different roles (Clark, 2000). Clark (2000) stated that border theory was a theory related primarily to work-family balance, indicating that there are many ways to achieve work-family
balance, provided that there is some compatibility between the work and family domains, and there is capacity to manage the boundaries between them.

Border theory proposes that people cross physical and psychological borders when moving between work and family, and vice versa (Clark, 2000). Borders are the lines of demarcation between domains, for which there are three forms: physical, temporal, and psychological (Clark, 2000). Physical borders indicate where role-domain behaviours start and finish. Temporal borders refer to when role-specific tasks are accomplished. Psychological borders reflect different thinking patterns, behaviours, and emotions that are suitable for one domain, but not necessarily applicable for the other.

Border theory also proposes that domain members and “border keepers” both have roles to play in boundary management (Clark, 2000). For example, supervisors act as border keepers inside the work domain, and partners are border keepers inside the home domain. Border keepers are aware of the range of a domain and the limits of the borders between the different domains. These border keepers are able to offer their personal opinions regarding the contents of the different domains. They also permit different levels of flexibility when crossing borders, so that the individual will be able to manage responsibilities and tasks in both (Clark, 2000). For example, a supervisor is able to stop personal calls during working hours, and by doing so, avoid family intrusion into the work domain.

Theory Overlap

The primary principles of boundary and border theories are similar, and these theories both facilitate a better understanding of how individuals
form and manage the boundaries between two roles. The two theories come from different origins. Boundary theory was first formulated as a social-cognitive perspective for understanding the developments and social implications associated with the daily changes that people make in their lives (Zerubavel, 1991). As understanding the world is difficult, it is common for people to categorise things by grouping them (Zerubavel, 1991). Boundary theory has been used in work-family settings to understand how individuals allocate resources to family and work (Nippert-Eng, 1996), and understand the effects of transitioning between roles (Ashforth et al., 2000; Desrochers & Sargent, 2004). Border theory resulted from dissatisfaction with the prevailing work-family theories and, therefore, has been used primarily as a research tool and tested in the work and family domains (Clark, 2000). In this research program, the term boundary will be used in preference to border, as most of the studies to date have used this approach and term (e.g., Chen et al., 2009; Kreiner et al., 2009).

**Segmentation and Integration**

Numerous boundary management constructs have been established to inform the hypotheses generated from boundary and border theories. Currently, these constructs lack clear definition, and different terms and operationalisations of the constructs have produced some confusion in the research literature. Therefore, many researchers have undertaken similar studies by using different labels for similar constructs. For example, terms like integration/segmentation and flexibility/permeability are largely overlapping terms used in the family-work area (Nippert-Eng, 1996).

Segmentation/integration is the extent to which the characteristics of one
domain (e.g., work) are separated from another domain (e.g., family; Kreiner, 2006). Flexibility refers to boundary elasticity when the demands from one domain place pressure on the demands and responsibilities of another. Permeability is the degree to which a domain boundary can be infiltrated by components from another domain (Hall & Richter, 1988). In the definitions of integration/segmentation and flexibility/permeability, there are overlapping explanations for the same concept. For example, segmentation is considered to exist when there is little flexibility and low permeability (Bulger, Matthews, & Hoffman, 2007). With these definitional problems in mind, the section below presents a review of past research that has been undertaken to test boundary management strategies in the work-nonwork conflict and facilitation areas.

**Boundary Management Strategies**

The main strategies identified to manage boundaries are the expression of preferences, enactment of preferences, boundary permeability and flexibility, and boundary congruence, each of which will be described briefly in the next sections.

**Preferences.** The enactment of preferences is one of the strategies used for boundary management. Preferences for integration or segmentation are differentiated from the enactment or application of actual integration/segmentation (Kreiner, 2006). Integration/segmentation preference refers to a mostly individual difference variable that reflects the person’s preference for blending roles (integration), vis-à-vis their preference for keeping roles separate (segmentation; Kreiner, 2006). When integration/segmentation preferences have been examined, the results
indicated a skew towards segmenting work from family, and away from integration (Kreiner, 2006). To date, there is no strong evidence showing that there is an association between segmentation/integration preference and work-to-family conflict (Kreiner, 2006; Powell & Greenhaus, 2010; Shockley & Allen, 2010) or between segmentation/integration preference and family-to-work conflict (Shockley & Allen, 2010).

Nevertheless, notable outcomes have been found when segmentation/integration preferences were examined. Park and Jex (2011) found that a preference for segmenting work from family was related to less psychological work-family conflict, and a preference for segmenting family from work was related to less psychological family-work conflict. Psychological work-family conflict refers to an individual’s concerns with one role while engaged in the other (e.g., thinking about family-related problems while at work; Park & Jex, 2011). Another study showed that for those who unable to meet the preference to keep work segmented from family, was associated with less job satisfaction and poorer work commitment (Rothbard et al., 2005).

The reason segmentation/integration preference appears unrelated to work-family conflict, but is related to psychological work-family conflict, could be because segmentation preference is limited by the individual’s opportunities and resources to manage actual boundaries between work and family (Kreiner et al., 2009). This restriction might also apply to work-study boundaries, as students who are working will face policies at work or university that reduce their flexibility and control over when and where they engage in each domain (Judge & Colquitt, 2004).
**Enactment.** Integration/segmentation enactment, which is also considered a boundary management strategy (Kossek, Lautsch, & Eaton, 2006), describes the extent to which people can separate role domains in their actual environment in an effort to manage their responsibilities (Nippert-Eng, 1996). For example, segmentors usually generate instructions and implement procedures that separate work and family domains, such as having different timetables for work and family events; integrators, on the other hand, will combine work and family planning and events (Nippert-Eng, 1996).

Research has indicated that higher actual segmentation of work and family roles is associated with less work-to-family conflict (Kinman & Jones, 2008; Kossek, Ruderman, Braddy, & Hannum, 2012; Powell & Greenhaus, 2010), family-to-work conflict (Kossek et al., 2006; 2012), and better work-family balance (Li, Miao, Zhao, & Lehto, 2013). Furthermore, Ilies, Wilson, and Wagner (2009) found that integration of work and family roles moderated the strength of the spillover (negative and positive) of everyday job satisfaction to positive and negative affect at home. More spillover (negative and positive) between work and family roles occurred for those with greater integration. Segmentation has also been linked to decreased work-to-family spillover (negative and positive; Powell & Greenhaus, 2010) and decreased family-to-work spillover (negative and positive; Kossek et al., 2012); thus, the relationship between actual segmentation and role conflict is yet to be resolved. Studies, for example, have not separated enactment ability from segmentation preference and the environmental restrictions to segment behaviour.
**Permeability.** Boundary permeability is the degree to which a domain boundary can be crossed, either psychologically or behaviourally, by the individual enacting the roles (Hall & Richter, 1988). An association between boundary permeability and work-family conflict is usually shown. Olson-Buchanan and Boswell (2006) showed that the two directions of permeability, work intruding into the family domain and family intruding into the work domain, were linked to increased work-to-life conflict. Clark (2002b) noted that permeability of the work domain, but not the family domain, was linked to increased work-family conflict. However, other researchers have found that increased permeability of the work domain was linked to increased family-work conflict, and increased permeability of the family domain linked to increased work-family conflict (Bulger et al., 2007; Matthews & Barnes-Farrell, 2010). Like integration/segmentation enactment, even though increased permeability seems to cultivate work-family conflict, it also can facilitate good associations between work and family roles. Bulger et al. (2007) reported that permeability of the work domain was linked to increased family-to-work enhancement, and that permeability of the family domain was linked to increased work-to-family enhancement.

**Flexibility.** Boundary flexibility refers to boundary elasticity, which can be beneficial when the demands from one domain place pressure on the demands and responsibilities of another (Hall & Richter, 1988). Matthews, Barnes-Farrell, and Bulger (2010) proposed two aspects of flexibility: flexibility-ability and flexibility-willingness (see also Bulger et al., 2007; Matthews & Barnes-Farrell, 2010; Matthews et al., 2010). Flexibility-ability is the person’s perceived capacity to diminish or increase domain boundaries;
whereas flexibility-willingness reflects how prepared the person is to shift between domains (Matthews et al., 2010). Boundary flexibility is reflected in flexible work schedules that are implemented by organisations, which many studies have found to be beneficial for employees (for a review, see Kossek & Michel, 2011).

Work flexibility-ability is linked to reduced work-to-family conflict, but unrelated to family-to-work conflict (Bulger et al., 2007; Matthews & Barnes-Farrell, 2010), while family flexibility-ability is linked to reduced conflict in both directions (Bulger et al., 2007; Matthews & Barnes-Farrell, 2010). Regarding willingness, work flexibility-willingness is associated with reduced work-to-family conflict, but not to family-to-work conflict (Bulger et al., 2007; Matthews et al., 2010), and family flexibility-willingness is unrelated to both directions of conflict. Clark (2002a, b) found that the flexibility of both work and family boundaries was linked to reduced work-to-family conflict.

The general trend of these findings is that boundary flexibility is associated with reduced conflict. Greater flexibility is also associated with higher positive spillover between work and family, and both work flexibility-\textit{willingness/ability and family flexibility-willingness/ability are related to work-to-family enhancement and to family-to-work enhancement (Bulger et al., 2007). The ability to be flexible can be considered as the individual’s perceived dependence on their environment (work or family), reflecting the person’s capacity to segment or integrate their boundaries. Willingness to be flexible is the individual’s readiness to compromise the flexibility-ability of the other domain. However, people have individual preferences, and
compromising these preferences (i.e., being flexible to willingly accept a permeable or flexibility-ability environment), does not mean the actual environment (i.e., enactment) is congruent with what they prefer; therefore, boundary congruence is an important factor to consider.

**Boundary congruence.** Boundary congruence, which draws on person-environment fit theory to explain how individuals manage their multiple roles, is the most recently developed boundary management strategy. Person-environment fit theory (e.g., Kreiner et al., 2009) offers a basis for understanding boundary conflict, as it explains the relationship between a person’s preferences and their understanding of their environment. Person-environment (P-E) fit is one of the most researched phenomena in the industrial-organisational psychology literature, including how it relates to work and family conflict. Fit can be described as “the compatibility between an individual and a particular work environment that occurs when their characteristics are well matched” (Kristof-Brown, Zimmerman, & Johnson, 2005, p.281). Lewin (1938, 1951) argued very early that a person’s attitudes and behaviours are based upon both individual and environmental factors. Since P-E fit theory has been introduced, studies have supported the notion that “neither personal nor situational constraints [alone] determine the majority of the variance in behavioural and attitudinal variables” (Muchinsky & Monahan, 1987, p. 269). This theory is collectively considered as possessing substantial effectiveness in defining the base for attitudes and behaviours in many different settings (Carless, 2005; DeRue & Morgenson, 2007; Holland, 1985; Tom, 1971). Hence, person-environment fit can be considered a central construct in the role conflict and management domains.
There are two theoretical frameworks that describe the association between person-environment fit and person-related outcomes. The first framework is the attraction-selection-attrition (ASA) model (Schneider, 1987). Attraction refers to how much a person is attracted to an environment, which is dependent on the person’s level of boundary congruence with the environment (e.g., congruence occurs when the culture of a workplace matches the person’s preference, leading the person to be attracted to it). The person will then select the environment that they perceive as having a high level of boundary congruence for them (e.g., people are more likely to pursue a particular job/organisation when the culture of the job matches their preferences or the organisational manager may only hire people who have similar culture as their organisation). Last, attrition, occurs when the level of boundary congruence is found to be low, impelling the person to leave the environment (e.g., a mismatch between person and culture leads to boundary incongruence, which culminates in the person leaving the environment or not being hired by the company; Schneider, Goldstein, & Brent Smith, 1995).

The second framework is the theory of work adjustment (Dawis & Lofquist, 1984). This theory proposes that people find an environment that meets their needs and matches their personal qualities. Biological needs for survival and psychological needs for well-being are examples of needs; skills, knowledge, and abilities are personal qualities important for functioning in an environment. For example, tertiary students will find satisfaction at work/study when they accomplish the work asked of them and the workplace and institution sufficiently fulfils their needs, for example, for accomplishment.
These two frameworks predict outcomes such as commitment (Kristof, 1996), future job pursuit intentions, job satisfaction, and work performance (Krisof-Brown et al., 2005). A study by Rothbard et al. (2005) showed that people who preferred to segment work from family were less satisfied with their jobs and had poorer organisational commitment when they had reduced access to segmenting policies (i.e., attraction-selection-attrition not met). Past research had also shown that the degree of fit between individual preferences to balance work and non-work roles, and the flexibility or encouragement of that balance they receive from their organisation, significantly predicted health (i.e., work adjustment; Edwards & Rothbard, 1999).

The evidence is that when the environment allows individuals to perform according to their preferences, there will be a positive effect on the individual’s behaviour and health. For example, LeComte-Hinely (2013) showed that boundary fit enhances mental health over time and reduced work-to-nonwork conflict. When there is greater congruence among the boundaries (i.e., the person’s preferences fit the environment), then both segmentors and integrators will achieve better outcomes, such as improved well-being, engagement, and self-perceived success, and will feel and perform better (Ballout, 2007; Kreiner et al., 2009; Swanson, Broadbridge, & Karatzias, 2006). Thus, boundary congruence operates as an important mechanism for agency, whereby the individual can achieve greater satisfaction, performance, and personal growth (Bell et al., 2010; Methot & LePine, 2016; Rothbard et al., 2005).

From the work-family research on boundary congruence, it can be concluded that a better understanding of how individuals construct and
manage their role boundaries will lead to a better understanding of role
conflict and facilitation, and lead to the identification of more effective
strategies by which people can reduce role conflict and increase role
facilitation. As boundary congruence has been widely examined in the work-
family domains, and demonstrated beneficial outcomes for both the individual
and the environment, it is important to determine if boundary congruence in
the work and study domains similarly leads to improved student outcomes.
However, no research has examined work-study conflict and facilitation from
the perspective of boundary management. This thesis applies the theory of
boundary congruence specifically to the work-study domains, with the broad
goals of increasing understanding and identifying improved management
strategies.

**Work-Study Boundary Congruence**

Boundary congruence research has investigated several different forms
of boundary congruence and their relationship with work-family conflict, such
as boundary congruence between individual preferences and the preferences
of family members, superiors, subordinates, clients, and occupation (e.g.,
Kreiner et al., 2009), and boundary congruence between individual desires for
work-nonwork segmentation or integration and the individual’s perceived
actual environment (e.g., Chakrabarti, 2011; Chen et al., 2009). However,
these studies were confined primarily to the work and family domains, with
conflict and facilitation between work and study not being investigated using
this theoretical approach. An impediment to this work-study research is that
few measures have been devised to assess work-study congruence, and none
has been developed from the perspective of boundary management. Thus, the
first task in this research project was to develop and validate a psychometrically sound measure of work-study boundary congruence for university students.

**Existing Measures of Congruence**

Measures of boundary congruence have been developed for the work-family domains, and studies have assessed the relationships between work-family boundary congruence and work-family conflict, work-family facilitation, and well-being (Chen et al., 2009). Three studies have examined work-family boundary congruence directly (Chen et al., 2009; Kreiner, 2006; Kreiner et al., 2009). Two of these studies used the same measure of work-family boundary congruence (Chen et al., 2009; Kreiner, 2006), and one, Kreiner et al. (2009), which is the most recent, was based on qualitative interviews. There have been a relatively small number of studies conducted to access boundary congruence among working adults with a family. In addition, the measures used have not shown strong reliability and validity (Chen et al., 2009; Kreiner, 2006). Other congruence scales were identified that assessed related or different constructs to that of boundary congruence, but these are unsuitable to test models based on boundary management and congruence theories (e.g., the Perceived Person-Environment Fit Scale, Chuang, Shen, & Judge, 2016, which measures congruence between the individual’s values or standards and those of the organisation). Additionally, two measures were identified that were designed to assess work-study congruence in working students. These scales are detailed below.

**Work-family boundary congruence measures.** Two scales based on boundary management theory were developed by Kreiner (2006) and used by
Chen et al. (2009) to assess work-family boundary congruence. The first was the 4-item Segmentation Preferences Scale, and the second was the 4-item Segmentation Supplies Scale (Kreiner, 2006). Segmentation preference reflects the individual’s preferred boundary segmentation preference (e.g., “I don't like to have to think about work while I’m at home”). Segmentation supplies assesses the boundary segmentation provided by the environment (e.g., “Where I work, people can mentally leave work behind when they go home”). However, there are limitations to these scales. For example, the scale assumed that low preferences for segmentation will have high preferences for integration. Furthermore, the scales have few items, meaning the construct coverage is narrow, failing to include Kreiner et al.’s 2009 dimensions (see below), and the scales provide an indirect measure of boundary congruence (i.e., congruence scores are obtained by subtracting the supplies’ scores from the preference scores).

Kreiner et al. (2009) recommended that work-family boundary congruence measures should include the dimensions of boundary congruence with family members, superiors, subordinates, clients, and occupation. For example, work-family boundary congruence refers to how well the individual’s work boundary conditions conform to the boundaries preferred by others in both their work and home domains. The degree of boundary congruence or incongruence pertaining to the work and family domains reflects preferences of children, spouses, parents, and others in the family, as well as work supervisors, peers, and work policies. However, Kreiner et al. used a qualitative method to assess the dimensions for work-family boundary congruence and relied on a relatively small number of participants.
Nevertheless, the thesis research program drew on Kreiner et al.’s dimensions to develop a scale to measure work-study boundary congruence.

**Work-study congruence measures.** Of the work-study role congruence scales devised, the most comprehensive is the Role Congruence Scale (Swanson et al., 2006), which is derived from role congruence theory, and consists of 19 items and three subscales. This scale was developed to assess the positive and negative aspects of multiple role combinations in the work-study area, including work-study and work-social integration. The academic/workload subscale (9 items, e.g., “My term employment doesn’t affect the amount of studying I do”) assesses work-study role congruence issues. The future careers subscale (5 items, e.g., “Working during term-time helps my future job prospects after graduating”) is a measure of the effect of working on future career prospects; and the self/social development subscale (5 items, e.g., “Term-time working enhances my social life”) assesses the effect of work on social and personal development.

Using this Role Congruence Scale, Swanson et al. (2006) found that greater role congruence was related to better adaptation to university, higher satisfaction with university life, and less perceived stress. However, the scale does not provide a comprehensive coverage on the domains recommended for boundary congruence (cf. Kreiner et al., 2009), again suggesting insufficient content coverage (e.g., it does not include family and leisure dimensions). No hierarchical structure has been tested for the scale, so it is unclear if the three subscales represent a global congruence construct. Further, seven of the nine items in the academic/workload subscale were negative, which potentially
influences response style and affects reliability and validity (Krosnick & Presser, 2010).

A second work-study congruence measure is the Job-School Congruence Scale (Butler, 2007; Meeuwisse et al., 2016). This congruence scale contains three items (e.g., “I use knowledge that I gained in college on my job”), and construes the construct as reflecting congruence between the “job requirements and collegiate learning such that the job requires knowledge or skills acquired in college” (Butler, 2007, p. 501). This scale measures a specific and narrow aspect of congruence; thus, it is not suitable to assess more general work-study congruence in university students.

As there was no suitable scale to assess work-study boundary congruence, the first step of this study was to devise a measure to assess work-study boundary congruence. Having a psychometrically sound scale would allow testing of boundary congruence theory in the work-study domains. This would allow researchers to identify the antecedents and outcomes of work-study boundary congruence, which would allow for interventions to be devised to assist students in developing boundary congruence, especially between work and study, which should help them manage their multiple roles and allow them to perform better in their study role. The next section provides an overview of the correlates of work-study boundary congruence examined in this thesis.

**Overview of Research Program**

The first step, Study 1, the development of a psychometrically sound measure to assess work-study boundary congruence, was based on the boundary management model of person-environment fit (Kreiner et al., 2009).
Study 2 tested a work-study boundary congruence model that examined the intervening mechanisms of work-study conflict and work-study facilitation in the associations between work-study boundary congruence and important student outcomes of student well-being (affective) and student university engagement (i.e., work-study boundary congruence → work-study conflict/facilitation → student well-being and university engagement). Study 3 investigated the personal characteristics (i.e., proactive personality) and contextual supports (i.e., work and family support) as boundary conditions influencing work-study boundary congruence and student outcomes of psychological well-being, academic performance, and perceived employability (i.e., person/context factors → work-study boundary congruence → student well-being, academic performance, and perceived employability). Figure 2 presents the integrated hypotheses that were tested.

**Outcome Variables to Work-Study Boundary Congruence**

University engagement, well-being, academic performance, and perceived employability were selected as outcome variables in Studies 2 and 3, as people manage their role boundaries to maintain healthy functioning and well-being. Work environments often cannot accommodate these preferences (e.g., due to the policies and practices in the workplace set by employers; Rothbard et al., 2005); the result can be role conflict, which potentially leads to unfavourable outcomes for the individual. Where students are concerned, these unfavourable outcomes are threats to their well-being, university engagement, academic performance at university, and perceived employability.
Figure 2. Integrated hypothesised framework for the research program.
**University engagement.** University engagement is “the time, energy and resources students devote to activities designed to enhance learning at university” (Krause, 2005, p. 1). Engagement is an important construct as it provides opportunities for students to gain knowledge and develop (e.g., developing self-challenge, learning to make effort, communicating with lecturers, involving in academic and other activities provided by the university, and developing a sense of belonging and self-worth; Devlin et al., 2008). Research has found that higher student university engagement is related to greater determination (Bridges, Cambridge, Kuh, & Leegwater, 2005), academic performance (Pike, 2000), and satisfaction (Kuh, Kinzie, Schuh, & Whitt, 2005). See Trowler (2010) for a review on engagement and outcomes.

**Well-being.** Positive general well-being increases personal functioning, thus, it is essential to students (Steele & Fullagar, 2009). Research has shown that general well-being is positively related to feelings of autonomy and competence, being goal-oriented, and focussed on self-growth (Ryff, 1989). General well-being is associated with students’ study determination (Perrine, 1999) and university achievement (Pritchard & Wilson, 2003).

**Academic performance.** Academic performance refers to students’ effectiveness in accomplishing their university work (Goodman & Svyantek, 1999). It is an important variable to be investigated as it can determine a student’s success in gaining knowledge, skills, and abilities, which affect their future satisfaction and achievements (Cheng, Chiu, Chang, & Johnstone, 2014; Goodman & Svyantek, 1999). Performance has been found to be
associated positively with career success, job satisfaction, and better learning outcomes (Cheng et al., 2014; Takahashi, 2005).

**Perceived employability.** Self-perceived employability is the “perceived ability to attain sustainable employment appropriate to one's qualification level” (Rothwell, Herbert, & Rothwell, 2008, p. 2). In working students, this includes factors such as confidence in one’s skills and abilities, and optimistic expectations regarding future entry into the labour market (Fugate, Kinicki, & Ashforth, 2004). Perceptions of employability are associated with reduced career compromise and distress, greater social capital, and higher positive self-evaluations (Creed & Gagliardi, 2014).

**Antecedent, Mediating, and Moderating Variables**

The PhD project examined how work-study boundary congruence related to the outcomes of university engagement, well-being, academic performance, and perceived employability, examined if work-study conflict and work-study facilitation mediated between work-study boundary congruence and the outcome variables. It also examined how work-study boundary congruence and the outcomes could be influenced by contextual supports (i.e., tested contextual supports as antecedents to work-study boundary congruence) and personal resources (i.e., tested personal resources as a moderator in the associations between contextual supports and work-study boundary congruence. Finally, it tested the conditional associations between contextual supports and the outcomes via work-study boundary congruence; see Figure 2).

**Antecedent Variables to Work-Study Congruence**
**Contextual supports from work.** Workplace support is defined as any institutional assistance as well as aid from colleagues and supervisors (Chou & Robert, 2008). For example, individuals who have supervisors and/or colleagues sympathetic to their needs, or who are supported by workplace policies that accommodate study demands, can be considered to experience workplace support. Meta-analyses have shown that workplace support is related to reduced work-family conflict (Kossek, Pichler, Bodner, & Hammer, 2011; Mesmer-Magnus & Viswesvariyan, 2006), related to more work-nonwork congruence, less work-nonwork conflict (Chen et al., 2009; Edwards & Rothbard, 1999; Greenhaus & Powell, 2006; Methot & LePine, 2016; Rothbard et al., 2005), more positive well-being (Kossek et al., 2011), greater commitment at work, and higher career aspirations (Wang & Staver, 2001; Rothbard et al., 2005).

**Contextual supports from family.** Family support refers to emotional, informational, and instrumental benefits obtained from family members that aid the individual in the other role (Thoits, 2011). Family support is perceived either as direct support or support that has a buffering effect against negative or stressful events (Cohen & Wills, 1985). For example, individuals who are able to turn to someone when they have a problem benefit directly from being able to express themselves, and benefit as the support received counteracts (or buffers) the effects of the problem (Sarason, Sarason, & Pierce, 1990). Meta-analysis research has shown that family support is related to less work-family conflict (Michel, Kotrba, Mitchelson, Clark, & Baltes, 2010) and to increased congruence (Bell et al., 2010). Past research has also shown that family support is the strongest
predictor of students’ academic activities (Gloria & Robinson, 2001), and a supportive family is related to better psychological well-being in students (Rodriguez, Mira, Myers, Morris, & Cardoza, 2003), better student goal commitment, and better student social adjustment (Lapsley, Rice, & Fitzgerald, 1990).

Thus, workplace and family support were considered to be important contextual variables, and were thus included as antecedents to work-study boundary congruence.

**The Case for Work-Study Boundary Congruence as Mediator**

No study was found that examined the mediation effect of work-study boundary congruence on the association between contextual supports and well-being, academic performance, and perceived career development in students. However, research has shown that contextual supports were associated with greater congruence between work and family in employed adults (Methot & LePine, 2016; Rothbard et al., 2005). Studies also have shown that congruence is associated with better well-being, academic performance, and career development (Ballout, 2007; Butler, 2007; Meeuwisse et al., 2016). It was expected that being able to draw on greater work and family support would allow students to better manage their work and study boundaries and roles to suit their own preferences and the preferences of others, and that this, in turn, would allow them to perform better, feel better, and generate a more positive view of the future. Therefore, in the current study, we considered work-study boundary congruence as a mediator in these associations.

**The Case for Work-Study Conflict and Facilitation as Mediators**
Work-study conflict, as indicated above, is defined as the degree to which work interferes with a person’s capability to handle the demands and responsibilities associated with their studies (Markel & Frone, 1998). For example, students who work in part-time jobs expend energy and resources in those roles, which means that these resources and energy are not available for their study role, potentially resulting in work-study conflict. Work-study conflict is an important factor to be investigated as it can have detrimental effects on student well-being and academic performance (Butler, 2007), and recent studies have shown that work-study conflict is associated with poorer student well-being (Creed et al., 2015; Park & Sprung, 2015). Conversely, work-family research has shown that congruence is related to less role conflict, which, in turn, is related to higher well-being, engagement, and work performance (Chen et al., 2009; Wayne et al., 2007).

Work-study facilitation refers to “the extent to which experiences in one role improves the quality of life in the other” (Greenhaus & Powell, 2006, p. 73). For example, communication skills learned at work can be used in the study role, resulting in less conflict, thereby improving the quality of study. Role facilitation is related positively to an individual’s well-being (Lennon & Rosenfield, 1992; Perrone, Ægisdóttir, Webb, & Blalock, 2006; Ruderman, Ohlott, Panzer, & King, 2002). Research has shown that work-study facilitation is related to higher levels of engagement at university and better well-being (Creed et al., 2015), and that job-study congruence is related to more role facilitation, which, in turn, is associated with more school satisfaction and academic performance (Butler, 2007).
Although, role conflict and facilitation have been tested as mediators in many studies, including in the work-family and work-study literature (e.g., Butler, 2007; Chen et al., 2009), none has investigated the mediation effects of work-study conflict and facilitation between work-study boundary congruence and well-being and university engagement. Studies in the work-nonwork literature have shown that congruence is related to less role conflict and more role facilitation (Butler, 2007; Chen et al., 2009; Kreiner et al., 2009; Meeuwisse et al., 2016; Voydanoff, 2005). For example, Chen and colleagues (2009; i.e., work-family research) found that greater boundary congruence can reduce role conflict and enhance role facilitation. Additionally, research has shown that student role conflict and facilitation are associated with well-being (Butler, 2007; Lenaghan & Sengupta, 2007), that role facilitation enhances university engagement (Creed et al., 2015), and that role conflict is related to greater turnover intentions from university and work (Brunel & Grima, 2010). It was expected that work-study conflict and facilitation would mediate between work-study boundary congruence and the outcome variables (well-being (affective) and university engagement; Study 2). Thus, this study tested the mediation effects of work-study conflict and facilitation in the associations between work-study boundary congruence and well-being and university engagement.

The Case for Proactivity as Moderator

Proactivity. Proactive personality refers to the individual’s capacity to minimise situational constraints and achieve positive outcomes (Bateman & Crant, 1993). People who exhibit proactive behaviours tend to take the initiative to improve themselves; they will challenge themselves with new
goals rather than fixate on the current situation (Crant, 2000). Research using longitudinal methods has shown that proactive personality is linked to positive outcomes, such as Person-Environment fit, tolerance of stress, career success, job satisfaction, and job engagement and performance (Crant, 2000; Mirvis & Hall, 1996; Parker & Sprigg, 1999; Seibert, Kraimer, & Crant, 2001; Zhang, Wang, & Shi, 2012). As an important individual or person variable, proactive personality was included as a moderator in the associations between contextual supports and work-study boundary congruence, and in the conditional associations between the contextual supports and study outcomes via work-study boundary congruence.

Proactive personality was expected to operate as a moderator as proactivity is considered as a trait-like variable, so largely pre-existing (i.e., developed earlier in life; Bezdjian, Raine, Tuvblad, & Baker, 2011). Those who are proactive work to change the environment to produce a better fit (Zhang et al., 2012). Therefore, for those with a higher proactivity, there should be a stronger association between contextual (i.e., environmental features) and fit for themselves (i.e., boundary congruence). For those with higher proactivity there should also be stronger associations between contextual and outcome variables for similar reasons (Crant, 2000; Mirvis & Hall, 1996; Parker & Sprigg, 1999; Seibert et al., 2001; Zhang et al., 2012). In support of this, in a previous study, proactivity was found to be a moderator between work-study conflict and the outcomes of well-being, job satisfaction, and academic performance (Harvey, Blouin, & Stout, 2006).

**Justification for Including Support and Proactivity**
The conservation of resources (CoR) theory provides the justification for including person and contextual factors in the PhD research program: (a) for including work and family supports as antecedents to work-study boundary congruence and psychological well-being, academic performance, and perceived employability (reported in Study 3). (b) For including the person variable (proactivity) as a moderator in the associations between contextual supports and work-study boundary congruence, and between contextual supports and the main study outcomes (i.e., well-being, academic performance, and perceived employability; also reported in Study 3).

**Conservation of Resources Theory**

The conservation of resources (CoR) theory is a theory of motivation established on the basic principles that people are driven to protect the resources they have (conservation) and to gain new resources (acquisition), in order to advantage themselves and/or assist them to meet personal goals.

Resources can be defined as “objects, personal characteristics, conditions or energies that are valued in their own rights or that are valued because they act as conduits to the achievement or protection of valued resources” (Hobfoll, 2001, p. 339; see also Diener & Fujita, 1995; Hobfoll, 1988). Individuals acquire their own unique set of valued resources based on the values and beliefs gained through personal experiences and developmental processes. For example, family support is viewed as a valuable resource by some individuals; whereas others will place less emphasis on this and more on other social capital or possessions.

There are several propositions derived from the basic CoR principles, the first of which relates to *primacy of resource loss*. This proposal is that
losing resources does more psychological harm than the help it does when the resources are obtained or regained after loss (e.g., a pay cut or job loss will generate more harm than the benefit gained from obtaining a similar pay increment after being re-employed after a long time of unemployment; Vinokur & Schul, 2002; Wells, Hobfoll, & Lavin, 1997). Individuals typically are more prone to burnout (Shirom, 1989), depression (Kessler, Turner, & House, 1988), and negative physiological outcomes (DeVente, Olff, Van Amsterdam, Kamphuis, & Emmelkamp, 2003; Melamed, Shirom, Toker, Berliner, & Shapira, 2006) when they lose resources at work. The motivational element developed from this principle is that since resource loss can have greater negative effect on well-being, individuals will engage in behaviours to prevent the losses (e.g., when exposed to abusive supervision, individuals will be more disposed to engage in feedback avoidance; Whitman, Halbesleben, & Holmes, 2014).

The second principle is resource investment. People invest resources to guard against resource loss, to retrieve resources that have been lost, and to derive additional resources (Hobfoll, 2001). This has been investigated in the framework of coping, proposing that much coping is focused on investment of resources to safeguard against future resource loss, or to manage the expectation of stress as a result of resource loss (Hobfoll, 2001; Ito & Brotheridge, 2003; Vinokur & Schul, 2002). For example, research has investigated how resources are invested by individuals going on the offensive with colleagues after resource are lost at work (Hochwarter, Laird, & Brouer, 2008; Wheeler, Halbesleben, & Whitman, 2013).
From these two principles, four corollaries were developed: (a) individuals with greater resources are more likely to gain more resources, and individuals with fewer resources are prone to more resource loss (Demerouti, Bakker, & Bulters, 2004; Mäkikangas, Bakker, Aunola, & Demerouti, 2010; Whitman et al., 2014); (b) resource loss leads to difficulties in gaining more resources (Demerouti et al., 2004); (c) resource gain facilitates gaining additional resources (Hakanen, Peeters, & Perhoniemi, 2011; Mäkikangas et al., 2010; Xanthopoulou, Bakker, Demerouti, & Schaufe, 2009); and (d) resource loss leads to protective attempts over remaining resources (Halbesleben, 2010; Halbesleben & Bowler, 2007; Halbesleben & Wheeler, 2011).

**Contextual Resources**

Hobfoll (1988) argued that contextual resources contribute to increasing the potential range of resources available, act as a substitute resource, or strengthen other resources. Contextual resources have been considered as either background or contextual variables, and defined as any kind of support received outside of the individual and within the different domains of life, such as work and study (e.g., family, workplace, friends, supervisors, and colleagues; Ten Brummelhuis & Bakker, 2012). Hobfoll generated a resources guide that contained 74 contextual resources or supports pertinent to the CoR model that are both work and nonwork-related. Examples of work-related resources are support from colleagues and understanding from superiors; examples of nonwork-related resources are positive relationships with family, friends, and romantic partner. The absence of these resources can generate negative effects for the individual, and make it more problematic to
manage multiples roles (Hobfoll, 2001). Researchers in the work-to-family conflict area have found that contextual supports in both domains (i.e., at work and at home) were effective in reducing conflict between the two competing roles (Hammer, Kossek, Anger, Bodner, & Zimmerman, 2011; Kossek et al., 2011).

Contextual supports related to the family and workplace can be emotional (e.g., sympathetic to demands at work and study), informational (e.g., provide information that assists in reducing demands at work and study), and instrumental (e.g., provide tangible aid that would assist in resolving those demands at work and study; Thoits, 2011). Family resources include understanding that the family member has multiple roles to juggle and needs emotional support. Workplace resources includes aid from colleagues and supervisors that facilitate the employee’s multiple roles, such as having colleagues who can assist by taking over some tasks (Chou & Robert, 2008; Ray & Miller, 1994). While support from others (i.e., family and work) has been considered an important resource that helps individuals manage their conflicting roles, other important influences are the personal characteristics, or resources, of the individual (Hobfoll et al., 1990).

**Personal resources.** Personal resources include key skills and personal traits (e.g., self-esteem and conscientiousness; Hobfoll, Halbesleben, Neveu, & Westman, 2018). Along with contextual resources, personal resources are important in assisting people to manage multiple roles (Hobfoll et al., 1990). For example, personal resources such as personality (e.g., conscientiousness, self-esteem) have been shown in work-family research to influence how well individuals manage their work and family roles and their
engagement at work (Halbesleben, Harvey, & Bolino, 2009; Michel & Clark, 2013; Michel et al., 2010; Perry, Penney, & Witt, 2007). Work-family research has shown that higher self-esteem, self-efficacy, emotional stability, locus of control, and conscientiousness are related to more family and work support and higher engagement at work (Halbesleben et al., 2009; Selvarajan et al., 2016).

Other studies have shown that personal resources interact with contextual resources to reduce role conflict and enhance role facilitation, and, in turn, increase work performance (e.g., Selvarajan et al., 2016). Personality differences have been viewed as “coping resources” that enhance people’s abilities to deal with life circumstances (Thoits, 1994), and also have been marked as key influencers of work-family conflict. Given the contemporary trend for students to work while studying, and the increasing number of students dropping out of study due to work, it is important to examine how personal resources act in conjunction with other sources of support to influence boundary congruence between student work and study.

**Research on contextual supports and congruence.** In the work-family interface research, contextual supports have been associated with increased effectiveness in managing work and family life (Hammer et al., 2011; Kossek et al., 2011). Other studies have shown that family (Bell et al., 2010) and workplace support (Methot & LePine, 2016; Rothbard et al., 2005) were related to higher levels of role congruence in employed adults. Peer and teacher supports were also found to be associated with higher congruence (Bourgeois, 2014). Although contextual supports have been known to assist people to function better, these supports have not been tested in relation to
work-study boundary congruence with university students. As family (Rayle & Chung, 2007) and workplace supports (Creed et al., 2015) act as important resources for young people generally, they are likely to assist them in managing their work and study roles and to do this by helping them better manage the boundaries between the two.

**Overview of Studies**

*Study 1* (Chapter 3) reports on the development and validation of a measure of work-study boundary congruence suitable for working university students. *Study 2* (reported in Chapter 4) examined the associations between work-study boundary congruence and the student outcomes of well-being (affective) and university engagement, and tested the mediating roles of work-study facilitation and conflict. By drawing on previous work-family research and work-study research, it was expected in this study that work-study boundary congruence would be related positively to work-study facilitation and negatively to work-study conflict, and, in turn, conflict was expected to be related negatively, and work-study facilitation related positively, to well-being and university engagement (cf. Butler, 2007; Chen et al., 2009; Creed et al., 2015). Additional to this, work-study conflict and work-study facilitation would mediate the associations between work-study boundary congruence and the outcomes (see Figure 3 for hypothesised model).

*Figure 3.* Hypothesised model for Study 2 (Chapter 4).
Study 3 (reported in Chapter 5) examined a moderated mediation model of work-study boundary congruence. Consistent with work-family research, this study hypothesised that work-study boundary congruence would mediate the associations between contextual supports (i.e., work and family supports) and the outcomes (i.e., psychological well-being, academic performance, and perceived employability). Although not all personal resources can be an effective resource to assist people in managing multiple roles, proactive personality, which is the individual’s capacity to minimise situational constraints and achieve positive outcomes (Bateman & Crant, 1993), has been shown to be a positive influence on goal setting and achievement (Bateman & Crant, 1993; Fuller & Marler, 2009; Seibert et al., 2001). Consistent with this, proactive personality was expected to play a moderating role in this model. The model states that the associations between work and family supports and work-study boundary congruence would be stronger when proactivity is higher, and that proactivity will strengthen the associations between the contextual supports and the outcomes, via work-study boundary congruence. See Figure 4 for hypothesised model.

Figure 4. Hypothesised model for Study 3 (Chapter 5).
CHAPTER THREE

STUDY 1: DEVELOPMENT AND INITIAL VALIDATION OF A
WORK-STUDY CONGRUENCE SCALE FOR UNIVERSITY
STUDENTS

This chapter presents the report on the Work-Study Congruence Scale development in its accepted form, although, for clarity, the reference list has been removed from the paper and integrated in the Reference Section at the end of this thesis.

This article has been accepted for publication in the International Journal for Educational and Vocational Guidance (27th of July 2018) and is currently an advance online publication. This journal is an international, peer-reviewed journal in the career, education, and work domains.

The existing work-study congruence measures for university students were limited as they were unidimensional (i.e., covered only one aspect of the construct; Butler, 2007; Meeuwisse et al., 2016) and/or had psychometric weaknesses (i.e., Swanson et al., 2006). Thus, they did not adequately capture key components of this construct. To fill this gap, a brief inventory to measure a multidimensional construct of work-study boundary congruence for university students was developed. Study 1 presents the development and validation of a 16-item measure that assesses four dimensions of work-study boundary congruence (i.e., university demands and resources, occupation, leisure, and family) using a sample of Australian university students.
Statement from Authors Confirming the Authorship Contribution of the PhD Candidate to Journal Article 1

As co-authors of the accepted paper titled “Development and Initial Validation of a Work-Study Congruence Scale for University Students”, we confirm that Moong Li Chu has made the following contributions:

a. Designed the questionnaire items with direction and feedback from co-authors;

b. Collected and entered the data into SPSS;

c. Analysed and interpreted the data under the supervision of co-authors;

d. Wrote the paper with supervision and feedback from co-authors.

Furthermore, we agree to the inclusion of the paper in this doctoral research program submitted for examination.

___________ (Moong Li Chu) 11/2018

___________ (Peter A. Creed) 11/2018

___________ (Elizabeth G. Conlon) 11/2018
Development and Initial Validation of a Work-Study Congruence Scale for University Students

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Abstract

The 16-item Work Study Congruence Scale was developed to assess self-perceived boundary congruence between work and study roles in university students. Items were based on student interviews and reviews by experts. Responses were subjected to Exploratory (Sample 1: N = 251, mean age 25 years) and Confirmatory Factor Analysis (Sample 2: N = 260, mean age 23 years), and validated against an existing brief boundary congruence measure. The new scale taps four domains: university demands/resources, occupational goals, family, and leisure. It has the potential to promote research on work-study boundary congruence, which can shed light on factors that promote student engagement and well-being.

Keywords: Work-study boundary congruence, boundary management, fit, well-being, engagement
Development and Initial Validation of a Work-Study Congruence Scale for University Students

Undertaking paid work concurrently with study is an essential commitment for a high proportion of university students worldwide. In the USA, about 78% of university students work while they study (American Council on Education, 2006), while in the UK the figure is about 75% (National Union of Students, 2008). In Australia, where more than 80% of full-time students work at least part-time while studying (Bexley, Daroesman, Arkoudis, & James, 2013), there has been a gradual increase over the past 30 years in the proportion of fulltime, undergraduate students working part-time during their university education (Darmody & Smyth, 2008; Hall, 2010). Between 2007 and 2010, the percentages ranged from 65% to 69% for first-year university students, and 71% to 76% for later year students (Coates, 2015).

This need to work while studying is largely the result of governments reducing their financial assistance to students and teaching institutions and increasing the costs of higher education (Devlin, James, & Grigg, 2008; Richardson, Evans, & Gbadamosi, 2014). While students can benefit from paid work (e.g., generic skills development; Curtis & Shani, 2002), engaging in these two competing roles can affect students’ academic performance and well-being (ACER, 2011; Creed, French, & Hood, 2015). Working while studying also can affect students’ longer-term success and well-being in the labour force, and has financial implications for families and the community as a result of student under-performance, failure, and drop-out (Schneider & Yin, 2011). It can also affect teaching institutions, which lose funding because of
student attrition (e.g., dropping-out costs Australian universities an estimate $1.4 billion per year; Hare, 2010).

Understanding how students manage their work and study roles (i.e., manage the set of expectations regarding behaviour and responsibilities in these defined social positions; Biddle, 2013), involves understanding how they balance these important roles (i.e., how they distribute their resources to manage competing roles consistent with their capacity and preferences; Greenhaus, Collins, & Shaw, 2003). From a role boundary management theory perspective (Kreiner, Hollensbe, & Sheep, 2009), this means understanding the congruence or fit that people experience between these competing roles, as boundary congruence (our focus is on work-study boundary congruence) has implications for both the well-being of individuals and their performance (Ramarajan & Reid, 2013). While comprehensive scales have been devised to measure boundary congruence in other domains (e.g., work-family boundary congruence; Chen, Powell, & Greenhaus, 2009), there are few existing scales suitable to assess work-study congruence in university students.

Existing measures have either been devised for adults in full-time work and are not suitable for use with working students, been generated without reference to theory, or have psychometric weaknesses. To address this gap, this paper reports on the development and validation of a work-study congruence scale that could be used to assess university students’ perceived boundary congruence between their work and study demands and responsibilities. Having a valid and reliable measure will allow researchers to better understand how university students establish and manage their work-
study boundaries, and allow testing of the effects of work-study boundary congruence and incongruence on students’ academic performance and well-being.

**Boundary Management**

Individuals occupy multiple life roles, which overlap, develop, and change according to the life-span and life-space (cf. life-span, life-space theory; Super, 1994). Consequently, it is necessary to not only manage individual roles, but manage how these roles intersect and affect one another. Boundary management refers to the strategies and mental frameworks that individuals use to manage their everyday competing role activities (i.e., how they strive for role congruence and avoid role incongruence; Nippert-Eng, 1996). They use these heuristics to give action and meaning to how they engage with, sustain, and confront social challenges inherent in engaging with multiple roles. From this perspective, people form, sustain, and adjust their boundaries in order to simplify their role arrangements and reduce the stress associated with role conflict, in particular, inter-role conflict, which refers to the individual’s inability to allocate adequate time and resources to meeting multiple role expectations and responsibilities (Ashforth, Kreiner, & Fugate, 2000). As applied to the domains of work and family, boundary management refers to the strategies that people use to facilitate congruence (fit, or correspondence) with the cognitive, physical, and/or behavioural boundaries that exist between their work and family domains (Ashforth et al., 2000; Nippert-Eng, 1996). Boundary management strategies are focused either on maintaining separation/segmentation among roles (i.e., strategies used to keep
competing roles separate), or integration of roles (i.e., strategies that facilitate and manage the merging of multiple roles).

Considering boundary management strategies in the work and family domains has allowed researchers to investigate a range of issues related to dealing with work and family responsibilities, based on whether roles are largely integrated or segmented (Paustian-Underdahl, Halbesleben, Carlson, & Kacmar, 2016). Applied to student work and study domains, integrators would be comfortable with, and even prefer it when their work and study roles overlapped (e.g., being able to talk about study while at work); whereas segmentors would prefer, and try to structure their boundaries so that the different domains were kept separate (e.g., not having to think about work while studying; Kossek & Lautsch, 2012).

There are positive and negative consequences for both integration and segmentation: integration, for example, can intensify role blurring, which can be stressful, but also helps individuals when they move between the different roles; segmentation facilitates the formation of role boundaries and it decreases role blurring, but it can make it difficult for the individual to transition between roles (Ashforth et al., 2000; Winkel & Clayton, 2010). In both cases, however, integrators and segmentors would function and feel better if they could match their environmental demands with their personal preferences (i.e., attain boundary congruence).

**Boundary Congruence**

In recent years, boundary congruence, which is a construct derived from theories of role boundary management and person-environment fit (Kreiner et al., 2009), has been used to understand and explain the boundary
congruence (i.e., the fit between the person’s own preferences and the environmental demands that are exerted by a given domain, such as work) that people experience when engaging in competing roles (e.g., work and family, work and leisure roles). Thus, boundary management, which includes the strategies used to improve boundary congruence and reduce boundary incongruence, are applied by individuals when they manage multiple roles (including work and study roles; Kreiner et al., 2009).

Past research on boundary congruence has focused mainly on work-family or family-work role conflict. Little attention has been given to working students who have multiple roles and need to manage the boundaries between them. Students require sufficient time and space for effective study; that is, they need to find the means to maintain their learning while at the same time manage their work and other commitments (Maor & Volet, 2007; McInnis & Hartley, 2002). Anderson (2006) showed that 78% of Australian university students felt that work negatively affected their study. Therefore, applying a boundary management approach to understand and explain work-study boundary congruence has the potential to increase our understanding of the processes that individuals use to structure and maintain their across-role fit.

Boundary congruence occurs when individuals are able to structure their boundaries to meet their own preferences and the preferences of the people around them (e.g., in the work-family domains these other people might include supervisors and partners; in the work-study domains they might be employers and study colleagues; Kreiner et al., 2009; LeComte-Hinely, 2013). Consistent with boundary management theory, congruence between a person’s boundary preferences and the environmental demands around
boundaries usually produces beneficial results, such as satisfaction and improved performance (Butler, 2007; Lin, Yu, & Yi, 2014), and incongruence generates undesirable results, such as strain and conflict (Ford & Jin, 2015; Rhodes, 2016). This is consistent with the notion that individuals with a strong leaning towards segmentation will do better when they can arrange for their work and study roles to be separate, and integrators will be more satisfied and effective if their work and study roles can overlap (Kreiner et al., 2009).

Currently, little research has examined the effect of integration or segmentation preferences (i.e., level of boundary congruence) on the well-being or performance outcomes for university students who work.

**Existing Measures of Congruence**

One congruence measure based on boundary management theory has been developed for the work-family area (Kreiner, 2006), and used to assess the relationships among work-family boundary congruence, work-family conflict, work-family facilitation (i.e., where skills and behaviours learned in one role facilitate functioning in another role), and well-being (Chen, Powell, & Greenhaus, 2009; Kreiner, 2006). Chen et al. (2009) and Kreiner (2006) used this boundary congruence measures and showed that, in working adults, work-family boundary congruence was related to less work-family conflict and stress, and related to greater work-family facilitation and job satisfaction. Kreiner’s (2006) measure involves two scales, the 4-item Segmentation Preferences Scale, which assesses individual segmentation preferences (e.g., “I don't like to have to think about work while I’m at home”), and the 4-item Segmentation Supplies Scale, which taps perceived environmental demands (e.g., “Where I work, people can mentally leave work behind when they go
However, despite being based in theory, and having high internal reliability coefficients for the two scales (alphas > .90) and established validity, the scales provide an indirect measure of congruence rather than a direct one. In addition, the method of calculating the boundary congruence score is complicated as it relies on latent congruence modelling and constructing second-order factors for use in any analysis, and, finally, no reliability or validity data are available for the constructed congruence scores (Chen et al., 2009).

A second scale derived from role theory is the Role Congruence Scale (Swanson, Broadbridge, & Karatzias, 2006). This 19-item measure, which has three subscales, was developed to assess the positive and negative aspects of multiple role combinations in the work-study area, including work-study and work-social integration. The academic/workload subscale (9 items, \( \alpha = .73 \); e.g., “My term employment doesn’t affect the amount of studying I do”) assesses work-study congruence. The future careers subscale (5 items, \( \alpha = .83 \); e.g., “Working during term-time helps my future job prospects after graduating”) is a measure of the effect of working on future career prospects; and the self/social development subscale (5 items, \( \alpha = .77 \); e.g., “Term-time working enhances my social life”) assesses the effect of work on social and personal development.

Using this Role Congruence Scale, Swanson et al. (2006) found that greater role congruence was related to better adaptation to university, higher satisfaction with university life, and less perceived stress. However, the scale does not provide a comprehensive coverage of the domains recommended for role congruence (cf. Kreiner et al., 2009), suggesting insufficient content
coverage (e.g., it does not include family and leisure dimensions). No hierarchical structure was tested for the scale, so it is unclear if the three subscales represent a global congruence construct, and seven of the nine items in the academic/workload subscale were negative, which potentially influences response style and affects reliability and validity (Krosnick & Presser, 2010).

The other “congruence” scales we identified either assessed a different construct to that of boundary congruence (e.g., the Perceived Person-Environment Fit Scale, which measures congruence between the individual’s values or standards and those of the organisation; Chuang, Shen, & Judge, 2016), or measures a specific, narrow aspect of congruence (e.g., the 3-item Job-School Congruence Scale, where congruence reflected congruence between the “job requirements and collegiate learning such that the job requires knowledge or skills acquired in college”; Butler, 2007, p. 501). Thus, these scales are not suitable to assess work-study congruence in university students.

Present Study

Our aims were to develop and validate a Work-Study Congruence Scale that could be used by researchers to gain a better understanding of the effects of boundary congruence on university students in the work-study domain. Having a valid and reliable measure of work-study boundary congruence will assist in developing a better understanding of the influences that affect student performance and well-being. We aimed to develop a direct measure of work-study boundary congruence, as opposed to an indirect measure that derives scores by statistical manipulation, such as the measure
devised by Kreiner (2006), and based the scale on the dimensions recommended for the boundary congruence construct (Kreiner et al., 2009) and a review of the work-study conflict literature (e.g., Creed et al., 2015; Markel & Frone, 1998). Besides the dimensions recommended by Kreiner et al. (i.e., congruence with work superiors and colleagues, family and other important individuals, and one’s own occupation or career needs), the additional domains that we considered important for developing university students were congruence with academic responsibilities and congruence with social activities (Cinamon, 2016).

We used the classic test theory approach (Nunnally & Bernstein, 1994) to identify the underlying construct domains (content validity), generate and validate sufficient items for a multidimensional scale of work-study boundary congruence (content validity), test the factor structure of the scale using item analysis and EFA with a large sample of university students, confirm the factor structure on a second sample of students (structural validity), and test external convergent validity by correlating test scores with measures of segmentation preferences and segmentation supplies, which are reflected in the nomological net for congruence (Kreiner, 2006). We expected that the newly developed Work-Study Congruence Scale would be related negatively to Kreiner’s (2006) incongruence measure.

Method

Item Development

First, we reviewed the extant literature on work-study conflict, facilitation, and boundary congruence to determine the potential underlying domains of work-study conflict relevant for university students who both...
work and study. The primary reference for this review was Kreiner et al. (2009), who proposed a role boundary management model based on person-environment fit theory in the work-family area. Informed by this research, we identified nine broad dimensions potentially relevant for the work-study domain: student boundary congruence with hours worked (number of hours, when/how hours were allocated, predictability of hours), job content (enjoyment of work, overlap with study), work demands (psychological and physical strain from work), work resources (benefits from work such as supervisor/peer support, salary), university demands (ability to meet study responsibilities), supervisors/work colleagues (getting on with supervisors/colleagues), family (family approval, family support), leisure (time for activities other than work and study), and romantic/social peer relationships (time for relationships).

Second, we recruited 35 university students (approx. equal gender distribution, age range 18-25 years), who were working and studying, to discuss their perceptions of the identified domains in several focus groups. These groups indicated that some of the dimensions were overlapping, so we condensed our original nine dimensions to five: work demands/resources (number hours worked, enjoyment of work, opportunity to learn), university demands/resources (number of hours of study, liking for course), occupation (job content, colleagues, supervisors, job goals), family (family, peers, romantic contacts), and leisure (personal time, sport, social media).

Third, based on the literature review and discussion with students, we generated an initial set of 50 items (approx. 10 per dimension), which we then gave to a panel of six experts with knowledge of role conflict and scale
development (4 PhD-level psychology academics and 2 PhD candidates). The experts were asked to rate how well each item tapped its dimension (6-point Likert-like response; 1 = very poor and 6 = very well), and comment on item readability. Twenty items were discarded based on the expert ratings (when the mean was < 4.5), leaving a total of 30 items (items available on request from the corresponding author). These 30 items were piloted with 24 university students (mixed gender, age range 19-25 years) who were asked to comment on language level and readability, and then compiled into a questionnaire, along with demographic questions and scales to assess construct validity. The questionnaire was then administered to a large sample of university students who were working while studying.

Participants

A total of 695 students responded to the questionnaire. However, we discarded 184 as they did not complete the questionnaire, failed attention check questions, or used patterned responses (e.g., all responses were “1”). This left 511, made up of 356 women (70%) and 155 men (30%; mean age 24.02 years; SD 9.27). Of these, 18% were studying part-time, and 82% studying full-time. Students were recruited from various degree programmes, including exercise science, biomedical science, pharmacy, communication, medicine, public health, psychology, business, nursing, engineering, law, education, music, history, and accounting, with 51% being 1st-year, 28% 2nd-year, 5% 3rd-year, 4% 4th-year, and 12% 5th-year.

There were 7% international students and 93% domestic students, who were largely Caucasian and spoke English as their first language, which is typical for Australia. The average academic achievement level in Year 12
was 2.05 (5-point scale: 1 = very high achievement to 5 = very limited achievement). Their mean self-reported SES level was 2.73 (“When you compare yourself to others at university, how would you describe your current financial position?” 1 = much better off than others to 5 = much worse off than others). Working hours ranged from 3 to 60 per week in various occupations (e.g., sales, waitering, manufacturing, cleaning, childcare, tutoring, disability support, and hospitality).

The sample was split randomly into two halves using the SPSS “Select cases/50% Random Sample of Cases” function. We then compared the two samples and found no differences on the major demographic variables of age ($t = 1.33, p = .18$), gender ($X^2 = .02, p = .88$), grade ($X^2 = 4.31, p = .37$), and SES ($X^2 = .57, p = .97$), suggesting that there was no sample bias resulting from the split. Sample A (251 students; 70% female; mean age 24.68 years, $SD = 9.69$) was then used for the item analysis and EFA. Sample B (260 students; 70% female; mean age 23.39 years, $SD = 8.81$) was used for the CFA and validity testing. See Table 1 for summary data and bivariate associations.

Materials

Work-study congruence. These were the 30 items generated in the first phase of the study. Participants responded using a 6-point Likert-like response format (1 = strongly disagree to 6 = strongly agree). The score for the items on the Flesch-Kincaid Grade Level test (Flesch, 1948), which assesses how easy it is to read words and passage in English (i.e., it is a “readability” measure), was no more than Grade 12, indicating that university students should have no difficulty reading the items (Jisc TechDis, n.d.).
Table 1

Summary Data and Bivariate Correlations: Sample A (n = 251) below the Diagonal; Sample B (n = 260) above the Diagonal

<table>
<thead>
<tr>
<th>Variables</th>
<th>Sample A</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>1. WSCS - Full scale</td>
<td>67.25</td>
<td>12.21</td>
<td>.65***</td>
<td>.71***</td>
<td>.73***</td>
<td>-.32***</td>
<td>-.11</td>
<td>.08</td>
<td>-.10</td>
<td>.10</td>
</tr>
<tr>
<td>2. WSCS subscale - University</td>
<td>18.29</td>
<td>3.64</td>
<td>.21**</td>
<td>.38***</td>
<td>.36***</td>
<td>-.11</td>
<td>.13*</td>
<td>.13*</td>
<td>-.07</td>
<td>-.06</td>
</tr>
<tr>
<td>3. WSCS subscale - Occupation</td>
<td>16.58</td>
<td>4.69</td>
<td>.40***</td>
<td>.33***</td>
<td>-.33***</td>
<td>-.27***</td>
<td>-.04</td>
<td>.10</td>
<td>.08</td>
<td></td>
</tr>
<tr>
<td>4. WSCS subscale – Family</td>
<td>18.26</td>
<td>4.03</td>
<td>.60</td>
<td>.30***</td>
<td>-.16*</td>
<td>.03</td>
<td>.04</td>
<td>-.18**</td>
<td>.06</td>
<td></td>
</tr>
<tr>
<td>5. WSCS subscale – Leisure</td>
<td>14.12</td>
<td>4.91</td>
<td>.26**</td>
<td>-.26*</td>
<td>-.13*</td>
<td>.10</td>
<td>-.14*</td>
<td>.16**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Incongruence scale</td>
<td>-.26</td>
<td>5.07</td>
<td>.13*</td>
<td>.00</td>
<td>-.07</td>
<td>-.10</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Age</td>
<td>24.68</td>
<td>9.69</td>
<td>23.39</td>
<td>8.81</td>
<td>.40***</td>
<td>-.10</td>
<td>-.07</td>
<td></td>
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<tr>
<td>8. Grade (1 = high, 5 = low)</td>
<td>2.08</td>
<td>.79</td>
<td>2.02</td>
<td>.82</td>
<td>.29***</td>
<td>.01</td>
<td>.09</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. SES (1 = high, 5 = low)</td>
<td>2.72</td>
<td>1.00</td>
<td>2.73</td>
<td>.96</td>
<td>-.22***</td>
<td>.03</td>
<td>.04</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Sex (1= female, 2 = male)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-.04</td>
<td>.46</td>
<td>.51</td>
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</tr>
</tbody>
</table>

Note. WSCS = Work-Study Congruence Scale; *p < .05, ** p < .01, *** p < .001.
**Segmentation preference and segmentation supplies.** Students’ preference for work-study segmentation was assessed with the 4-item Segmentation Preferences Scale, and work-study environmental supplies was assessed with the 4-item Segmentation Supplies Scale (Kreiner, 2006). A measure of work-study incongruence (the difference between scale scores) can be generated from these two scales (i.e., subtracting the measure for supplies from the measure for preference; see Gollwitzer, Christ, & Lemmer, 2014, and Trafimow, 2015, regarding application of difference scores). This scale was used to assess initial construct validity of the new work-study congruence scale.

Internal reliability coefficients have been reported for the two scales to be high (i.e., .91 and .94, respectively), and validity has been supported by finding expected correlations with other role conflict constructs (Kreiner, 2006; Netemeyer, Boles, & McMurian, 1996). We adjusted some items to reflect work-study segmentation preference and supplies (e.g., “I don’t like to have to think about work while I’m at home” was changed to “I don't like to have to think about work while I’m studying”; responses from 1 = strongly disagree to 7 = strongly agree). Higher scores indicate greater preference for segmentation and greater segmentation supplies, and following the calculation of the incongruence score, higher scores indicate greater work-study incongruence.

**Procedure**

Ethical approval was granted by the university ethics committee. Participants were recruited via the students’ course website and by a university-wide email, with respondents being directed to a web-based
questionnaire. Students who responded were eligible to enter a draw to win one of four $50 shopping vouchers.

Results

Item Reduction

All items were assessed for excessive skewness and kurtosis, and high inter-item \( r \geq .80 \) and item-total correlations \( r \leq .30 \); Klein, 2000). None was deleted at this stage. As all expected factors (i.e., work demands/resources, university demands/resources, occupation, family, and leisure) should be correlated with one another, a principal-axis EFA with direct oblimin rotation was conducted to determine the factor structure and identify items that should be eliminated (Hair, Black, Babin, & Anderson, 2010). The Kaiser-Meyer-Olkin measure of sampling adequacy (.84) and Bartlett’s test of sphericity \( p < .001 \) indicated that the items were suitable for EFA. Various criteria were used to make decisions on the number of factors to be retained, including the scree plot (Hinkin, 1998), parallel analysis (O’Connor, 2000), not less than three items per factor (Costello & Osborne, 2005), a minimum factor coefficient of .40 for each item, and factorial meaningfulness (Hinkin, 1998).

There were six factors with eigenvalues > 1 identified in the first EFA. However, the scree plot and the parallel analysis suggested there should be four factors. After weak \( < .40 \) and cross-loading items were removed, four factors remained with eigenvalues > 1. After considering the spread of the construct and ensuring the most conceptually meaningful items were retained, we then removed an additional five items to give each subscale 4 items. The final 4-factor, 16-item scale accounted for 74.8% of variance (factor loadings
ranged from .58 to .90; item-total correlations ranged from .37 to .62; inter-factor correlations ranged from .20 to .34), which exceeds the recommended minimum target of 60% (Hinkin, 1998). See Table 2 for final items and factor loadings.

**Factor Structure**

AMOS (V24) was used to conduct the CFA analyses with Sample B. Four models were tested: (a) a 4-factor model (i.e., the 4 factors identified using the EFA to test if this structure can be supported), (b) a 1-factor model (i.e., with all items loading onto a single latent factor to test if a unidimensional model is a better fit for the items), (c) a 2nd-order model (i.e., with a general factor representing the 4 factors identified in the EFA to determine if a hierarchical structure can be supported), and (d) a bifactor model (i.e., with a general factor plus the uncorrelated four factors identified in the EFA, which assumes that each item is an indicator of both a global dimension and a subscale dimension, and that the subscales reflect common sources of variance after the variance of the global dimension has been controlled; Rodriguez, Reise, & Haviland, 2016).

According to Hair et al. (2010), a good model fit for a sample $\geq 250$ and $> 12$ observed variables, is indicated by $\chi^2$ (significant $p$ value expected), the $\chi^2/df$ ratio ($< 3:1$ desired), the Goodness of Fit Index (GFI $> .90$), the Comparative Fit Index (CFI $> .92$ expected), the Tucker-Lewis Index (TLI $> .92$), and the Root Mean-Square Error of Approximation (RMSEA $< .07$). Differences between models were assessed using the Akaike Information Criterion (AIC), where the lower value indicates the best fit to the data, and the $\chi^2$ difference test.
Table 2  
*Factor Loadings for EFA from Pattern Matrix: Sample A (n = 251)*

<table>
<thead>
<tr>
<th>Item</th>
<th>F1</th>
<th>F2</th>
<th>F3</th>
<th>F4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Family</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>My family understands that I need time to study and work.</td>
<td>.90</td>
<td>-.04</td>
<td>-.02</td>
<td>.04</td>
</tr>
<tr>
<td>My family’s encouragement makes it easier to work and study.</td>
<td>.83</td>
<td>.03</td>
<td>-.01</td>
<td>-.04</td>
</tr>
<tr>
<td>My family understands the pressures I am under from having to work while I study.</td>
<td>.79</td>
<td>-.01</td>
<td>-.02</td>
<td>.02</td>
</tr>
<tr>
<td>I get good support from the people around me who understand the demands of working while studying.</td>
<td>.77</td>
<td>.12</td>
<td>.05</td>
<td>.01</td>
</tr>
<tr>
<td><strong>Leisure</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Despite having to work while I study, I still have enough time for leisure.</td>
<td>.11</td>
<td>.90</td>
<td>-.02</td>
<td>.03</td>
</tr>
<tr>
<td>Even though I work and study, I have plenty of social time.</td>
<td>-.03</td>
<td>.87</td>
<td>-.05</td>
<td>-.04</td>
</tr>
<tr>
<td>I have enough time for a social life even though I work and study.</td>
<td>.01</td>
<td>.81</td>
<td>.05</td>
<td>.01</td>
</tr>
<tr>
<td>Even though I work and study, I still get enough time for myself.</td>
<td>.05</td>
<td>.78</td>
<td>.14</td>
<td>.04</td>
</tr>
<tr>
<td><strong>Occupation</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>My work supervisor allows me a lot of flexibility because I am working and studying.</td>
<td>-.00</td>
<td>.06</td>
<td>.89</td>
<td>-.12</td>
</tr>
<tr>
<td>My work supervisor will consider my study commitments when setting work rosters.</td>
<td>-.06</td>
<td>-.02</td>
<td>.84</td>
<td>.06</td>
</tr>
<tr>
<td>My work colleagues understand I need some flexibility to meet my study commitments.</td>
<td>.06</td>
<td>-.02</td>
<td>.73</td>
<td>.10</td>
</tr>
<tr>
<td>My work colleagues are flexible enough to swap work shifts with me when I need time off to study.</td>
<td>.02</td>
<td>.03</td>
<td>.61</td>
<td>.00</td>
</tr>
<tr>
<td><strong>University demands and resources</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The availability of study or lecture material online makes it easier for me to work and study.</td>
<td>.06</td>
<td>-.09</td>
<td>.05</td>
<td>.86</td>
</tr>
<tr>
<td>Having online access to library resources allows me to manage work and study.</td>
<td>.12</td>
<td>-.10</td>
<td>-.04</td>
<td>.82</td>
</tr>
<tr>
<td>Being able to pick my class times allows me to organise my work and study times really well.</td>
<td>.02</td>
<td>.00</td>
<td>.19</td>
<td>.69</td>
</tr>
<tr>
<td>The course I am enrolled in allows me the flexibility to meet the demands from my workplace.</td>
<td>-.07</td>
<td>.22</td>
<td>-.09</td>
<td>.58</td>
</tr>
</tbody>
</table>

*Note.* Main loadings are highlighted in bold.
All models produced a satisfactory fit, except for the 1-factor model (see Table 3). Of the satisfactory fitting models (4-factor, 2nd-order, and bifactor), the bifactor had the best fit statistics, the lowest AIC, and was statistically different from the 4-factor model. Thus, we accepted that as the best representation of the data. The bifactor model specified one general factor (i.e., reflecting what is measured in common by the 16 items) and four group factors (i.e., congruence related to university demands/resources, occupation, family, and leisure; reflecting variance not accounted for by the general factor). While the bifactor model (and the 4-factor and 2nd-order factor) indicated that the Work-Study Congruence Scale was multi-dimensional, it remained to be determined whether it is more reliably interpreted at the general (i.e., total score) or specific factor level (i.e., subscale level).

To guide this decision, we followed recommendations by Rodriguez et al. (2016a; also see Rodriguez, Reise, & Haviland, 2016b), and used the Bifactor Indices Calculator (Dueber, 2017), to calculate Omega, OmegaH, Relative Omega, and the explained common variance (ECV). Omega, the model-based reliability coefficient, which is an estimate of the proportion of variance accounted for when considering all items in a factor, was .95 for the general factor, and .95 (university demands/resources), .83 (occupation), .91 (family), and .93 (leisure) for the specific factors, respectively, indicating high reliability for the general factor, and sound to high reliability for the specific factors, and suggesting all factors have satisfactory reliability. OmegaH, the proportion of unique variance explained by a factor, was .68 for the general factor, and for the specific factors, after controlling for the general factor, was .60, .54, .57, and .51, respectively. Relative Omega, or the proportion of
### Table 3

*Fit Statistics for Models Tested using CFA: Sample B (n = 260)*

<table>
<thead>
<tr>
<th>Model</th>
<th>$\chi^2$</th>
<th>df</th>
<th>$p$</th>
<th>$\chi^2/df$</th>
<th>GFI</th>
<th>CFI</th>
<th>TLI</th>
<th>RMSEA</th>
<th>$\chi^2_{Diff}$</th>
<th>AIC</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) 4-factor</td>
<td>194.26</td>
<td>98</td>
<td>&lt; .001</td>
<td>1.98</td>
<td>.92</td>
<td>.97</td>
<td>.96</td>
<td>.06</td>
<td>-</td>
<td>270.26</td>
</tr>
<tr>
<td>(b) 1-factor</td>
<td>1838.03</td>
<td>104</td>
<td>&lt; .001</td>
<td>17.67</td>
<td>.46</td>
<td>.41</td>
<td>.32</td>
<td>.25</td>
<td>$p &lt; .001$</td>
<td>1902.03</td>
</tr>
<tr>
<td>(c) 2nd-order</td>
<td>204.56</td>
<td>100</td>
<td>&lt; .001</td>
<td>2.05</td>
<td>.92</td>
<td>.96</td>
<td>.96</td>
<td>.06</td>
<td>$p = .006$</td>
<td>276.56</td>
</tr>
<tr>
<td>(d) Bifactor</td>
<td>160.41</td>
<td>88</td>
<td>&lt; .001</td>
<td>1.82</td>
<td>.93</td>
<td>.98</td>
<td>.97</td>
<td>.06</td>
<td>$p &lt; .001$</td>
<td>256.41</td>
</tr>
</tbody>
</table>

*Note.* $\chi^2_{Diff}$ refers to difference with Model 4.
reliable variance in the multidimensional composite due to a factor, was .71 for the general factor, and for the specific factors was .64, .66, .63, and .55, respectively, indicating that the majority of reliable variance in the total scores resides within the general factor. Finally, the ECV explained by a factor, was .38 for the general factor, and .19, .12, .16, and .15, respectively, for the specific factors, indicating a moderately strong global factor, with much less variance explained by the specific factors. While the general and all the specific factors had acceptable reliability, the other results suggest that using the general factor (i.e., the total score) for interpretation will produce the most reliable and meaningful measure of work-study congruence, and that the Work-Study Congruence Scale is best interpreted at the total score level.

External Convergent Validity

To support construct validity, we assessed the correlations between the Work-Study Congruence Scale and Kreiner’s (2006) work-study incongruence scale (segmentation preferences minus segmentation supplies, which reflects work-study incongruence), expecting a negative relationship. Results (see Table 1) indicated a significant negative relationship ($r = -.32$) between the two scales. Correlations between the Work-Study Congruence Scale and age, gender, Year-12 grade, and SES were negligible ($r$ range = $.01$ to $.16$; see Table 1), indicating that participants in this study did not respond differently across these different groupings.

Discussion

Boundary congruence between work and study roles reflects the outcome of a boundary management process (Kreiner et al., 2009) that students employ to manage these dual role responsibilities. It is especially
important for university students (Butler, 2007; Lingard, 2012), who have to balance study activities and their need to work, as is increasingly the case in many countries (Coates, 2015). Therefore, to promote a better understanding of the effects of balance on university-level students, it is essential to have a sound measure of congruence that is suitable for this population, and which can facilitate and promote research in the area.

This study advances the theoretical understanding of how boundary congruence is manifested in university students who work while studying. It also contributes to the existing, but limited, congruence literature, which has focused primarily on working adults and how they balance work and family responsibilities. Based on the boundary congruence literature (e.g., Kreiner et al., 2009), we operationalised work-study boundary congruence as a multidimensional construct regarding congruence with university demands/resources, occupation, family, and leisure, and devised a psychometrically sound, 16-item measure to assess it. Initial evidence for validity of the measure was also obtained. The four dimensions, as demonstrated by the bifactor model, can be used most profitably to generate global-level scores of work-study congruence. Furthermore, the global measure is internally reliable, and was unrelated in our sample to the main demographic variables of age, gender, grade, and SES.

The scale can be used by researchers to examine work-study boundary congruence in university students, to test the correlates of congruence, to test how congruence changes over time, and how these changes affect other variables over time. Swanson et al. (2006) found that better academic work-study congruence was related to increased student adaptation and satisfaction,
and that more self/social congruence was associated with increased satisfaction. However, it is not known how work-study congruence relates to other important variables, such as academic engagement, academic performance, and mental health. Academic engagement is considered one of the best proxies for student learning (Krause, 2005); academic performance is critical for the student as it determines whether and when the course of study will be completed; and both poor academic performance and low engagement are related to poor mental health in students (Byrd & McKinney, 2012).

Finally, little is known about whether processes related to work-study boundary congruence are specific to these domains, transfer to other domains in the student’s life, or transfer to other domains when students finish their education and join the workforce (e.g., work-family domains).

The new scale is also likely to be useful as a screening device for academic advisors, counsellors, and student services’ personnel who work with students when they struggle with managing their dual roles. Practitioners can help students identify which aspects of work-study boundary congruence are most problematic, and help them to improve their boundary management by providing strategies that can reduce the poor fit between their work and study lives. For example, students who score low on work-study boundary congruence might benefit from time management strategies to help them manage this aspect of their life.

Limitations

Our study was conducted at one university in one country and the applicability of the scale needs to be tested in other populations. Our sample also contained disproportionately more female than male students and the
majority of participants were enrolled in social science and health courses. We found no association between work-study congruence and age, gender, grade, or SES. However, different groupings of university students are likely to have different role demands and resources (e.g., related to partners, children, employment status, and disability), and might be expected to have different capabilities to manage competing roles and thus report work-study boundary congruence differently. Further validation of the scale in more diverse samples, and where there is a more equal gender balance, is required. This should include testing other relationships within and outside of the nomological net, and testing for gender (and other) scale invariance. Also, we were unable to test predictive validity of the new measure, where, for example, higher scores on the scale at one point in time is associated with stronger academic engagement and better well-being at a later time. Longitudinal studies will be required for this, and to test the consistency of the new scale over time, for example, by assessing test-retest reliability.

**Conclusion**

The results suggest that the new measure is a reliable and valid measure of work-study boundary congruence, suitable for assessing this construct in tertiary students. The scale assesses work-study boundary congruence dimensions with other life demands (e.g., congruence with family and leisure activities), which extends previous research. The scale will assist researchers who seek to study how students manage their multiple demands, and be a useful screening device for counsellors and others who assist students to manage their lives.
CHAPTER FOUR

STUDY 2: WORK-STUDY BOUNDARY CONGRUENCE: ITS RELATIONSHIP WITH STUDENT WELL-BEING AND ENGAGEMENT

This chapter presents Study 2 in its submitted form, although the reference list has been removed from the paper and integrated in the Reference Section at the end of this thesis, for clarity.

This article has been submitted for publication in the International Journal for Educational and Vocational Guidance (submission date – 9th of October 2018). This journal is an international multi-disciplinary, peer-reviewed, and refereed research journal.

The aim of Study 2 was to test the mediated effects of a model that proposed that work-study boundary congruence (measured using the newly developed scale) was related to students’ well-being and university engagement, and that these associations were mediated by work-study facilitation and work-study conflict. Little research had investigated the association between boundary congruence (i.e., environmentally matched integration and segmentation preferences) and this was mainly in the work-family domains (e.g., Chen et al., 2009; Kreiner et al., 2009). Thus, Study 2 contributes to the work-study and boundary management literature by assessing the cross-sectional associations between work-study boundary congruence and well-being and university engagement, and testing the mediating roles of work-study facilitation and work-study conflict.
Statement from Authors Confirming the Authorship Contribution of the PhD Candidate to the Journal Article 2

As co-authors of the submitted paper titled “Work-Study Boundary Congruence: Its Relationship with Student Well-Being and Engagement”, we confirm that Moong Li Chu has made the following contributions:

a. Conceptually devised the study under the supervision of the co-authors;

b. Collected and entered the data into SPSS;

c. Analysed and interpreted the data under the supervision of co-authors;

d. Structured and wrote the paper with supervision and feedback from co-authors.

Furthermore, we agree to the inclusion of the submitted paper in this doctoral research program submitted for examination.

_________________ (Moong Li Chu) 11/2018

_________________ (Elizabeth G. Conlon) 11/2018

_________________ (Peter A. Creed) 11/2018
Work-Study Boundary Congruence: Its Relationship with Student Well-Being and Engagement

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School of Applied Psychology and Menzies Health Institute Queensland, Griffith University, Australia

Abstract

Informed by boundary congruence theory, this study tested a work-study boundary congruence model, in which student boundary congruence (i.e., congruence between boundary preferences and boundary constraints) was related to student engagement and well-being, and these associations were mediated by work-study conflict and work-study facilitation. Hypotheses were tested using responses from 251 tertiary students who were working while studying (70% female; mean age 24.68 years). This study found higher levels of boundary congruence to be associated with more engagement and better well-being, and found partial support for work-study facilitation and work-study conflict as mediators, with conflict and facilitation partially mediating between congruence and well-being. The full model accounted for meaningful variance in both engagement (37.5%) and well-being (41.1%). The study demonstrated that boundary congruence theory can be applied usefully to understand the experiences of working students, and it provides pointers as to how students who are struggling to manage their multiple competing roles might be assisted.

Keywords: Work-study congruence, boundary congruence, work-study conflict, work-study facilitation, well-being, university engagement
Work-Study Boundary Congruence: Its Relationship with Student Well-Being and Engagement

The number of students working while studying is increasing worldwide (Ryan, Barns, & McAuliffe, 2011). In Australia, 65% of first-year university students and 71% of later year students worked while studying in 2007. By 2012, these percentages increased to 69% and 76%, respectively (Coates, 2015; OECD, 2012). These figures are similar to those reported in other countries, such as the USA (from 72% to 80%; Davis, 2012; Park & Sprung, 2013) and the UK (from 70% to 77%; Endsleigh, 2015). Students work while they study for multiple reasons, including to support their study, generate discretionary spending money (Devlin, James, & Grigg, 2008; Richardson, Evans, & Gbadamosi, 2014), and to gain experience and generic labour market skills (Broadbridge & Swanson, 2006; Curtis & Shani, 2002). However, engaging in these two competing roles also can affect students’ involvement in study-related activities, including academic performance and university engagement, and can reduce student well-being (ACER, 2011; Butler, 2007; Cinamon, 2016; Creed, French, & Hood, 2015). Additionally, it can have detrimental effects on their later achievement and success in the work-force (Schneider & Yin, 2011). When students under-perform, fail, or drop-out of their study, it affects them, their families, and the community, and is costly for teaching institutions (e.g., student drop-out costs Australian universities approx. $1.4 billion per year in lost income; Hare, 2010). Thus, how students effectively manage their work and study is an important area of research. However, few studies have investigated the underlying processes students use to manage these multiple roles. The current study contributes to
this literature by testing a process model based on boundary congruence theory (Kreiner, Hollensbe, & Sheep, 2009), where boundary congruence (i.e., congruence with university, work, family, and leisure responsibilities) is related to student well-being and university engagement, and these relationships are mediated by work-study conflict (i.e., the degree to which work interferes with managing study responsibilities; Markel & Frone, 1998) and work-study facilitation (i.e., the extent to which experiences in one role assists functioning in another; Greenhaus & Powell, 2006). See Figure 1.

Figure 1. Work-study boundary congruence is associated with work-study facilitation and work-study conflict, which, in turn, are associated with student well-being and engagement.

Boundary Congruence

Boundary congruence, which is a construct derived from boundary management theory (Kreiner et al., 2009), has been used to understand and explain the congruence or fit that people experience between competing roles (e.g., work and family roles, work and leisure roles). Boundary congruence occurs when individuals are able to structure their role boundaries to meet their preferences, and meet the preferences of those around them. In the work-study domain, congruence might reflect having one’s own preferences aligned with the employer’s expectations and study colleagues’ needs (Kreiner et al.,
For example, students who would like to engage in study activities (e.g., discuss assignments, read when work is slow, use the internet in downtimes) while on their paid job, and are allowed to do so by the employer, experience alignment between their own preferences and the situational constraints; that is, they experience boundary congruence (Kreiner et al., 2009).

According to Authors (2018), there are four aspects to work-study boundary congruence. These are the students’ congruence between work boundaries and university demands and resources (e.g., are the number of work hours manageable given study requirements?), occupational/work preferences (e.g., are job content and work goals consistent with the student’s values?), family preferences (e.g., can the student meet family/partner/peer responsibilities as well as work while studying?), and leisure preferences (e.g., can the student meet social commitments given other demands?). Thus, when considering and/or structuring their work role, students will seek to align their preferences with study requirements, the work environment, their family responsibilities, and their own leisure preferences. When preferences are aligned with environmental constraints (e.g., employee requirements) there is congruence among the boundaries.

Boundary congruence typically results in positive outcomes, such as increased satisfaction and improved performance, while boundary incongruence generates undesirable results, such as strain and conflict (Ford & Jin, 2015; Lin, Yu, & Yi, 2014; Rhodes, 2016). For example, individuals with a strong leaning towards segmentation (i.e., a preference for keeping roles separate; Kreiner, 2006) will feel better and perform at a higher level
when they can arrange their work and study roles to be kept distinct, with one not encroaching on the other. On the other hand, integrators (i.e., those who prefer a blending or merging of roles; Kreiner, 2006) will be more satisfied and effective if their work and study roles can overlap. If segmentors or integrators do not find boundary congruence between their work and study roles, their outcomes will be less desirable (Kreiner et al., 2009).

The evidence from the work-family area is that boundary congruence is associated with better general well-being and higher work engagement (Kreiner, 2006; Warr & Inceoglu, 2012). However, underlying mechanisms for these relationships need to be demonstrated. An important consideration is whether work-family conflict and facilitation operate as mediators, as they have been shown to be important mediators between workplace demands/resources and well-being and congruence (Allen, Johnson, Saboe, Cho, Dumani, & Evans, 2012; Boyar & Mosley, 2007; Brunel & Grima, 2010), and one study has shown that role congruence is related to more facilitation and less conflict (Chen, Powell, & Greenhaus, 2009). In the work-study domain less conflict is associated with better well-being, and greater facilitation is associated with better well-being and university engagement (Creed et al., 2015).

No research has examined the associations between boundary congruence (i.e., reflecting met integration or segmentation preferences) and the well-being and university engagement outcomes for university students who work and study. Given the importance of working while studying, and the lack of research examining it, this study applied a theoretical perspective to assess the direct and mediated effects of a model that proposes that work-
study boundary congruence is related to students’ well-being and university engagement, and these associations are mediated by work-study conflict and work-study facilitation. Testing such a model is important, as it will provide an insight into how students manage their important dual competing roles of work and study, which will contribute to theory development and improve interventions targeted at students.

Role Conflict and Facilitation

Role conflict exists when engaging in one role (e.g., work role) negatively affects participation in another role (e.g., student role; Greenhaus & Beutell, 1985; Zedeck & Mosier, 1990). For example, students who work in part-time jobs expend energy and resources in those roles, which means that these resources and energy are not available for their study role. Role facilitation refers to the proposition that participating in one role will enrich participation in a second role (Zimmerman & Hammer, 2010). This might occur, for example, when a student acquires skills and knowledge from their work role that can be applied in their study role. Conflict between roles (i.e., role conflict) is typically associated with negative outcomes (e.g., poor well-being and performance); whereas, role facilitation is associated with positive outcomes (Wayne, Grywacz, Carlson, & Kacmar, 2007).

Conflict theory states that when conflicting roles (e.g., work-study, work-family) have distinct and competing norms and necessities, both vie for the limited resources available to the individual. This is referred to as the “scarcity hypothesis” (Greenhaus & Powell, 2006), and inevitably results in role conflict to the detriment of the individual. While most research into role conflict has examined work-family conflict, individuals experience conflict
across other life domains, such as work and study (work-study conflict is defined as the degree to which work interferes with a young person’s capacity to manage the demands and responsibilities associated with study; Markel & Frone, 1998). Consistent with this, Park and Sprung (2013) showed that work-study conflict was the main stressor for poor psychological health in college students, and Brunel and Grima (2010) found that greater work-study conflict was associated with higher stress levels and greater turnover intentions from both university and work.

When benefits accrue from the workplace, there can also be positive consequences for the individual (Creed et al., 2015). This is reflected in the enrichment theory, which states that enrichment experienced in one role can facilitate positive experiences in another role and lead to a reduction in conflict between roles (Carlson, Kacmar, Wayne, & Grzywacz, 2006; Greenhaus & Powell, 2006). Enrichment theory, which both challenges and complements conflict theory, is based on the idea that enabling resources (e.g., skills, attitudes) obtained in one role can be used to enhance performance or mood in another (Carlson et al., 2006). An enabling resource is an “asset that may be drawn on when needed to solve a problem or cope with a challenging situation” (Greenhaus & Powell, 2006, p. 80). For example, communication skills learned at work can be used in the study role, resulting in less conflict, thereby improving the quality of study. Researchers have shown that the development of inter-role facilitation at work enhances involvement in the study role (e.g., Creed et al., 2015; Friedman & Greenhaus, 2000; Greenhaus & Powell, 2006).
The evidence here (direct, and from the work-family conflict area) suggests that work-study conflict functions as a stressor in working students, and this can be harmful to their psychological health, educational performance, and retention; whereas, work-study facilitation functions to improve outcomes. Work-study conflict and work-study facilitation can be influenced by how well young people manage the boundaries between their work and study roles. However, no research has examined work-study conflict from the perspective of boundary congruence, which is the focus of this research.

**University Engagement and Student Well-being**

University engagement and student well-being are important outcome variables as individuals manage their role boundaries to maintain and/or improve performance and healthy functioning (Krause, 2005; Steele & Fullagar, 2009). Work environments often cannot facilitate these outcomes (e.g., due to workplace policies and practices that are set by employers; Rothbard, Phillips, & Dumas, 2005), and the result is role conflict, which potentially leads to unfavourable outcomes for the individual. Where students are concerned, these unfavourable outcomes are threats to their well-being and engagement in their studies.

University engagement is “the time, energy and resources students devote to activities designed to enhance learning at university” (Krause, 2005, p. 1). Engagement is an important construct as it delivers opportunities for students to learn and develop (e.g., developing self-challenge, applying effort, having contact with lecturers, participating in academic and other activities provided by the university, and developing a sense of belonging and self-
worth; Devlin et al., 2008). Higher student engagement is associated with greater persistence (Bridges, Cambridge, Kuh, & Leegwater, 2005), better performance (Pike, 2000), and higher satisfaction (Kuh, Kinzie, Schuh, & Whitt, 2005; see Trowler, 2010, for a review of engagement and outcomes).

Positive well-being enhances personal functioning, therefore, it is essential to students (Steele & Fullagar, 2009). Research has shown that general well-being is positively related to feelings of autonomy and competence, being goal-oriented, and focussed on self-growth (Ryff, 1989). Well-being is related to students’ study persistence (Perrine, 1999) and university success (Pritchard & Wilson, 2003), and student role conflict and facilitation are associated with well-being in the manner expected (Butler, 2007; Lenaghan & Sengupta, 2007).

**Present Study**

This study assessed the model of work-study boundary congruence proposed in Figure 1. In this model, better or higher boundary congruence between work and study (i.e., congruence with university demands/resources, occupational/work, family, and leisure) is associated with reduced work-study conflict and better facilitation, which, in turn, are associated with higher well-being and university engagement. In addition, work-study conflict and facilitation mediate the associations between boundary congruence and the outcomes (well-being and university engagement). This study used a sample of university students who were working while studying.

**Method**

**Participants**
Participants were 251 tertiary students drawn from one Australia university (70% female; $M_{\text{AGE}} = 24.68$ years, $SD = 9.69$ years). Their mean academic achievement level in Year 12 was $2.08$, $SD = 0.79$ (5-point scale ranging from $1 = \text{very high achievement}$ to $5 = \text{very limited achievement}$); 91.2% were domestic students, who were largely Caucasian and spoke English as their first language, which is typical for Australian universities; and 8.8% were international students studying in Australia. The mean, self-reported SES level (“When you compare yourself to others at university, how would you describe your current financial position?”: $1 = \text{much better off than others}$ to $5 = \text{much worse off than others}$) was $2.72$, $SD = 1.0$. All students reported working: hours worked ranged from 3 to 50 per week ($M = 21.5$, $SD = 11.87$) in various occupations (e.g., retail, waiting, hospitality, kitchen hand, fast food, tutoring, social work, and nursing). Most students, 79.9%, were studying full-time, with 21.1% studying part-time. Students were recruited from various degree programmes, including nursing, exercise science, communication, business, commerce, psychology, criminology, engineering, and design, with 50.2% being 1st year, 27.5% 2nd year, 3.6% 3rd year, 5.2% 4th year, and 13.5% postgraduates.

Measures

**Work-study boundary congruence.** This was measured using the 16-item Work-Study Congruence Scale (Authors, 2018), which taps the four domains of work congruence with leisure, family, occupational/work preferences, and university demands and resources (e.g., “Even though I work and study, I have plenty of social time”, and “My family understands that I need time to study and work”). Participants responded using a 6-point Likert-
like scale, where 1 = *strongly disagree* and 6 = *strongly agree*. Authors (2018) reported sound internal reliability (α = .88) and supported validity by showing that the scale was related to another, brief congruence scale (cf. Kreiner, 2006). Cronbach’s alpha in this study, the sample was .87.

**Work-study conflict.** This was assessed using the 5-item Work-School Conflict Scale (Butler, 2007). A sample item is “Because of my job, I go to university tired” (response format: 1 = *strongly disagree* to 6 = *strongly agree*). Previous reliability was sound (alpha > .80), and validity was supported as the scale related to other measures in the expected direction (e.g., negatively associated with facilitation, effort, and university attendance; Butler, 2007). Cronbach’s alpha in this study was .88.

**Work-study facilitation.** This was measured with the 5-item Work–School Facilitation Scale (Butler, 2007). A sample item is “Having a good day at work makes me a better university student” (response format: 1 = *strongly disagree* to 6 = *strongly agree*). Previously reported coefficient alpha for the scale was .85, and validity was supported by finding expected correlations with other school-based constructs, such as satisfaction (Butler, 2007). Cronbach’s alpha in this study was .83.

**Student well-being.** Student well-being was assessed using a brief affect scale (Warr, 1990). Students were asked to respond to the question, “Thinking of the past few weeks, what has been your attitude towards your university studies?”, using 12 descriptors of relaxed, worried, depressed, calm, contented, gloomy, optimistic, tense, enthusiastic, cheerful, miserable, and uneasy. Students responded on a 6-point scale, 1 = *none of the time* to 6 = *nearly all of the time*. We scored the descriptors so that higher scores
indicated more positive well-being for all items. Previous studies have reported sound reliability (i.e., $\alpha > .80$) and supported validity by demonstrating correlations with other measures of well-being as expected (Sevastos, Smith, & Cordery, 1992). Cronbach alpha for the 12 items in this study was .89.

**University engagement.** Engagement was measured using the 5-item Dedication Subscale from the Utrecht Work Engagement Scale for Students (Schaufeli, Martinez, Pinto, Salanova, & Bakker, 2002). A sample item is “I am proud of my university studies” (6-point scale, 1 = *strongly disagree* to 6 = *strongly agree*). Previous internal reliability has been shown to be sound (alphas > .70 on different cultural samples), and, in support of validity, the scale had positive associations with well-being (Schaufeli et al., 2002). Alpha in this study was .92.

**Procedure**

Ethical approval was granted by the authors’ university ethics’ committee. Participants were recruited via the students’ course website and by a university-wide email, with respondents being directed to a web-based questionnaire. Students who participated in the study were eligible to enter a draw to win one of four $50 shopping vouchers.

**Results**

**Descriptive Statistics**

Means, standard deviations, and bivariate correlations among all variables are reported in Table 1. Boundary congruence was associated positively with work-study facilitation, well-being, and university
### Table 1

**Summary Data, Bivariate Correlations (below Diagonal), and Latent Variable Correlations (above Diagonal); N = 251**

<table>
<thead>
<tr>
<th>Variables</th>
<th>M</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Boundary congruence</td>
<td>66.86</td>
<td>11.05</td>
<td>-</td>
<td>-.42***</td>
<td>.28***</td>
<td>.38***</td>
<td>.42***</td>
</tr>
<tr>
<td>2. Work-study conflict</td>
<td>15.10</td>
<td>4.36</td>
<td>-.41***</td>
<td>-</td>
<td>.07</td>
<td>-.02</td>
<td>-.35***</td>
</tr>
<tr>
<td>3. Work-study facilitation</td>
<td>19.22</td>
<td>4.81</td>
<td>.24***</td>
<td>.05</td>
<td>-</td>
<td>.28***</td>
<td>.23***</td>
</tr>
<tr>
<td>4. University engagement</td>
<td>23.26</td>
<td>4.31</td>
<td>.33***</td>
<td>-.01</td>
<td>.25***</td>
<td>-</td>
<td>.41***</td>
</tr>
<tr>
<td>5. Well-being</td>
<td>44.33</td>
<td>11.14</td>
<td>.39***</td>
<td>-.30***</td>
<td>.21***</td>
<td>.39***</td>
<td>-</td>
</tr>
<tr>
<td>6. Age</td>
<td>24.68</td>
<td>4.31</td>
<td>-.01</td>
<td>.09</td>
<td>.20**</td>
<td>.32***</td>
<td>.25***</td>
</tr>
<tr>
<td>7. Year-12 Grade</td>
<td>2.08</td>
<td>0.79</td>
<td>-.04</td>
<td>.05</td>
<td>-.17**</td>
<td>.08</td>
<td>-.11</td>
</tr>
<tr>
<td>8. Sex (1 = female)</td>
<td>-</td>
<td>-</td>
<td>-.08</td>
<td>-.05</td>
<td>.05</td>
<td>-.04</td>
<td>-.17**</td>
</tr>
<tr>
<td>9. Full/Part-time</td>
<td>-</td>
<td>-</td>
<td>.10</td>
<td>-.14*</td>
<td>-.17**</td>
<td>-.18**</td>
<td>-.14*</td>
</tr>
<tr>
<td>10. Hours worked</td>
<td>21.5</td>
<td>11.87</td>
<td>-.16*</td>
<td>.44**</td>
<td>.30**</td>
<td>.14*</td>
<td>.07</td>
</tr>
</tbody>
</table>

*p < .05, **p < .01; ***p < .001*
engagement, and associated negatively with work-study conflict. Work-study conflict was associated negatively with well-being, but was unrelated to university engagement; work-study facilitation was related positively to both university engagement and well-being. All associations were largely as expected.

**Measurement Model**

AMOS (V24) was used to test the model shown in Figure 1. Parcels were created for all scales to represent the latent variables (cf. Landis, Beal, & Tesluk, 2000). To do this, this study conducted a separate exploratory factor analysis for each scale, rank-ordered the factor loadings, and distributed items across the parcels using an item-to-construct balanced approach (Hau & Marsh, 2004). Each scale was represented by either two or three parcels (Kline, 2016). A measurement model was tested to ensure that all latent variables were independent of one another and could be represented by their respective parcels.

According to Hair, Black, Babin, and Anderson (2010), a good model fit for a sample ≥ 250 and with > 12 observed variables is indicated by chi-square ($\chi^2$, significant $p$ value expected), normed chi-square ($\chi^2/df$ ratio; < 3:1 desired), Goodness of Fit Index (GFI > .90), Comparative Fit Index (CFI > .92), Tucker-Lewis Index (TLI > .92), and Root Mean-Square Error of Approximation (RMSEA < .08). The fit statistics for the measurement model were good, $\chi^2$(67) = 102.94, $p < .005$, $\chi^2/df$ = 1.54, GFI = .95, CFI = .98, TLI = .98, and RMSEA = .05, and standardised loadings on all latent variables were high and significant ($p < .001$; range .76 to .95), supporting
independence of the scales and construct validity. In addition, the correlations among the latent variables mirrored the bivariate correlations (see Table 1).

Testing the Structural Model

First, this study tested the structural associations indicated in Figure 1 to determine if the predictors were associated with the mediators, and the mediators were associated with the outcome variables. As age was associated with both well-being and university engagement, this study controlled for this in all of the analyses. In the structural model, $\chi^2(81) = 171.21, p < .001, \chi^2/df = 2.11, \text{GFI} = .92, \text{CFI} = .96, \text{TLI} = .95, \text{and RMSEA} = .07$, there were significant paths from work-study boundary congruence to conflict ($\beta = -.43, p < .001$) and facilitation ($\beta = .29, p < .001$); from conflict ($\beta = -.39, p < .001$) and facilitation ($\beta = .20, p = .002$) to well-being; and from facilitation to university engagement ($\beta = .23, p < .001$). Age was associated with both well-being ($\beta = .24, p < .001$) and university engagement ($\beta = .29, p < .001$). From this, greater work-study boundary congruence was associated with less work-study conflict and more work-study facilitation; more work-study conflict was related to lower well-being; and higher work-study facilitation was related to better well-being and more university engagement. The model accounted for 18.4% of the variance in conflict, 8.3% in facilitation, 27.4% in well-being, and 15.3% in university engagement. These paths are reported in Figure 2.

Testing Mediation

The structural analysis demonstrated that conflict potentially mediated the association between work-study boundary congruence and well-being, and that facilitation potentially mediated the association between work-study
Figure 2. Final model with non-significant pathways removed for simplicity. Standardised weights are reported. ** $p < .01$, *** $p < .001$

boundary congruence and university engagement and well-being. When this study tested the direct effects (i.e., the associations between the predictor and outcomes only), $\chi^2(83) = 160.62$, $p < .001$, $\chi^2/df = 1.94$, GFI = .92, CFI = .97, TLI = .96, and RMSEA = .06, work-study boundary congruence was associated with well-being ($\beta = .43$, $p < .001$) and university engagement ($\beta = .37$, $p < .001$). These results suggested three potential mediation pathways: conflict mediates between boundary congruence and well-being, facilitation mediates between boundary congruence and university engagement, and facilitation mediates between boundary congruence and well-being.

For mediation, this study used 1,000 bootstrapped samples to obtain the 95$^{th}$ percentile, bias-corrected, confidence intervals; mediation can be said to occur when the CIs do not contain zero. When this study tested the indirect effects, $\chi^2(79) = 137.86$, $p < .001$, $\chi^2/df = 1.75$, GFI = .93, CFI = .97, TLI = .97, and RMSEA = .06, there was support for work-study conflict and work-study facilitation mediating between work-study boundary congruence and well-being (CIs .05 to .24), but not for conflict/facilitation mediating between boundary congruence and university engagement (CIs -.11 to .06). The direct
paths between boundary congruence and well-being ($\beta = .27, p < .001$) and university engagement ($\beta = .39, p < .001$) remained significant in the presence of the indirect paths, indicating that the mediated path from boundary congruence to well-being was partial. We added these direct paths to Figure 2. The standardised total effect of the model on well-being explained 41.1% of the variance, and the total effect on university engagement was 37.5%. The direct effects accounted for 27.2% and 39.1% respectively, and the mediated effects were 13.9% and 1.6%.

**Discussion**

Informed by theories of boundary congruence (Kreiner et al., 2009), this study tested a work-study boundary congruence model, in which student boundary congruence was related to university engagement and well-being, and these associations were mediated by work-study conflict and work-study facilitation. This study found support for the associations between boundary congruence and university engagement and well-being, and found partial support for work-study facilitation and work-study conflict as mediators, with conflict and facilitation partially mediating between boundary congruence and well-being. The full model accounted for significant amounts of variance in both university engagement and well-being.

First, work-study boundary congruence was related to both well-being and university engagement, over and above the effects of the conflict, facilitation, and age (Figure 2). These associations suggest that when young people are able to structure the boundaries between their paid work and study and other role responsibilities (e.g., family, leisure), thereby producing a good fit for themselves, they will have better well-being and be more engaged with
their studies. Higher levels of well-being have immediate and long-term benefits for the individual, generating confidence, resilience, and healthy functioning (Steele & Fullagar, 2009). University engagement has the potential to bring long-term gains in relation to obtaining satisfying and well-paid employment (Trowler, 2010); whereas poor well-being and low university engagement disadvantage the individual.

Boundary congruence refers to the individual structuring their role boundaries to suit their own preferences and the preferences of the important others in their lives (e.g., work supervisors, parents, and friends). Some young people will have preferences for keeping roles largely separate (e.g., favour segmentation), whereas others will be comfortable with more role integration (Kreiner, 2006). Thus, there is no ideal boundary structure, apart from one that optimises the individual’s fit or congruence, although unchecked integration and/or rigid segmentation is likely to reduce performance and generate stress (Kreiner et al., 2009; Perlow, 2012). The skills required to facilitate optimal boundary congruence in adults include the capacity to clarify and negotiate goals, seek assistance from others, set priorities, manage time, take time-out, set expectations, and use social media to meet some of one’s own needs and the demands of others (Kreiner et al., 2009). These skills are not yet fully articulated for adults (Allen, Cho, & Meier, 2014), and we also know little about the skills that young adults require to structure their boundaries when they work and study. Future studies need to identify these so that useful interventions can be devised to assist students who work.

Apart from individual skills, environmental resources and constraints also influence boundary management. These include, for example, how much
control the individual has in structuring boundaries (vis-à-vis the demands from employers and important others), the climate for boundary management, and the support available to make changes that optimise role boundaries (Kossek & Lautsch, 2012). We know little about how these situational pressures affect students’ capacity to manage their role boundaries, and what students do to ameliorate their effects. Situational pressures and individual strengths also interact to facilitate or compromise boundary congruence, and future research needs to tease out which skills and strategies are useful in which particular situation. Some researchers, for example, have proposed that different boundary management styles (e.g., work-centric, study-centric, dual-centric; Kossek & Lautsch, 2008) will affect boundary congruence outcomes and be influenced differentially by role constraints (Kossek & Lautsch, 2012).

Second, this study found that higher boundary congruence was related to less conflict and more facilitation (see Figure 2). This is consistent with the work-family research literature, where, for example, working adults who have better work-family fit, have less conflict and more facilitation (Chen et al., 2009). The variance accounted for in facilitation in this study was modest which indicated that there will be other factors influencing facilitation. Other studies have shown that job demands, control, relevance, and benefits are associated with facilitation (Butler, 2007; Creed et al., 2015). Therefore, future research needs to assess which other factors contribute to explaining facilitation over and above boundary congruence. Future research also needs to examine what factors might influence the association between boundary congruence and facilitation. For example, Kossek, Lautsch, and Eaton (2006) have suggested that those with higher job control (i.e., having control over
when, where, and how one works) are better able to structure their boundaries, suggesting that job control might act as a moderator between congruence and facilitation.

The variance accounted for in conflict was higher, but this also implies that other predictors need to be considered in the context of assessing boundary congruence. Lack of job rewards, more hours worked, job demands, lack of job control, and poor self-efficacy all relate to role conflict (Allen et al., 2012; Boyar & Mosley, 2007; Butler, 2007; Creed et al., 2015). Therefore, future studies need to investigate other possible contributing factors along with boundary congruence to tease out the important correlates. Future research should also assess the possible factors that might moderate the association between boundary congruence and conflict. One possible factor is role centricity, as higher study-centricity is related to a poorer ability to construct boundaries (Kossek & Lautsch, 2012).

Third, higher facilitation was associated with better well-being and more engagement at university and less conflict was associated with better well-being; all after boundary congruence, conflict, and age were accounted for; Figure 2). These associations have been demonstrated in previous studies (Butler, 2007; Creed et al., 2015), and suggest that when experiences at work are positive there are increased facilitative, and reduced conflict flow-on effects that contribute to students feeling better and being more orientated and committed to their university activities. Given the importance of university engagement and well-being to students (Steele & Fullagar, 2009; Trowler, 2010), a better understanding of how to increase facilitative and reduce conflict effects needs to be a high priority for researchers, as this will lead to
improved interventions for working students. Intervening variables have been identified in the associations between facilitation/conflict and work outcomes in the work-family domain (e.g., Witt & Carlson, 2006, identified conscientiousness and work support as moderators), and intervening variables need to be explored with young adults who work to better understand the circumstances where facilitation might be enhanced and conflict reduced.

Finally here, students’ demands fluctuate over the course of the academic year (e.g., related to exams and when assignments are due), and these episodic associations between conflict and facilitation need to be assessed and understood over time (cf. Creed et al., 2015).

In this study, work-study conflict was not associated with university engagement. Other studies also have failed to find an association between conflict and university engagement (e.g., Creed et al., 2015), although an association between conflict and a direct measure of university performance has been demonstrated (Butler, 2007). As engagement is such an important consideration for university students (Devlin et al., 2008), future research needs to clarify how the competing role demands from work affect student engagement in academic activities. In the work-family domain, for example, both personality and situational support variables have been shown to affect the association between conflict and performance (Witt & Carlson, 2006), and intervening variables need to be assessed in relation to conflict and university engagement. Drawing on this research, the association between work-study conflict and university engagement might be stronger when study demands are higher (e.g., at exam times).
Fourth, work-study conflict and facilitation mediated the association between boundary congruence and well-being, but did not mediate the association between boundary congruence and university engagement. The result for well-being suggests that students are better off when they have the skills to manage the boundaries between their work and study roles, and that one of the mechanisms for better well-being is that boundary congruence reduces work-study conflict and increases facilitation. The mediated effect for well-being was modest, and was non-existent for university engagement, suggesting that there should be other mediators influencing the associations between boundary congruence and well-being and university engagement. Increased boundary congruence, for example, might reduce demands, give confidence, or simply generate additional time, all of which are associated with increased satisfaction and better performance (Carlson et al., 2006; Kreiner et al., 2009), and need to be assessed.

Last, while this study did not model any of the demographic variables, this study found that age was related positively to both well-being and university engagement and controlled for this in all analyses. Other studies have also shown that older tertiary students report better well-being (Cvetkovski, Reavley, & Jorm, 2012) and have higher student engagement (Krause, 2005). The explanations for these associations include student attrition of those less satisfied and less engaged, the development of skills and strategies to better manage tertiary study the longer students remain at university, the development of more supportive social networks as students age, and maturation processes that bring more advanced life skills and clearer occupational goals (e.g., Broady, Chan, & Caputi, 2010). Thus, controlling for
age is supported when considering student well-being and university engagement.

There are implications for practice from the current study. For counsellors working with students to help them with their well-being and university engagement, they should consider how well students are managing the multiple roles they have, especially their work role, and how this impinges on their study and other roles. Managing work-study boundaries, as shown in this study, is related to well-being and university engagement, both directly and via work-study conflict and facilitation for university engagement, and via work-study conflict for well-being. Helping students to develop skills and strategies to manage their work boundaries and reduce work-study conflict and increase work-study facilitation should help them function better while at university, and potentially assist them to grow skills that will assist them with boundary management later in life (e.g., work-family boundary congruence). Tertiary institutions can assist by acknowledging that students need to manage multiple roles and provide resources and training on how this might be done. Embedding role management programs in suitable life courses, or offering supplementary instruction, should assist students to cope better and progress their studies more successfully, potentially reducing poor achievement and drop-out and increasing completion rates.

**Limitations and Future Research**

This study was the first to assess the effects of work-study boundary congruence in working students, and demonstrated that boundary congruence is a useful construct to consider when contemplating students’ well-being and university engagement. This study assessed the two important outcome
variables of well-being and university engagement. However, future research examining work-study boundary congruence needs to assess other relevant variables, including more direct measures of academic performance (cf. Butler, 2007), other motivational and engagement variables, such as perceptions of employability and career progress (Rothwell, Herbert, & Rothwell, 2008), and other measures of personal functioning, such as student burnout (Schaufeli et al., 2002) and risky behaviours like alcohol use (Reavley, Jorm, McCann, & Lubman, 2011).

The sample in this study, which was relatively homogenous, was gathered from one university in one country, which restricts the extent to which the results can be generalised. More diverse samples need to be assessed in future studies. The sample in this study also contained disproportionately more female than male students, and while this study found no association between gender and the variables in the study, future studies should aim for a greater balance. While this study assessed a theoretical process model, the data collected was cross-sectional, and causal precedence cannot be established. Future studies need to collect data at multiple time-points to clarify, for example, that work-study boundary congruence results in better well-being and stronger university engagement, and that the associations are not reverse or reciprocal.

Conclusion

In conclusion, this study found that higher work-study boundary congruence was associated with better well-being and more university engagement, and that these associations were partially mediated by work-study conflict (well-being only) and work-study facilitation (well-being and
facilitation). This suggests that, for students who are working while studying, boundary congruence promotes better well-being and university engagement, and does this, in part, by reducing conflict and enhancing facilitative processes. The study demonstrated that boundary congruence theory can be applied usefully to working students, and as the number of students who are working while studying has increased, and continues to increase, having better research tools will allow researchers to discover better ways to assist students deal with their conflicting life roles.
CHAPTER FIVE

STUDY 3: WORK-STUDY BOUNDARY CONGRUENCE, CONTEXTUAL SUPPORTS, AND PROACTIVITY IN UNIVERSITY STUDENTS WHO WORK: A MODERATED-MEDIATION MODEL

This chapter presents study 3 in its submitted form, although the reference list has been removed from the paper and integrated in the Reference Section at the end of this thesis, for clarity.

Study 3 was accepted for publication in the Journal of Career Development (submission date – 20th of January 2019). This journal is an international, peer-reviewed journal in the career domain.

The aim of Study 3 was to explore the contextual and person-based boundary conditions of the associations between work-study boundary congruence and important student outcome variables (i.e., well-being, academic performance at university, and perceived employability). Contextual and person-based boundary conditions have been examined in many studies and were found to be influential for positive outcomes (Bell, Somogyi-Zalud, & Masaki, 2010; Methot & LePine, 2016; Rothbard et al., 2005). However, no studies have investigated potential contextual boundary conditions as antecedents to the link between work-study boundary congruence and the outcomes. Proactivity was included as a person-based boundary condition and potential moderator in the association between contextual supports (i.e., family and work) and outcomes via work-study boundary congruence. Thus, Study 3 contributes to a better understanding of the context and person-based boundary conditions in the work-study boundary congruence/outcomes association.
Statement from Authors Confirming the Authorship Contribution of the PhD Candidate to the Journal Article 3

As co-authors of the submitted paper titled “Work-Study Boundary Congruence, Contextual Supports, and Proactivity in University Students who Work: A Moderated-Mediation Model”, we confirm that Moong Li Chu has made the following contributions:

a. Conceptually devised the study under the supervision of the co-authors;

b. Collected and entered the data into SPSS;

c. Analysed and interpreted the data under the supervision of the co-authors;

d. Structured and wrote the paper with supervision and feedback from the co-authors.

Furthermore, we agree to the inclusion of the paper in this doctoral research program submitted for examination.

___________ (Moong Li Chu) 11/2018

___________ (Peter A. Creed) 11/2018

___________ (Elizabeth G. Conlon) 11/2018
Informed by role boundary congruence, person-environment fit, and conservation of resources theories, this study tested a cross-sectional, moderated-mediation model of work-study boundary congruence in working tertiary students \((N = 401)\). In this model, contextual supports (family and workplace) were associated with well-being, academic performance, and employability, and these relationships were mediated by boundary congruence and were conditional on level of proactivity. The study found that family support was related to better well-being, academic performance, and employability; whereas, workplace support was related to better academic performance. Boundary congruence mediated between family support and the three outcomes, and also mediated between workplace support and academic performance. The mediated relationships were stronger when proactivity was lower. The study demonstrated that work-study boundary congruence is a potential mechanism for explaining the relationships between contextual supports and student outcomes, and showed that these relationships were conditional on the person factor of proactivity.

*Keywords*: work-study boundary congruence, contextual supports, proactive personality, well-being, academic performance, employability
Work-Study Boundary Congruence, Contextual Supports, and Proactivity in University Students who Work: A Moderated-Mediation Model

In Australia, the USA, and UK, the proportion of tertiary students who are working while studying has increased steadily each year from about 70% in 2007 to the high seventies in 2012 (Endsleigh, 2015). Students work while studying for multiple reasons, including to finance their study, generate discretionary spending, and to gain experience and generic labour market skills (Richardson, Evans, & Gbadamosi, 2014). However, engaging in these two competing roles simultaneously is very challenging and can affect students’ academic performance and well-being (Creed, French, & Hood, 2015), and can have detrimental effects on their later achievement and success in the work-force (Schneider & Yin, 2011).

Despite more students working worldwide, little attention has been given to understanding how students manage these multiple roles. We contribute to this literature by, first, examining the relationship between work and family supports and important student outcomes of academic performance, perceived employability, and well-being; second, by investigating the extent to which work-study boundary congruence mediates these relationships; and, third, testing whether these mediated relationships are conditional upon the level of student proactivity. Teasing apart these complex relationships will provide a fuller picture of the influences, processes, and outcomes for those who simultaneously work and study.

Role boundaries

Roles are demarcated by role boundaries. These are the physical, temporal, and cognitive limits that serve to indicate where one role ends and
another begins (Kreiner, Hollensbe, & Sheep, 2006, 2009). Role boundaries can be physical (e.g., a changed location indicating a changed role), temporal (e.g., time of day alerting to different role demands), or cognitive (e.g., a change in focus suggesting a changed role). They are socially constructed, somewhat fluid, and negotiated by the individual in the context of environmental supports and constraints (Kreiner, 2006). Boundaries range from being permeable (i.e., roles are loosely separated) to impermeable (i.e., roles are clearly separated), with individuals implementing behavioural (e.g., prioritising responsibilities), temporal (e.g., blocking out time periods), physical (e.g., allocating role responsibilities to a particular place), and communication tactics (e.g., stating expectations) to manage them (Kreiner et al., 2009).

**Boundary congruence**

When, within the limitations imposed by their environment, individuals are able to negotiate a role boundary that fits or matches their preferences for role segmentation or integration, they experience boundary congruence (Kreiner et al., 2009). For example, this occurs when the desire to not have the work role impinge on the nonwork role (or vice versa) is supported by workplace policies and norms and is agreed to by those in the nonwork domain. This conceptualisation of “congruence” differs from other uses of the term, where congruence might be viewed as the fit between the person’s values and needs and what can be met by an organisation (Chuang, Shen, & Judge, 2016), or the fit between what a student is studying and the job requirements (Butler, 2007).
Despite these distinctions, role boundary congruence is consistent with the person-environment (P-E) fit perspective, which states that individuals seek out and fashion environments that allow them to express behaviours that are consistent with their personal characteristics and meet their needs (cf. Su, Murdoch, & Rounds, 2015). However, as boundary congruence is influenced by contextual supports and barriers, it is not fully under the individual’s control, which means that individuals might have to act contrary to their preferences (e.g., required to think about work after work hours, when their preference is to “switch off”) and continuously strive for a better fit (e.g., adjust their needs or manipulate the environment). In this way, the individual works to modify their environments, and environments influence the person over time (Kreiner et al., 2009; Mellner, 2016).

Research has shown that boundary congruence between work and nonwork domains is related to better well-being (e.g., LeComte-Henley, 2013), less conflict (Chen, Powell, & Greenhaus, 2009), more work commitment (Rothbard, Phillips, & Dumas, 2005), and greater capacity to detach psychologically from work (Mellner, 2016). However, there have been calls for additional research, as most studies on boundary congruence have been conducted with adults in the work-family domain (Padhi & Pattnaik, 2017).

**Contextual supports**

Supports within the environment are likely to facilitate the individual achieving P-E fit or congruence as they function to assist people to achieve their current and future goals, and are invested or reinvested to attain additional resources that can advantage them (Halbesleben, Neveu, Paustian-
Underdahl, & Westman, 2014). This perspective is reflected in the conservation of resources (CoR) theory (Hobfoll, Freedy, Lane, & Geller, 1990), which states that individuals value the resources that are available to them and strive to increase them and guard against losing them. Important valued resources are contextual supports, which lie outside of the individual (e.g., with family, friends, workplace supervisors and colleagues) and directly and indirectly help people when managing their multiple roles and responsibilities (Halbesleben et al., 2014; Hobfoll et al., 1990). We examine two types of contextual supports: family support, which refers to the emotional, informational, and instrumental benefits delivered by family members (Thoits, 2011), and workplace support, which reflects assistance from colleagues, supervisors, and the organisation (Chou & Robert, 2008). Contextual supports have been shown to be associated with more effective management of work and family life (Kossek, Pichler, Bodner, & Hammer, 2011), and higher levels of boundary congruence have been associated with greater contextual support (Methot & LePine, 2016). However, while these supports act as important resources for young people generally (Creed et al., 2015) they have not been tested in the work and study domains.

**Boundary congruence and student outcomes**

When individual preferences are aligned with environmental constraints, there will be greater boundary congruence, and both segmentors and integrators will feel and perform better (Kreiner et al., 2009). Studies have shown that congruence is related to better well-being (Chu, Conlon, & Creed, 2018), academic performance (Butler, 2007), and career success (Ballout, 2007), all important goals for students that we examined in the current study.
Well-being reflects feelings of autonomy and competence, being goal-oriented, and focussed on self-growth (Ryff, 1989). Academic performance can determine a student’s success in gaining knowledge, skills, and abilities, which affects their future satisfaction and achievements (Cheng, Chiu, Chang, & Johnstone, 2014), and perceived employability reflects optimistic expectations regarding future entry to the labour market (Fugate, Kinicki, & Ashforth, 2004).

**Contextual supports and student outcomes**

Contextual supports generally have been shown to be related to higher levels of psychological well-being (Siedlecki, Salthouse, Oishi, & Jeswani, 2014). Specifically, family support is related to reduced psychological strain (Walen & Lachman, 2000), and workplace support is related to better well-being (Kossek et al., 2011). Studies have also found that contextual supports are related to better performance. For example, family encouragement predicted higher educational motivation and academic achievement in students (Wang & Staver, 2001), and workplace support was associated with greater workplace adaptability and better work performance (Cullen, Edwards, Casper, & Gue, 2014). Last, contextual supports are also related to career-related self-perceptions. For example, encouragement is related to higher student academic and career expectations (Ahmed, Minnaert, Van der Werf, & Kuyper, 2010), and family support is related to higher career aspirations, better job satisfaction, and greater commitment to work in employees (Kossek et al., 2011; Methot & LePine, 2016).

**Boundary congruence as a mediator**
Although we found no study that investigated the mediation effect of work-study boundary congruence on the association between contextual supports and well-being, academic performance, and career development, some studies have shown that contextual supports were related to greater congruence (Methot & LePine, 2016; Rothbard et al., 2005), and others have shown that congruence is associated with more positive outcomes (Ballout, 2007; Butler, 2007; Chu et al., 2018). Thus, in the current study, we considered work-study boundary congruence as a mediator between family and workplace supports and the study outcomes, as seeking congruence operates as a regulatory mechanism by which students draw on their resources to improve their outcomes (Methot & LePine, 2016).

**Proactive personality as a moderator**

Consistent with CoR theory (Hobfoll et al., 1990), studies have shown that internal person resources can be effective when managing multiple roles. In work-family research, personality has been shown to influence how well individuals manage their work and family roles (Michel & Clark, 2013; Ten Brummelhuis & Bakker, 2012), and one study showed that person resources moderated the association between social support and work-family conflict (Selvarajan, Singh, & Cloninger, 2016). Thus, it is important to investigate the effect of individual resources in combination with other sources of support in managing multiple roles. An important person variable is proactive personality (i.e., the individual’s capacity to minimise situational constraints and achieve positive outcomes; Bateman & Crant, 1993), as those higher in proactivity take more initiative and engage in more challenging situations (Crant, 2000). Proactive personality is associated with better P-E fit,
performance, and career success (Crant, 2000; Seibert, Kraimer, & Crant, 2001; Zhang, Wang, & Shi, 2012). Thus, we evaluated whether proactive personality influenced the associations between contextual supports and boundary congruence; thereby indirectly influencing the associations between contextual supports and well-being, academic performance, and perceived employability.

Current study

As most tertiary students are now working in some form of paid employment as well as studying (Endsleigh, 2015), this study was designed to shed light on the role that work-study boundary congruence might play when tertiary students have to manage these two challenging roles. We tested a theoretically-driven process model in which work-study boundary congruence mediated between the contextual variables of family and work supports and the outcome variables of well-being, academic performance, and perceived employability, and assessed whether these relationships were conditional on the person variable of proactivity. Specifically, we hypothesized the following:

H1: family (H1a) and workplace supports (H1b) are related positively to work-study boundary congruence;

H2: work-study boundary congruence is related positively to well-being (H2a), academic performance (H2b), and perceived employability (H2c);

H3-H5: family and workplace supports are related positively to well-being (H3a & H3b, respectively), academic performance (H4a, H4b), and perceived employability (H5a, H5b);
H6-H7: work-study boundary congruence mediates between contextual supports and student outcomes – that is, mediates between family and workplace support and well-being (H6a, H7a), academic performance (H6b, H7b), and perceived employability (H6c, H7c);

H8: the relationships between family (H8a) and workplace supports (H8b) and work-study boundary congruence will be stronger when proactivity is higher;

H9-H10: the relationships between family and workplace supports and well-being (H9a, H10a), academic performance (H9b, H10b), and perceived employability (H9c, H10c) via congruence, are conditional on the level of proactivity. See Figure 1.

**Figure 1.** Hypothesized model: The associations between contextual supports and outcomes are mediated by work-study boundary congruence, and this mediated association is influenced by proactive personality. The two types of contextual supports (family and work) were assessed separately, as were the three types of outcomes.

Increasing our understanding of the processes by which tertiary students manage these dual roles will contribute to boundary management theories and
inform interventions that seek to help students deal with challenges related to working while studying.

**Method**

**Participants**

A total of 415 university students from a range of degree programmes (e.g., exercise and biomedical science, pharmacy, communication, medicine, public health, psychology, business, nursing, engineering, law, education, music, history, and accounting) at one urban university in Australia, commenced the questionnaire. Of these, 14 were not included in the study as they either failed to finish the survey or incorrectly answered an attention check question. The final sample, with no missing data, was 401 (67% young women, $M_{\text{AGE}}$ 21.71 years, $SD$ 7.02, range 17-29 years; 91% full-time; 55% were 1\textsuperscript{st}-year, 30% 2\textsuperscript{nd}, 5% 3\textsuperscript{rd}, 3% 4\textsuperscript{th}, and 7% 5\textsuperscript{th}-year). Most were domestic students (91.5%), who were largely Caucasian and spoke English as their first language, which is typical for Australia. Average academic achievement reported for their last year of high school was 1.99 (1 very high to 5 very limited achievement); mean SES level was 2.84 (“When you compare yourself to others at university, how would you describe your current financial position?”; 1 much better off to 5 much worse off than others); and hours worked ranged from 1 to 28 per week (e.g., in sales, waitering, manufacturing, cleaning, childcare, tutoring, disability support, and hospitality).

**Measures**

For all measures, we used a 6-point response format (1 strongly disagree to 6 strongly agree). Higher scores indicate higher level of a construct for each measure.
**Work-study boundary congruence.** The 16-item Work-Study Boundary Congruence Scale (Chu, Creed, & Conlon, 2018) assesses four domains related to work-study congruence: congruence with leisure, family, occupational/work preferences, and university demands/resources. A sample item is “Even though I work and study, I have plenty of social time”. Chu et al. (2018) reported good internal reliability ($\alpha = .88$) and supported validity by finding the scale related to another, brief boundary congruence scale. Alpha in our study was .90.

**Proactive personality.** This was assessed using the 6-item Proactive Personality Scale (Parker, 1998). A sample item is “I excel at identifying opportunities”. Previous reliability was sound ($\alpha > .78$), and validity was supported as the scale related to other proactivity measures (e.g., self-efficacy) in the expected directions. Alpha = .88.

**Family support.** We used the 4-item family support subscale from the Multidimensional Scale of Perceived Social Support (Zimet, Dahlem, Zimet, & Farley, 1988). A sample item is “I can talk about my problems with my family”. Previous reliability was good ($\alpha > .81$), with validity supported by demonstrating negative correlations with well-being measures such as depression and anxiety (Hardan-Khalil & Mayo, 2015). Alpha = .94.

**Workplace support.** The 4-item Segmentation Supplies Scale (Kreiner, 2006) assessed level of work-study segmentation/integration allowed at work. Previous internal reliability ($\alpha = .94$) was good, and validity was supported by finding expected correlations with role conflict and workplace stress (Kreiner, 2006). We adjusted some items to make them more relevant for working students (e.g., “Where I work, people can mentally leave work behind..."
when they go home” was changed to “Where I work, people can mentally leave work behind when they are studying”. Alpha in our study was .89.

**Well-being.** The 8-item Flourishing Scale (Diener et al., 2010) gives a global measure of self-perceived functioning in areas of well-being related to relationships, self-esteem, purpose, and optimism. It has good internal reliability (α = .87), and validity was supported by finding positive correlations with other well-being measures (Diener et al., 2010). A sample item is “I lead a purposeful and meaningful life”. Alpha = .91.

**Academic performance.** We used the 9-item Task-Based Job Performance Scale (Goodman & Svyantek, 1999), with items adjusted to suit a university setting (e.g., “Performs well in the overall job by carrying out tasks as expected” was changed to “I am performing well in my university studies by carrying out all tasks as expected”). Previous internal reliability is good (α = .93), and for validity, the scale had positive associations with other performance scales (Goodman & Svyantek, 1999). Alpha was .91.

**Perceived employability.** This was measured with the 6-item Individual Employability Scale (Rothwell, Jewell, & Hardie, 2009). A sample item is “The skills and abilities that I possess now are what employers are looking for”. Previously reported alpha for the scale was .72, and validity was supported by finding expected correlations with university commitment (Rothwell et al., 2009). Alpha in our study was .81.

**Procedure**

The study had ethical clearance from the authors’ university ethics’ committee. Recruitment was via course websites and a university-wide email,
with respondents being directed to an anonymous and confidential, web-based questionnaire. Students could apply for course credit and go into a draw to win one of four $50 shopping vouchers for participating in the research.

**Analyses**

First, we used AMOS (V24) to assess a latent variable measurement model containing all scales, and then assessed the structural model reported in Figure 1. Item parcels were created to represent the latent variables for the longer scales (i.e., 3 each for boundary congruence, proactivity, well-being, academic performance, and employability; cf. Landis, Beal, & Tesluk, 2000). Individual items were used for the shorter scales (i.e., support and segmentation supplies). A good model fit for a sample ≥ 250 with > 12 observed variables is indicated by a significant $\chi^2$, normed chi-square ($\chi^2/df$) < 3:1, Comparative Fit Index (CFI) > .92, and Root Mean-Square Error of Approximation (RMSEA) < .07 (Hair, Black, Babin, & Anderson, 2010).

Second, for the moderation analyses, we used the PROCESS macro for SPSS (Model 7; Hayes, 2013), which assesses the conditional relationships between the predictors and the mediator, and the predictors and the outcome variables.

**Results**

The fit statistics for the measurement model were good, $\chi^2(155) = 380.35, p < .001, \chi^2/df = 2.45, \text{CFI} = .97, \text{RMSEA} = .05$. The standardised loadings on all latent variables ranged from .70 to .95 ($p < .001$) supporting scale independence, and the latent variable correlations mirrored the bivariate correlations. See Table 1. In the structural model, $\chi^2(160) = 423.259, p < .001, \chi^2/df = 2.65, \text{CFI} = .97, \text{RMSEA} = .06$, there were significant paths from family ($\beta = .50, p < .001$) and work supports ($\beta = .30, p < .001$) to boundary
Table 1

Summary Data, Bivariate Correlations (below Diagonal), and Latent Variable Correlations (above Diagonal); \( N = 401 \)

<table>
<thead>
<tr>
<th>Variables</th>
<th>( M )</th>
<th>( SD )</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Family support</td>
<td>18.64</td>
<td>4.39</td>
<td></td>
<td>.18***</td>
<td>.51***</td>
<td>.53***</td>
<td>.29***</td>
<td>.29***</td>
</tr>
<tr>
<td>2. Work support</td>
<td>16.94</td>
<td>3.95</td>
<td>.24***</td>
<td></td>
<td>.45***</td>
<td>.15**</td>
<td>.14**</td>
<td>.09</td>
</tr>
<tr>
<td>3. Work-study congruence</td>
<td>67.81</td>
<td>11.69</td>
<td>.42***</td>
<td>.47***</td>
<td></td>
<td>.49***</td>
<td>.31***</td>
<td>.30***</td>
</tr>
<tr>
<td>4. Well-being</td>
<td>37.70</td>
<td>5.74</td>
<td>.45***</td>
<td>.24***</td>
<td>.42***</td>
<td></td>
<td>.42***</td>
<td>.58***</td>
</tr>
<tr>
<td>5. Academic performance</td>
<td>38.30</td>
<td>7.02</td>
<td>.31***</td>
<td>.16***</td>
<td>.28***</td>
<td>.37***</td>
<td></td>
<td>.47***</td>
</tr>
<tr>
<td>6. Employability</td>
<td>25.85</td>
<td>4.23</td>
<td>.32***</td>
<td>.21***</td>
<td>.28***</td>
<td>.52***</td>
<td>.46***</td>
<td></td>
</tr>
<tr>
<td>7. Proactive personality</td>
<td>26.16</td>
<td>4.50</td>
<td>.31***</td>
<td>.20***</td>
<td>.25***</td>
<td>.51***</td>
<td>.45***</td>
<td></td>
</tr>
</tbody>
</table>

**\( p < .01; ***p < .001 \)
congruence (supporting H1a, H1b), and from congruence to well-being (H2a, $\beta = .73, p < .001$), academic performance (H2b, $\beta = .32, p < .001$), and employability (H2c, $\beta = .30, p < .001$), indicating that family and work supports were related to more boundary congruence, and congruence was related to higher well-being, academic performance, and employability.

To assess mediation, we tested (a) a direct effects model, which assessed the associations between the predictors and outcomes only, and (b) an indirect effects model, which included both direct and indirect paths. In the direct effects model, $\chi^2(157) = 398.82, p < .001, \chi^2/df = 2.54$, CFI = .97, and RMSEA = .06, there were significant paths from family support to well-being (H3a, $\beta = .52, p < .001$), academic performance (H4a, $\beta = .28, p < .001$), and employability (H5a, $\beta = .29, p < .001$), and from work support to academic performance (H4b, $\beta = .10, p = .04$). The paths from work support to well-being (H3b, $\beta = .06, p = .13$) and employability (H5b, $\beta = .04, p = .41$) were not significant.

For the indirect effects model, we used 1,000 bootstrapped samples to obtain the 95$^{th}$ percentile, bias-corrected, confidence intervals (CIs). Mediation occurs when the CIs for the indirect effects do not contain zero (Preacher & Hayes, 2008). In this model, $\chi^2(155) = 380.35, p < .001, \chi^2/df = 2.45$, CFI = .97, and RMSEA = .05, congruence mediated between family support and well-being (H6a, CIs .10 to .22), academic performance (H6b, CIs .03 to .17), and employability (H6c, CIs .04 to .19), and between work support and academic performance (H7b, CIs .03 to .15). The direct paths between family support and well-being ($\beta = .37, p < .001$), academic performance ($\beta = .18, p < .001$), and employability ($\beta = .19, p < .001$) remained significant in the
presence of the indirect paths, indicating partial mediation. The path from work support to academic performance ($\beta > .05, p = .95$) was not significant, indicating full mediation (see Figure 2). The standardised indirect effects of family support on well-being were 15% (total effect = .85, direct effect = .52), on academic performance 10.3% (.58, .37), and on employability 10.8% (.38, .24); for work support on academic performance the effect was 8.5% (.17, .01). Overall, 36.1% of the variance in well-being, 13.1% in academic performance, 12.8% in employability, and 39.2% in boundary congruence were explained by the direct and indirect effects.

For moderated-mediation, an effect can be said to occur when the indirect association between a predictor and an outcome is conditional on the moderator, which is indicated when the index of moderated-mediation differs from zero (Hayes, 2015). We used bootstrapping (5,000 samples) to calculate the 95% bias-corrected CIs for each index of moderated-mediation, and examined the size and direction of each index to assist interpretation. From Table 2 (Models 1 and 2), it can be seen that family and worker support and proactivity were all related to boundary congruence, as were the interaction terms (family support × proactivity and work support × proactivity). The simple slope tests (Figure 3) indicated that congruence increased disproportionally for the low proactivity group (-1SD), compared to the high proactivity group (+1SD), as both family support and work support increased. Table 2 (Models 3 and 6) shows that the indirect effects of family (CIs -.02 to -.01) and work support (CIs -.02 to -.01) on well-being were moderated by proactivity. The conditional indirect effects of family (unstandardized B =
Figure 2. Work-study boundary congruence partially mediated between family support and well-being, academic performance, and employability, and fully mediated between well-being, academic performance, and employability. Standardised regression weights are reported. *$p < .05$; **$p < .01$; ***$p < .001$
Table 2

Summary data for moderated-mediation models (N = 401).

<table>
<thead>
<tr>
<th>Models</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model 1: Family support → congruence</td>
<td>$R^2 = .21, F(397) = 34.40, p &lt; .001$</td>
</tr>
<tr>
<td>Family support (FS)</td>
<td>2.75***</td>
</tr>
<tr>
<td>Proactive personality (PP)</td>
<td>1.55***</td>
</tr>
<tr>
<td>FS $\times$ PP</td>
<td>-0.07**</td>
</tr>
<tr>
<td>Model 2: Work support → congruence</td>
<td>$R^2 = .26, F(397) = 46.79, p &lt; .001$</td>
</tr>
<tr>
<td>Work support (WS)</td>
<td>3.06***</td>
</tr>
<tr>
<td>Proactive personality (PP)</td>
<td>1.48***</td>
</tr>
<tr>
<td>WS $\times$ PP</td>
<td>-0.07**</td>
</tr>
<tr>
<td>Model 3: Family support → well-being</td>
<td>$R^2 = .27, F(398) = 72.13, p &lt; .001$</td>
</tr>
<tr>
<td>Family support</td>
<td>0.44***</td>
</tr>
<tr>
<td>Congruence</td>
<td>0.13***</td>
</tr>
<tr>
<td>Index of moderated mediation (indirect effect)</td>
<td>-0.009 (CIs: -0.018 to -0.003)</td>
</tr>
<tr>
<td>Model 4: Family support → academic performance</td>
<td>$R^2 = .12, F(398) = 28.35, p &lt; .001$</td>
</tr>
<tr>
<td>Family support</td>
<td>0.37***</td>
</tr>
<tr>
<td>Congruence</td>
<td>0.11***</td>
</tr>
<tr>
<td>Index of moderated mediation (indirect effect)</td>
<td>-0.007 (CIs: -0.015 to -0.002)</td>
</tr>
<tr>
<td>Model 5: Family support → employability</td>
<td>$R^2 = .13, F(398) = 29.94, p &lt; .001$</td>
</tr>
<tr>
<td>Family support</td>
<td>0.24***</td>
</tr>
<tr>
<td>Congruence</td>
<td>0.06***</td>
</tr>
<tr>
<td>Index of moderated mediation (indirect effect)</td>
<td>-0.004 (CIs: -0.009 to -0.001)</td>
</tr>
<tr>
<td>Model 6: Work support → well-being</td>
<td>$R^2 = .18, F(398) = 42.28, p &lt; .001$</td>
</tr>
<tr>
<td>Work support</td>
<td>0.09</td>
</tr>
<tr>
<td>Congruence</td>
<td>0.19***</td>
</tr>
<tr>
<td>Index of moderated mediation (indirect effect)</td>
<td>-0.013 (CIs: -0.024 to -0.001)</td>
</tr>
<tr>
<td>Model 7: Work support → academic performance</td>
<td>$R^2 = .08, F(398) = 17.48, p &lt; .001$</td>
</tr>
<tr>
<td>Work support</td>
<td>0.07</td>
</tr>
<tr>
<td>Congruence</td>
<td>0.16***</td>
</tr>
<tr>
<td>Index of moderated mediation (indirect effect)</td>
<td>-0.011 (CIs: -0.021 to -0.001)</td>
</tr>
<tr>
<td>Model 8: Work support → employability</td>
<td>$R^2 = .09, F(398) = 19.24, p &lt; .001$</td>
</tr>
<tr>
<td>Work support</td>
<td>0.11</td>
</tr>
<tr>
<td>Congruence</td>
<td>0.08***</td>
</tr>
<tr>
<td>Index of moderated mediation (indirect effect)</td>
<td>-0.006 (CIs: -0.012 to -0.001)</td>
</tr>
</tbody>
</table>

Note: Unstandardised coefficients reported. **$p < .01$; ***$p < .001$
Figure 3. Proactive personality moderates the associations between family support (top) and work support (bottom) and work-study boundary congruence. Solid lines indicate low proactive personality (- 1SD) groups; dashed lines indicate high proactive personality (+ 1SD) groups.
- .01; \text{SE}_{\text{boot}} = -.004) and work support (B = -.01; \text{SE}_{\text{boot}} = .006) on well-being strengthened as proactivity reduced; consistent with the simple slope effects (Figure 3). Similar results were found for family (CIs -.02 to -.01; B = -.01; \text{SE}_{\text{boot}} = .003) and work support (CIs -.02 to -.01; B = -.01; \text{SE}_{\text{boot}} = .005) on academic performance (Models 4 and 7), and family (CIs -.01 to -.001; B = -.01; \text{SE}_{\text{boot}} = .002) and work support (CIs -.01 to -.001; B = -.01; \text{SE}_{\text{boot}} = .003) on employability (H8, H9, and H10 not supported; Models 5 and 8). In all models, the indirect effects of family and work support on the outcomes were strengthened as proactivity reduced. See Figure 4.

\textbf{Discussion}

The study tested whether work-study boundary congruence mediated between student contextual supports (family and work) and well-being, academic performance, and perceived employability, and whether these relationships were conditional on level of student proactivity. First, our study was the first to find that those with more family and work support reported higher work-study boundary congruence (supporting H1a and H1b). These relationships were consistent with previous finding (e.g., Methot & LePine, 2016) and were predicted by boundary congruence theory, which states that people will be more effective in managing multiple roles when there are contextual supports (Kreiner et al., 2009). The results suggest that one reason for the efficacy of social support given to young people is that it affords them the capacity to better structure the boundary among their competing roles. Employers can facilitate this congruence by acknowledging that working students have other demands and implement student-friendly policies that allow a better fit for them. Families can assist by ensuring that their support
also includes accommodation strategies that allow students to structure their family life so they can meet both work and study commitments.

Second, in line with both previous research on adults (e.g., Ballout, 2007) and boundary congruence theory (Kreiner et al., 2009), students with greater work-study boundary congruence also reported better well-being, academic performance, and perceived employability (supporting H2a, H2b, and H2c). This is consistent with the notion that students who can structure their role boundaries to meet their preferences will be more likely to feel
better, achieve better, and be more optimistic regarding their future. These results, which are first tested directly in this study, highlight how important it is for students to determine their preferences for role integration/segmentation in relation to work and study and then to structure a good boundary fit for these preferences. The evidence here is that it is the congruence or fit between personal preferences and the work and study environmental demands and responsibilities that are important, implying that policies aimed at facilitating this for students need to include opportunities for students to meet their own needs.

Third, replicating previous research (e.g., Ahmed et al., 2010; Cullen et al., 2014; Siedlecki et al., 2014; Wang & Staver, 2001), family support was related to better well-being, academic performance, and perceived employability (supporting H3a, H4a, and H5a), and workplace support was associated with better academic performance (H4b). According to CoR theory, people seek resources to help them manage their life and achieve future goals, which is what we found. Students were more likely to do better across these three domains when they felt supported by those around them. This suggests that families should be encouraged to engage with their student members in what way they can to facilitate their work and study. Those students who do not have strong family connections might need to develop skills to seek support from others around them. Employers also can play a role here, as this study demonstrated that support at work does benefit students at their study. Not all employers will be student-focused, and not all students will have the skills to generate support and assistance at their workplace. Tertiary institutions might also play a role here by marketing to employers how both sides might
benefit from student-friendly policies and providing opportunities for students to develop their negotiating skills.

Work support was not associated with perceived employability or well-being (H3b, H5b), which is inconsistent with studies that have examined these associations in working adults (e.g., Linville, 1987, Rothbard & Edwards, 2003). A possible explanation is that, for students, whose paid work predominantly generates income to support their studies, it might be that these largely low paid, insecure, service industry jobs (Pocock, 2009) are perceived as necessary but unrelated to obtaining more desired work later and, thus, are minimally connected to their future prospects and current well-being.

Fourth, we found that boundary congruence mediated the associations between family support and well-being, academic performance, and perceived employability (H6a, H6b, H6c), and between workplace support and academic performance (H7b). These results support the argument that boundary congruence is an effective mechanism for students to help them manage the demands of work and study (Hammer et al., 2011; Kossek et al., 2011). The results also suggest that the application of boundary congruence theory is a useful perspective to take when examining how students manage these multiple roles, as boundary congruence accounted for the relationships between support and the different student outcomes. However, as most of the mediations were partial, other variables are likely to be affecting these associations, and boundary congruence theory could be extended if other variables could be tested as mediators against the effect of congruence. Potential variables are social and problem-solving skills, as these have been implicated in boundary management (Kreiner et al., 2009).
Last, we tested the facilitative role of the personal resource of proactivity in the associations between supports and student outcomes. We found that students who were less proactive benefitted disproportionally from the contextual supports, and found the indirect associations between contextual supports and well-being, academic performance, and perceived employability via congruence were stronger for those who were less proactive. These results were counter to what was hypothesised (H8, H9, and H10), as we expected more proactive students with better contextual supports to be advantaged. Research in the work-family domain has suggested that those high in proactivity will be more observant and vigilant in their environment and use this to their advantage (Bateman & Crant, 1993). However, it might be that proactive students are more likely to reject support from others and “tread their own path”, while those who are less proactive are disproportionately more likely to rely on, and be more influenced by, the support (cf. Crant, 2000).

**Limitations and future directions**

Our sample was relatively homogenous, being from one university, which restricts the extent to which results can be generalised. It also contained disproportionately more female students, and while we found no association between gender and study variables, future research should aim for more diverse samples. Also, all measures used were self-report, and more objective outcomes (e.g., actual academic performance) need to be assessed. While we assessed a theoretically-derived process model, the data were cross-sectional, and causal precedence cannot be established. Future research needs to track individual trajectories over time and test reverse and reciprocal models to confirm the direction of the hypothesized associations.
Further, we only assessed family and work support, and one important person resource (i.e., proactivity), but boundary congruence is likely to be affected by other contextual and support factors, such as university support, whether other avenues of funding are available to the student, and study salience, and researchers need to test other potential influencers in these relationships (Sharp, Coatsworth, Darling, Cumsille, & Ranieri, 2007). While we demonstrated that boundary congruence was related to better student outcomes, we know little about how students structure this congruence. Future research could contribute here by examining the strategies and skills required by students to better achieve this fit. We included one outcome from each of the well-being, academic (i.e., performance), and career domains (i.e., perceived employability). However, other factors are important to student growth and development (e.g., friendships and romantic attachments), and the relationship between boundary management and these also need to be assessed. Also, do boundary congruence skills and strategies gained while working and studying generalise to later periods in life when boundary congruence between other roles, such as work and family, are more salient (cf. Kreiner et al., 2009).

We found, and it is generally viewed, that employer support is an important job characteristic (e.g., in reducing work-nonwork conflict; Allen, French, Dumani, & Shockley, 2015), and researchers should explore the different aspects of employee support to determine which particular ones might benefit enhancing congruence for working students. Related to this, researchers might investigate specific aspects of boundary congruence (e.g., congruence with work colleagues compared to congruence with structural aspects of work, such as attendance flexibility). Studies examining this might shed light on why
we found no mediating effect for congruence between work support and well-being and perceived employability.

**Conclusion**

There has been little research examining boundary congruence, and what has been conducted has been in the work-family role conflict domain (Chen et al., 2009; Kreiner et al., 2009). We demonstrated the applicability of boundary congruence theory to understanding the experiences of working students by showing that it operates as a potential mechanism to explain the relationship between contextual supports and person attributes and important student outcomes. There are implications from this for employers, universities, and the students themselves. As most students today are managing multiple, challenging roles, employers and institutions can contribute to student development by helping them manage these competing roles. Employers could consider student-friendly policies (e.g., student participation in setting rosters) and institutions might offer training on how to manage multiple roles (e.g., assertion and social skills development). Such support is likely to benefit employers as they can retain productive student employees, and benefit universities who can retain students and increase their completion rates. For the students, facilitating contextual supports will reduce their role conflict, enhance their well-being, allow them to be more productive at university and be more forward-looking.

For counsellors, they can help students explore ways to better manage their boundaries and help them with strategies for coping with boundary incongruence when it occurs. They can also help students identify potential supports, assist them to make the best use of them, and help them to generate
skills and strategies in this area if they are lacking (e.g., contribute when students lack social skills or skills related to managing multiple roles).

Counsellors might also help less proactive students to review their coping skills, and while passive engagement might benefit them in some circumstances, they might explore under what circumstance they are beneficial and under what circumstances they are detrimental. When students have the skills and confidence to negotiate suitable role boundaries, they are likely to feel better, perform better, and be more optimistic about their future lives.
CHAPTER SIX

GENERAL DISCUSSION

This research program investigated the role of work-study boundary congruence in university students. Boundary congruence is a crucial construct that has received much attention in boundary management theories (cf. boundary theory, Nippert-Eng, 2009; border theory, Clark, 2000). However, most of the existing empirical studies have investigated boundary congruence within the work-family domains (e.g., Chen et al., 2009; Kreiner, 2006), and have been based on qualitative data (e.g., Kreiner et al., 2009). Few studies have investigated work-study congruence, with those examining it either testing a narrow aspect of congruence (skills or knowledge learned at college can be applied in work; Butler, 2007), and/or assessing a distantly related construct to that described in boundary theory (e.g., from the perspective of boundary management, whereby, the fit between the person’s own preferences and the environmental demands that are exerted by a given domain; Swanson et al., 2006). These studies did not examine congruence using a construct containing the dimensions recommended by Kreiner et al. (2009), and did not apply this to the work-study domains, where students also struggle to manage multiple, competing roles.

Complicating studies in the boundary congruence area was a lack of consensus about the definition and conceptualization of work-study congruence, and there were few scales suitable to capture the different aspects of the construct in university students. As a result, there was limited understanding about how the boundary congruence construct, or the different dimensions of it, influenced university students when managing their work,
study and other roles. It is also not clearly understood how work-study boundary congruence interacted with other person and contextual variables to influence the associations with important student variables (e.g., university engagement and well-being).

To address this gap in the literature, the first step (Study 1) was to devise a multidimensional measure, based on domains consistent with Kreiner et al.'s. (2009) recommendations, which could be used to assess the level of work-study boundary congruence perceived by university students. In addition to this, guided by boundary management theory, person-environment fit theory, conflict and enrichment theories, and the conservation of resources (CoR) theory, two subsequent studies (Studies 2 and 3) were conducted to (a) contribute to the validation of the Work-Study Congruence Scale, and (b) examine several, theoretically-informed models that could test potential mechanisms and boundary conditions for the associations between work-study boundary congruence and student outcomes.

The variables examined were personal resources (i.e., proactive personality), contextual supports (i.e., family and work support), work-study boundary congruence, work-study conflict, work-study facilitation, and the student outcomes of well-being, university engagement, academic performance, and perceived employability. The three cross-sectional studies were conducted using large samples of university students from one multi-campus university in south-east Queensland.

**Summary of Findings**

**Study 1.** This study developed and validated a new inventory to assess work-study boundary congruence in university students. Four dimensions
were identified in the conceptualization of the construct with four items measuring each dimension. These dimensions were work-study boundary congruence between work and university demands and resources (e.g., Are the number of work hours manageable given study requirements?), occupational/work preferences (e.g., Are job content and work goals consistent with the student’s values?), family preferences (e.g., Can the student meet family/partner/peer responsibilities as well as work while studying?), and leisure preferences (e.g., Can the student meet social commitments given other demands?).

Initial validity was provided for this multidimensional measure by finding that it was related negatively to an existing incongruence scale (i.e., segmentation preferences scale minus segmentation supplies scale, which reflected work-study incongruence; Chen et al., 2009; Kreiner, 2006). The modest correlation between these two scales suggested that the new Work-Study Congruence Scale, as a multi-factorial inventory, was assessing a wider construct than the narrowly-focused incongruence measure, which included dimensions relevant to working students (i.e., congruence with academic responsibilities and social activities) as well as the dimensions recommended by Kreiner et al. (i.e., congruence with work/occupation cultures and family responsibilities); thus delivering improved content validity. This 4-dimension measure can be used to generate global-level scores of work-study boundary congruence or used as a bifactor measure in latent variable analyses, and can be considered internally reliable.

Future studies need to add to the validation of the measure by testing the work-study congruence scale with different samples (e.g., across different
cultural, and status samples). In particular, future studies need to assess predictive validity (e.g., where the work-study congruence scale given at one point in time predicts later outcomes (e.g., well-being, academic progress).

The work-study congruence scale will be an invaluable tool for testing boundary and border theories in the work-study domain, and extending what is understood about students who work from these theoretical positions, over-and-above the contributions from Studies 2 and 3 from the thesis.

**Study 2.** Informed by theories of boundary management and person-environment fit (e.g., Kreiner et al., 2009) and conflict (e.g., Zedeck & Mosier, 1990) and facilitation/enrichment (Carlson et al., 2006), Study 2 applied this new inventory to examine how work-study boundary congruence was related to work-study conflict and facilitation and the student outcomes of well-being and university engagement. A further aim was to examine whether work-study boundary congruence explained additional variance in the outcomes over-and-above work-study conflict and facilitation.

This study contributed to the existing work-study literature in several ways. First, by examining the associations between work-study boundary congruence, conflict, facilitation, and the student outcomes, the study showed that higher levels of work-study boundary congruence were related to reduced work-study conflict and greater work-study facilitation in students. Higher boundary congruence was related to better of well-being and greater university engagement, with work-study boundary congruence explaining additional variance beyond work-study conflict and facilitation (i.e., conflict and facilitation operated as mediators). As predicted by boundary congruence
and fit theories, the study thus demonstrated a potentially important role for work-study boundary congruence in the lives of students who work.

Additionally, previous studies examining work-study congruence were limited because they focussed on a single aspect of the construct (e.g., skills and knowledge learned at college congruent with skills and knowledge learned at work; Butler, 2007; Meeuwisse et al., 2016), and did not capture sufficient coverage of work-study boundary congruence (e.g., did not include family and leisure dimensions; Swanson et al., 2006). Thus, using a multidimensional work-study boundary congruence scale, which was able to provide a broader measure of the construct, potentially demonstrated the importance of boundary congruence for students with multiple roles and outcomes. Determining which roles are relatively more important needs to be determined in future studies (e.g., how important is work-study boundary congruence relative to congruence with family/peer boundary congruence?).

Study 2 also demonstrated that work-study boundary congruence had a stronger association with work-study conflict than work-study facilitation. These findings suggest that work-study boundary congruence had a greater potential to reduce conflict between study and work, rather than to facilitate study activities, although work-study boundary congruence was related to both variables. Work-study conflict, in turn, was related to poorer well-being, suggesting that if work-study boundary congruence was able to reduce work-study conflict, students would benefit by showing evidence of better well-being. Work-study facilitation was related to better well-being and more university engagement, suggesting that higher levels of work-study boundary congruence could increase work-study facilitation and lead to improvements
in both well-being and university engagement. These results suggested that students generally felt better and engaged themselves more at university when they experienced higher levels of work-study boundary congruence.

Finally, Study 2 demonstrated one potentially important pathway for the associations between work-study boundary congruence and well-being and university engagement: via reducing work-study conflict and increasing work-study facilitation (i.e., the association between work-study boundary congruence and well-being was mediated by work-study conflict and facilitation). However, other paths from work-study boundary congruence to outcomes should also be assessed. For example, social-cognitive theory (Bandura, 1993) would suggest that positive experiences of structuring work-study boundary congruence would increase self-efficacy, which in turn, would foster better university engagement. These variables should be assessed for their relative importance, and assessed longitudinally, so that stronger causal statements can be made.

**Study 3.** While Study 2 examined a potential pathway from work-study boundary congruence to student outcomes, little was known about the boundary conditions related to the associations between work-study boundary congruence and outcomes (i.e., under what conditions were the associations stronger or weaker?). Study 3 was the first to test a potentially important person variable as a modifying condition in these associations. Using a cross-sectional methodology, this study tested the moderating effect of proactive personality on the mediated association between contextual supports (i.e., family and work) and the outcomes (i.e., psychological well-being, academic performance, and perceived employability), via work-study boundary
congruence. This potential effect was proposed using boundary management and person-environment fit theories (Kreiner et al., 2009), and CoR theory (Hobfoll, 1988; Hobfoll et al., 1990).

First, and as expected, this study found that greater contextual supports were associated with higher work-study boundary congruence, which, in turn, was associated with better well-being, academic performance, and greater perceived employability. These findings supported the CoR theory proposition that contextual supports were resources that assisted people to manage multiple roles and achieve future goals. Study 3 suggested that work-study boundary congruence was an effective mechanism for students to manage their multiple roles by mediating the associations between family support and all three outcomes, and mediating between workplace support and academic performance (cf. Hobfoll, 1988; Hobfoll et al., 1990). These results also supported the notion that boundary congruence might be a central mechanism for the management of multiple roles (Bell et al., 2010; Hammer et al., 2011; Kossek et al., 2011; Methot & LePine, 2016; Rothbard et al., 2005).

In addition, Study 3 provided evidence for the moderating role of proactive personality on these mediated associations, which though proposed in CoR theory (Hobfoll, 1988; Hobfoll et al., 1990) had received no attention in the work-study literature. This study extended the limited research on the boundary conditions for the associations between contextual supports, work-study boundary congruence, and outcomes (well-being, academic performance, and perceived employability). Work-family research has shown that personality affects individuals’ abilities to manage their multiple roles effectively (Michel & Clark, 2013; Michel et al., 2010). People with positive
personal resources (e.g., proactive personality) are less likely to give up on
goal pursuit, and more likely to be persistent in striving to attain their goals
even when they face difficulties (e.g., incongruence), compared to people who
have limited personal resources (e.g., low in proactive personality; Burnette,

The results of Study 3 showed that the associations between contextual
supports and well-being, academic performance, and perceived employability
via work-study boundary congruence were stronger for students who were less
proactive. This result, which was inconsistent with what was hypothesised,
was explained by the research in the work-family domain suggesting that
those higher in proactive personality might be more observant and vigilant in
their environment, and use this to their advantage (Bateman & Crant, 1993).
These students would be more likely to reject support from others and “tread
their own path”, and those who were less proactive would be more likely to
accept support; that is be more passive, acquiescent, and influenced by others
(cf. Crant, 2000).

Studies 2 and 3 together showed consistently that work-study
boundary congruence was related positively to important outcomes for
students who work while studying. These included health (i.e., affective and
psychological well-being), university activities (i.e., university engagement
and academic performance at university), and career development (i.e.,
perceived employability). The studies also suggested that work-study
boundary congruence was associated with these outcomes via intervening
variables (i.e., work-study conflict and facilitation), that work-study boundary
congruence itself operated as a mechanism for the associations between the
contextual variables and the outcomes, and that the associations were affected by student person resources (i.e., proactivity). Thus, while students who work while studying have multiple roles to manage, these studies suggest that role management can be assisted by augmenting contextual supports and individual resources, that role management (i.e., work-study boundary congruence), in turn, is associated with reduced work-study conflict and greater work-study facilitation, and via these variables to better health, academic, and career outcomes.

In conclusion here, the three studies in this PhD program contributed to the existing boundary congruence, boundary management, person-environment fit, conflict, enrichment, conservation of resources, and work-study literature. First, prior to this research program, few empirical studies had been conducted on the role of work-study congruence in university students (e.g., Butler, 2007; Meeuwisse et al., 2016; Swanson et al., 2006) and none had examined work-study congruence from the perspective of boundary management. Thus, the key assumptions of these work-study boundary congruence links proposed in theories had not been tested. Consistent with the general congruence literature and boundary management and person-environment fit theories (Bell et al., 2010; Kreiner et al., 2009; Methot & LePine, 2016; Rothbard et al., 2005), the findings of the PhD program suggested that work-study boundary congruence functioned as an antecedent variable related to important positive outcomes (e.g., better well-being, academic performance, and career development); whereby students who worked while studying processed and integrated their multiple roles by drawing on person and contextual variables to reduce work-study conflict and
enhance work-study facilitation, which resulted in better academic activities and better well-being.

Last, as boundary management theory had not been applied in the work-study sector with student populations, these studies have contributed to generalising existing theories, suggesting that they not only can be applied to working adults with families, but can also be applied to students who work while studying. Therefore, these studies can be considered precursors that will benefit future researchers who will be better placed to explore boundary congruence from, for example, boundary management and congruence theories.

**Practical Implications**

The findings suggest that being able to generate work-study boundary congruence will benefit student well-being, academic activities, and perceived future employability, and conversely, that experiencing work-study boundary incongruence will have detrimental effects. As a result, counsellors are encouraged to help struggling working students to reflect on the causes of work-study boundary incongruence, so that they can better understand its effects, and be open to developing skills (e.g., time management) and strategies (e.g., generating support) that might help them manage their work and study commitments, so they can feel better and do better at university. Understanding and acquisition of such skills might also assist them to manage problematic boundaries later in life (e.g., work-family boundary congruence).

These studies also suggested that work-study boundary congruence is indirectly related to student outcomes via reducing work-study conflict and enhancing work-study facilitation. This should suggest to counsellors that
when student clients present with issues stemming from work-study conflict that an underlying cause might be the experiences of work-study boundary congruence/incongruence. These issues could be addressed, anticipating that improving skills and strategies around work-study boundary congruence/incongruence will contribute to reducing work-study conflict. Addressing work-study boundary congruence/incongruence might be doubly beneficial, as this thesis has shown not only that work-study conflict potentially reduces, but that work-study facilitation increases.

Several important antecedents to work-study boundary congruence were identified in the research program (e.g., family support, personal proactivity). Insight into the potential antecedents to work-study boundary congruence will provide counsellors with a starting point for exploring those issues that are individual strengths and barriers for managing boundaries, which will allow the counsellor to propose appropriate interventions. Counsellors should also explore other potential precursors (e.g., self-efficacy for making changes to boundary strategies; cf. Bandura, 1993) as clients will have individual issues relevant to them that might reduce their optimal functioning. From this research program, exploring family and peer supports and barriers, examining who at work and university might act as allies, and exploring issues around proactivity/passivity are likely to be helpful. Specifically here, students who are low in proactivity are potentially more responsive to support and influence from others, and, thus, counsellors might discuss with their clients how they can target and best utilise this support. For students who are high in proactivity, they might benefit from learning to identify and accept support from those around them.
The findings also have implications for the families, peers, work colleagues, supervisors, and organisations in which these students work. These agents of support are well placed to facilitate the development of these mostly young adults and assist them to develop their full potential. Their role is particularly salient considering that most students today are managing multiple and challenging roles, and must be able to do this well to fully benefit them acquiring the knowledge and skills from their university studies to enable them to reach their full potential and to maximise the benefits to the wider community.

In addition to these supports, universities also need to assist students manage their extra-curricular responsibilities. Universities can assist students by providing programs, workshops, or talks on managing multiple roles, educating students on the necessity of achieving work-study boundary congruence in order for them to achieve optimum outcomes. Universities can also provide more flexibility for students, for example, having recorded lecture classes and academic materials online so that they can study them in a more flexible way. This strategy could provide better work-study boundary congruence.

Regarding the Work-Study Congruence Scale, it can assist researchers and teaching academics when they research this topic in their students. Researchers could evaluate work-study boundary congruence in the students across their own universities to identify specific issues, for example, investigating the differences between international and local students. This measure can be also used by professionals like psychologists when they work with students who are working while studying. The measure is not a
diagnostic tool, but should be helpful to students who want to explore work-study boundary congruence with their psychologists. Students can complete the scale and discuss the individual items and total scores with their counsellors in order to generate insight and inform interventions. The measure includes items that assess different dimensions (i.e., university, work, family, and leisure), which can help identify potential problematic areas of boundary congruence.

The research program identified age as a contributing factor related to well-being and university engagement. Thus, counsellors need to consider students according to their age, and develop relevant strategies and supports appropriate to the student’s maturity and developmental stage. As research has shown that older university students have better well-being (Cvetkovski et al., 2012) and higher engagement (Krause, 2005), counsellors need to be particularly alert to difficulties experienced by young students. In addition, older students might have additional roles to manage (i.e., parent role with demands other than work and study demands) or have financial difficulties. With the demands and difficulties of a parent role on top of the demands in work and study roles, these students might have poorer well-being (Strazdins et al., 2011); therefore, counsellors need to develop interventions that suit this particular population to develop work-study boundary congruence to promote better well-being.

Limitations and Future Directions

Some limitations, which also highlight potential future research, are acknowledged. First, although initial validation has been demonstrated for the newly developed scale, this was undertaken in one university and in one
country. Future studies need to assess it with different student populations, including in different cultural contexts. Second, the findings from the research program need to be replicated and extended with other samples to extend generalisability. In all the three studies, the samples consisted mainly of health/social science students, and were disproportionately more female than male. Although gender was not related to the outcome variables, and study discipline has not been proposed or demonstrated to be a predictor in these associations, the findings need to be examined in more representative samples of students from more diverse disciplines in future research. In addition, the research program drew on university students with a wide age range. It will be important to test whether empirical evidence for the work-study boundary congruence mechanisms can be confirmed in university students in different age groups, as age was found to be associated with the outcome variables.

Third, while the research program examined three important outcome variables (i.e., well-being, academic activities, and perceived employability), other relevant variables are proposed in the work-study literature that need to be assessed. For example, what role do motivational constructs play in developing work-study boundary congruence, and does work-study boundary congruence influence student motivation (Clemmons & Fields, 2011; Ren, 2010)? Other constructs of interest are career progress (i.e., how students perceive they are progressing in their career preparation, and what is the effect of work-study boundary congruence on this; Rothwell et al., 2008). In addition, personal functioning, especially those variables that predispose students under stress to be at risk of having mental health problems (e.g.,
burnout; Schaufeli et al., 2002) and engaging in risky behaviours (e.g., alcohol misuse; Reavley et al., 2011) should be evaluated.

Fourth, other person resources and contextual supports need to be investigated as coping assets (Thompson, Amatea, & Thompson, 2014). Work-study boundary congruence is likely to be affected by other personal resources such as conscientiousness (i.e., being more or less cautious, responsible, and organised), self-esteem, and emotional instability (i.e., being more or less tense and worrying; John & Srivastava, 1999), and affected by other contextual supports, such as support from colleagues and romantic partners (Selvarajan et al., 2016). Thus, the associations between these personal and contextual resources and work-study boundary congruence need to be assessed in future research, and ideally assessed in the context of the already identified correlates.

Fifth, the data for all three studies were collected using a cross-sectional design where the precedence of the data cannot be confirmed. Future research can investigate if the Work-Study Congruence Scale can be used consistently at different time-points of the university semester. For example, future research can investigate short-term (e.g., how work-study boundary congruence might be influenced by more or less demanding parts of the academic semester) as well as a long-term longitudinal designs (e.g., across semester or across year levels as demands at university change) with three or more waves in order to fully investigate the dynamic, underlying mechanisms between work-study boundary congruence and outcome variables. Such longitudinal studies would strengthen the support for work-study boundary congruence as being able to generalise across space and time.
Last, the project used self-report survey data to investigate all associations, which might not fully reflect the associations between actual work-study boundary congruence and well-being, university engagement, academic performance, and perceived employability. To overcome this weakness, reports from multiple sources can be collected in future research, including external reports by surveying parents, lecturers, colleagues and supervisors at work, and peers, as well as self-reports.

**Conclusion**

This program of research examining work-study boundary congruence addressed several gaps in the work-study literature, and extended boundary management theories to the work-study area. By developing and validating the Work-Study Congruence Scale, this allowed subsequent studies to investigate the correlates of work-study boundary congruence, including testing some indirect and conditional relationships. The findings were generally consistent with boundary management and congruence theories and provided support for the application of this approach to understanding the lives and work of university students who work. The findings also suggested practical implications for professionals who work with students, including counsellors who work face-to-face assisting student clients and those at the institutional level (of university and work) who have regular contact with working students. As the vast majority of contemporary students are required to work while they study, a trend that is continuing to increase, all involved have roles to play to ease the burden of students, as this will benefit both them and the community.
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Appendix A

Letter of Approval from the Griffith University Human Research Ethics Committee: Study 1, Study 2, and Study 3

GRIFFITH UNIVERSITY HUMAN RESEARCH ETHICS COMMITTEE

03-Oct-2016
Dear APro Elizabeth Conlon

I write in relation to your application for ethical clearance for your project "What are the Key Factors that Enable University Students to Successfully Manage Work and Study Simultaneously?" (GU Ref No: 2016/742). The research ethics reviewers resolved to grant your application a clearance status of "Fully Approved".

This is to confirm receipt of the remaining required information, assurances or amendments to this protocol.

Consequently, I reconfirm my earlier advice that you are authorised to immediately commence this research on this basis.

The standard conditions of approval attached to our previous correspondence about this protocol continue to apply.

Regards
Kim Madison
Human Research Ethics
Office for Research
Griffith University
ph: +61 7 373 58043
email: k.madison@griffith.edu.au

Researchers are reminded that the Griffith University Code for the Responsible Conduct of Research provides guidance to researchers in areas such as conflict of interest, authorship, storage of data, & the training of research students.

You can find further information, resources and a link to the University's Code by visiting Griffith's webpage: Griffith University Code for the Responsible Conduct of Research

PRIVILEGED, PRIVATE AND CONFIDENTIAL
This email and any files transmitted with it are intended solely for the use of the addressee(s) and may contain information which is confidential or privileged. If you receive this email and you are not the addressee(s) [or responsible for delivery of the email to the addressee(s)], please disregard the contents of the email, delete the email and notify the author immediately.
Appendix A (continued)

Letter of Approval from the Griffith University Human Research Ethics Committee: Study 1, Study 2, and Study 3

GRIFFITH UNIVERSITY HUMAN RESEARCH ETHICS COMMITTEE

06-Feb-2017
Dear APro Elizabeth Conlon

I write in relation to your application for ethical clearance for your project "Working While Studying: How do Students Manage it?" (GU Ref No: 2016/958). The research ethics reviewers resolved to grant your application a clearance status of "Conditionally Approved".

This decision is subject to:
Approval by the Chief/Principal Investigator and the Head of School or Centre Director.

To review and approve a submission simply log into the RIMS portal (https://www.griffith.edu.au/research/research-services/research-ethics-integrity/human/ethical-reviews), access the My Approvals tab, click on the relevant application, review it, and then click the Approve button.

For further instructions, please refer to the following Quick Reference Guide: https://www.griffith.edu.au/__data/assets/pdf_file/0006/741678/CIHOSCD_Review_of_Ethics_Application.pdf

However, you are authorised to immediately commence this research on the understanding that the above matter is promptly addressed.

Once all approvals for the application have been submitted, the status of your application will be changed to fully approved.

Regards
Kim Madison
Human Research Ethics
Office for Research
Griffith University
ph: +61 7 373 58043
e-mail: k.madison@griffith.edu.au

Researchers are reminded that the Griffith University Code for the Responsible Conduct of Research provides guidance to researchers in areas such as conflict of interest, authorship, storage of data, & the training of research students.
You can find further information, resources and a link to the University's Code by visiting http://policies.griffith.edu.au/pdf/Code%20for%20the%20Responsible%20Conduct%20of%22Research.pdf
Appendix B

Study Information, Consent Form, Demographics Questions for Focus Group Participants

(printed with Griffith University Logo)

What are the Key Factors that Enable University Students to Successfully Manage Work and Study Simultaneously?

INFORMATION SHEET

Who is conducting the research

Senior Investigators:
Name: Associate Professor Elizabeth Conlon
School / Centre: Applied Psychology
Contact Phone: (07) 567 88981
Contact Email: e.conlon@griffith.edu.au

Name: Professor Peter Creed
School / Centre: Applied Psychology
Contact Phone: (07) 567 88810
Contact Email: p.creed@griffith.edu.au

Student Investigator:
Name: Moong Li Chu
School / Centre: Applied Psychology
Contact Email: moongli.chu@griffithuni.edu.au

You are invited to participate in this research project about how working students manage their multiple, competing roles (i.e., how they manage study, work, social, and family roles). Thank you for taking the time to read this information and consider your involvement. Please read all pages.

Why is the research being conducted?

This research project is being conducted as part of the requirements of her Higher Degree Research program, undertaken by Moong Li, and supervised by Prof Elizabeth Conlon and Prof Peter Creed. The purpose of this research is to identify the strategies that tertiary students use to manage their multiple, competing roles.

What you will be asked to do

You are being asked (a) to complete a anonymous demographic questionnaire regarding your background and student status (e.g., age, gender, what your job is, number of hours working), (b) to read and sign a consent form agreeing to participate in a focus group, which will be audio-taped, and (c) participate in a discussion of your experiences related to how you manage your study while also meeting your other responsibilities at work, with friends, partners, and family. The main focus will be on how you manage your work and study responsibilities. The group discussion will take approximately 45 minutes.
The basis by which participants will be selected or screened

Any undergraduate Griffith University student aged 17 to 25 years, who is working while studying is eligible to participate in this project.

The expected benefits of the research

In return for participating:
(a) you will be given a $10 gift voucher as a thank you for your time;
(b) for first-year psychology undergraduate students, you will be eligible to claim research participation credit of 1 hour;
(c) we expect this research will help us understand how students manage their multiple roles. It will also generate information that will be useful to university policy makers, counsellors who work with students, and those who devise interventions to help tertiary students manage their diverse demands, especially their work and study roles.

Risks to you

There is minimal risk to you, but if you become uncomfortable or distressed as a result of discussing issues regarding the integration of work and study, you can leave the focus group immediately and/or contact the support services below:

Counselling service:
Phone: (+ 61 7) 5552 8734
Fax: (+61 7) 5552 8854
Email: counsellor@griffith.edu.au
Location: Gold Coast Campus, Student Centre (G33)
Opening hours: Monday to Friday, 8:30am – 4:30pm
Website: https://www.griffith.edu.au/counselling
https://www.griffith.edu.au/counselling/contact-us

Health Service:
Phone: 1300 744 284
Location: Gold Coast University Hospital, Hospital Boulevard, Southport.
Website: https://www.griffith.edu.au/health-service

Student Services:
Phone: (7) 5552 8734 / +61 7 5552 8734
Location: Gold Coast Campus, Student Centre (G33)
Opening hours: 8.30 am - 4.30 pm
Website: https://www.griffith.edu.au/student-services/contact-us

Your confidentiality

Data collected will be treated with strict confidentiality. Your identity will not be attached to the recordings neither will it appear in any publication. The focus group discussion will be audiotaped and transcribed for analysis of content. Once recordings are transcribed, they will be destroyed. The transcriptions and the initial demographic surveys will remain anonymous. All hard-copy transcripts will be locked in a research office at Griffith University for maximum five years. You are also asked to keep other participants’ information confidential.

Your participation is voluntary
Your participation is completely voluntary. You are free to withdraw from the focus group session at any time, without giving a reason or penalty.

Questions / further information

Students who are interested in the project are welcome to contact the researchers for additional information about the project (See 1st page for contact details). Your comments regarding the research are also welcome.

The ethical conduct of this research

This project will follow the National Statement on Ethical Conduct in Human Research. If you have any concerns or complaints about the ethical conduct of the research project, you can contact the Manager, Research Ethics on +61 3735 4375 or research-ethics@griffith.edu.au.

Feedback to you

If you are interested in receiving the results of this project, please tick the appropriate box in the Informed Consent Form. Once the research is finalised, a summary of result will be emailed to you.

Privacy Statement – non disclosure

The information collected is confidential and will not be disclosed to third parties without your consent, except to meet government, legal or other regulatory authority requirements. A de-identified copy of this data may be used for other research purposes. However, your anonymity will at all times be safeguarded. For further information, consult the University’s Privacy Plan at http://www.griffith.edu.au/about-griffith/plans-publications/griffith-university-privacy-plan or telephone +61 (07) 3735 4375.
What are the Key Factors that Enable University Students to Successfully Manage Work and Study Simultaneously?

CONSENT FORM (Focus Group)

Research Team

Associate Professor Elizabeth Conlon
Chief Investigator
e.conlon@griffith.edu.au
P/h: (07) 567 88981

Professor Peter Creed
Chief Investigator
p.creed@griffith.edu.au
P/h: (07) 567 88810

Moong Li Chu
Student Investigator
moongli.chu@griffithuni.edu.au

School of Applied Psychology, Griffith University, Gold Coast

By signing below, I confirm that I have read and understood the information package and in particular have noted that:

- I understand that my involvement in this research will include discussion regarding the management of integrating work and study with similar age students and will take approximately 45 minutes to complete;
- I agree to keep other participants' information confidential;
- I have had any questions answered to my satisfaction;
- I understand the risks involved;
- I understand that my participation in this research is voluntary;
- I understand that if I have any additional questions I can contact the research team;
- I understand that I am free to withdraw at any time, without explanation or penalty;
- I understand that I can contact the Manager, Research Ethics, at Griffith University Human Research Ethics Committee on 3735 4375 (or research-ethics@griffith.edu.au) if I have any concerns about the ethical conduct of the project;

☐ I agree to participate in the project.

☐ I want to receive a summary of the research results when available.

Please provide your email address:
____________________________________

Signature

Date
Demographic Questions for Focus Group

What are the Key Factors that Enable University Students to Successfully Manage Work and Study Simultaneously?

1. What is your age?  
____________________ years

2. What is your gender?  
FEMALE  MALE

3. Which year of study are you in?  
1\textsuperscript{st} /2\textsuperscript{nd} /3\textsuperscript{rd} /4\textsuperscript{th}  
P/G

4. Are you an international or domestic student?  
International  Domestic

5. Are you:  
Part-time student  
Full-time student

6. What is your academic course?  
_______________________________________

7. How many hours on average do you work per week?  
____________________ hours

8. What type of work do you do (e.g., sales, waitering)?  
________________________________________
WORK-STUDY BOUNDARY CONGRUENCE

Appendix C

Study Booklet: Study Information, Prize Draw Entry and Contact Forms, and Research Questionnaire: Study 1, Study 2, and Study 3

(Printed with Griffith University Logo)

Working While Studying: How do Students manage it?

INFORMATION SHEET

Who is conducting the research

Senior Investigators:
Associate Professor Elizabeth Conlon
School of Applied Psychology
Contact Phone: (07) 567 88981
Contact Email: e.conlon@griffith.edu.au

Professor Peter Creed
School of Applied Psychology
Contact Phone: (07) 567 88810
Contact Email: p.creed@griffith.edu.au

Student Investigator:
Moong Li Chu
School of Applied Psychology
Contact Email: moongli.chu@griffithuni.edu.au

You are invited to participate in this research project about how working students manage their multiple, competing roles, in particular how students manage their study role when they also work. Thank you for taking the time to read this information and consider your involvement. Please read all pages.

Why is the research being conducted?

This research project is being conducted as part of the requirements of the PhD studies undertaken by Moong Li, who is being supervised by Prof Elizabeth Conlon and Prof Peter Creed. The purpose of this research is to develop a better understanding of how university students manage their study responsibilities when they also have paid-work responsibilities.

What you are being asked to do

You are being asked to complete a survey. Most students who complete surveys about how they manage work and study find them engaging and
interesting. Demographic questions of a general nature are also included. The surveys will take you approximately 20 minutes to complete each time.

You will need to provide us with your email address, which will only be used to contact you if you win the prize draw.

**Who can participate?**
Any university student who is working while studying is eligible to participate in this project.

**The expected benefits of the research**

In return for participating:
(a) For this survey, you will be able to enter a prize draw to win one of four $50 shopping vouchers;
(b) Participating in research allows you to contribute to research that will potentially benefit future students, who also have to work while they study. The study is expected to generate information that will be useful to university policy makers, counsellors who work with students, and those who devise interventions to help tertiary students manage their diverse demands, especially their work and study roles.

**Risks to you**

There is minimal risk to you, but if you become uncomfortable or distressed as a result of answering questions regarding how you manage your work and study, you can stop answering the questions immediately and/or contact the support services below:

**GU Counselling Service:**
Phone: (+ 61 7) 5552 8734
Fax: (+61 7) 5552 8854
Email: counsellor@griffith.edu.au
Location: Gold Coast Campus, Student Centre (G33)
Opening hours: Monday to Friday, 8:30am – 4:30pm
Website: [https://www.griffith.edu.au/counselling](https://www.griffith.edu.au/counselling)
[https://www.griffith.edu.au/counselling/contact-us](https://www.griffith.edu.au/counselling/contact-us)

**GC Health Service:**
Phone: 1300 744 284
Location: Gold Coast University Hospital, Hospital Boulevard, Southport.
Website: [https://www.griffith.edu.au/health-service](https://www.griffith.edu.au/health-service)

**GC Student Services:**
Phone: (7) 5552 8734 / +61 7 5552 8734
Location: Gold Coast Campus, Student Centre (G33)
Opening hours: 8.30 am - 4.30 pm
Website: [https://www.griffith.edu.au/student-services/contact-us](https://www.griffith.edu.au/student-services/contact-us)

**Your confidentiality**
Your email address will be collected in this research, which are only used for contacting with you in a later time. Hence, you will not be identified in any research-related publication or reporting. Information provided will remain securely stored and confidential, and once the data are matched, your identified information will be destroyed. All research data (survey responses and analysis) will be retained in a locked cabinet and/or a password protected electronic file at Griffith University for a period of five years before being destroyed.

Your participation is voluntary

Your participation is completely voluntary. You are free to withdraw from the survey study at any time, without giving a reason or penalty.

Questions / further information

Students who are interested in the project are welcome to contact the researchers for additional information about the project (See 1st page for contact details). Your comments regarding the research are also welcome.

The ethical conduct of this research

This project will follow the National Statement on Ethical Conduct in Human Research. If you have any concerns or complaints about the ethical conduct of the research project, you can contact the Manager, Research Ethics on +61 3735 4375 or research-ethics@griffith.edu.au.

Feedback to you

If you are interested in receiving the results of this project, please tick the appropriate box. Once the research is finalised, a summary of result will be emailed to you.

Privacy Statement – non disclosure

The information collected is confidential and will not be disclosed to third parties without your consent, except to meet government, legal or other regulatory authority requirements. A de-identified copy of this data may be used for other research purposes. However, your anonymity will at all times be safeguarded. For further information, consult the University’s Privacy Plan at http://www.griffith.edu.au/about-griffith/plans-publications/griffith-university-privacy-plan or telephone +61 (07) 3735 4375.

Completion of this survey will be taken as your consent to participate in the research.
**Win one of four $50 Vouchers for Completing this Survey**

Project: Working While Studying: How do Students manage it?

Researcher: Moong Li Chu

ENTRY DETAILS

To enter the draw for one of four $50 vouchers, you need to:

- Submit your completed online survey and this entry form **before 21st March 2017**
- Fill in your contact details below (your name, and email address/phone number)

TERMS AND CONDITIONS OF ENTRY

1. The prize draw is being run by three of us to encourage participation in this research “Working While Studying: How do Students manage it?”
2. By electing to participate, you accept these terms and conditions as governing the prize draw. Instructions on how to enter the prize draw and details advertising the survey form part of the conditions. Any personal information you provide to us in the course of entering the prize draw will be dealt with by us in accordance with our privacy policy (published at: http://www.griffith.edu.au/about-griffith/governance/plans-publications/griffith-university-privacy-plan).
3. Four prizes will be awarded in prize draw, each prize being one of four vouchers and being worth $50. Should the advertised prize become unavailable as a result of circumstances beyond our control, we are free (at our sole discretion) to substitute a cash prize equivalent to the value of the prize advertised.
4. Entry is free (other than the cost of accessing the website, which is your responsibility). Entry is open between 1st Feb 2017 and 21st March, 2017. Entries received after the closing date will not be accepted.
5. To enter the prize draw, you must:
   (a) be a university student who is working;
   (b) complete the questionnaire; and
   (c) provide a valid postal address.
6. You may not enter the prize draw if you are: i) a member of the research team, ii) employed by the research team; iii) an immediate family member (i.e. a spouse-, partner, child or sibling) of someone identified at 1 or 2 above.
7. You may only submit one entry in the prize draw.
8. All survey and other materials provided by you become our property. No responsibility is taken for late, lost or misdirected surveys or entries.
9. Following the closing date, the prize winners will be selected randomly from valid entries received. Each entry can only be drawn once.
10. Subject to system malfunction, the draw will occur on 15th Nov 2017. If the systems supporting the draw are not functioning as they should when the draw is due, the draw will be held as soon as possible once the systems become functional again. Prize winners do not need to be present at the time of the draw.
11. Prize winner names will not be published.
12. The relevant prize will be sent to each prize winner at the postal address they provided with the prize draw entry. If an address has not been supplied, the entry will be treated in accordance with clause 14. The majority of prizes will be mailed within two weeks of the draw.
13. The right to a prize is not transferable or assignable to another person.
14. If any prize winner cannot be contacted within three (3) months of the draw, then that person’s right to the prize is forfeited and the prize will be treated as an unclaimed prize.
15. Only one redraw of unclaimed prizes will take place, and other existing prizes are not affected. The redraw prize winner(s) will be randomly selected from remaining valid entries and notified within two (2) weeks of the redraw. If the redraw prize winner(s) cannot be contacted within three (3) months of the redraw, then we may determine that the relevant prize(s) will not be awarded.
16. Prizes cannot be substituted for another prize at the election of the prize-winner.
17. We are not liable for any loss, expense, damage or injury sustained by any entrant in connection with this prize draw, the prize or redemption of the prize, except for any liability which cannot be excluded by law (in which case, that liability is limited to the minimum allowable by law).

18. We may suspend the promotion if we determine that the integrity or administration of the promotion has been adversely affected due to circumstances beyond its control. We may disqualify any individual who tampers with the entry process.
Study 1: Instructions

You will be asked questions about how you manage work and study. Demographic questions are placed at the end. After finishing this survey, you will be asked to fill out some identifying information in a separate survey, which will only be used to draw the prize and award course credit.

These questions ask about you working while studying.

<table>
<thead>
<tr>
<th>These questions ask about you working while studying.</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Somewhat Disagree</th>
<th>Somewhat Agree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>The course I am enrolled in allows me the flexibility to meet the demands from my workplace.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>The availability of study/lecture material online makes it easier for me to work and study.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Being able to pick my class times allows me to organise my work and study times really well.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Having online access to library resources allows me to manage work and study.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>

These questions ask about you working while studying.

<table>
<thead>
<tr>
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<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Somewhat Disagree</th>
<th>Somewhat Agree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>My work colleagues are flexible enough to swap work shifts with me when I need time off to study.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>My work supervisor allows me a lot of flexibility because I am working and studying.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>My work colleagues understand I need some flexibility to meet my study commitments.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>My work supervisor will consider my study commitments when setting work rosters.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>
These questions ask about you working while studying.

<table>
<thead>
<tr>
<th>Question</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Somewhat Disagree</th>
<th>Somewhat Agree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>My family understands the pressures I am under from having to work while I study.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>I get good support from the people around me who understand the demands of working while studying.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>My family understands that I need time to study and work.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>My family’s encouragement makes it easier to work and study.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>

These questions ask about you working while studying.

<table>
<thead>
<tr>
<th>Question</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Somewhat Disagree</th>
<th>Somewhat Agree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Despite having to work while I study, I still have enough time for leisure.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Even though I work and study, I still get enough time for myself.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Even though I work and study, I have plenty of social time.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>I have enough time for a social life even though I work and study.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>

These questions ask about your paid work.

<table>
<thead>
<tr>
<th>Question</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Somewhat Disagree</th>
<th>Somewhat Agree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I don't like to have to think about work while I'm studying.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>I prefer to keep work life at work.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>I don't like work issues creeping into my study life.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>I like to be able to leave work behind when I am studying.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>
These questions ask about your workplace.

<table>
<thead>
<tr>
<th>Perception</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Somewhat Disagree</th>
<th>Somewhat Agree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>My workplace lets people forget about work when they're studying.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Where I work, people can keep work matters at work.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>At my workplace, people are able to prevent work issues from creeping into their study life.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Where I work, people can mentally leave work behind when they are studying.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>

Here are some questions about you

1. What is your age? (years)

2. What is your gender?

   Please choose only one of the following:

   o Female
   o Male

3. What is your relationship status?

   Please choose only one of the following:

   o Single
   o Partnered

4. Which year of study are you in?

   Please choose only one of the following:

   o 1st
   o 2nd
   o 3rd
   o 4th
   o P/G

5. Are you an international or domestic student?

   Please choose only one of the following:

   o International
   o Domestic
6. Are you...?

Please choose only one of the following:

- Part-time student
- Full-time student

7. What is your academic course?

8. How many hours on average do you work per week? (hours)

9. What type of work do you do (e.g., sales, waitering)?

10. What grade did you typically receive in Year 12 (or equivalent)?

Please choose 1 answer: A B C D E

Please see the key below to work out your Year 12 grading equivalent with other Australian states.

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12. In Australia, we mostly think of ourselves as Australian, but many Australians also identify with different cultural backgrounds and think of themselves as, for example, Chinese Australians, Aboriginal Australians, or Italian Australians.

With what cultural background do you identify?

What is your cultural background (e.g., Australian, Asian, African)?

Please write your answer here:

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There are 4 questions in this survey

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NOTE: PRINT THIS PAGE ONCE COMPLETED AND RETAIN AS YOUR EVIDENCE OF PARTICIPATION.

IF YOU DO NOT NEED RESEARCH PARTICIPATION CREDIT, PROCEED TO THE QUESTION 3 FOR THE PRIZE DRAW

1. Name (FIRST AND LAST NAME) __________________________
2. Student ID number __________________________
3. What is your name? __________________________
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Study 2: Instructions

You will be asked questions about how you manage work and study. Demographic questions are placed at the end.
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These questions ask about how your paid job affects your study.

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<th>Somewhat Agree</th>
<th>Agree</th>
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</tr>
</thead>
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<tr>
<td>Because of my job, I go to university tired.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>My job demands and responsibilities interfere with my university work.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>I spend less time studying and doing university work because of my job.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>My job takes up time that I’d rather spend at university or on university work.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
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<tr>
<td>The things I learn at my job help me deal with personal and</td>
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<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>practical issues at university.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The things I learn at my job make me a more interesting person</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>at university.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The things I learn at my job are useful for the things I have</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>to do at university.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Having a good day at my job makes me a better university</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>student.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Talking to people at my job helps me deal with problems at</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>university.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Thinking of the past few weeks, what has been your attitude towards your university studies?

<table>
<thead>
<tr>
<th>Attitude</th>
<th>None of the time</th>
<th>Some of the time</th>
<th>A bit less than half of the time</th>
<th>A bit more than half of the time</th>
<th>Most of the time</th>
<th>Nearly all of the time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relaxed</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Worried</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Depressed</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Calm</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Contented</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Gloomy</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Optimistic</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Tense</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Enthusiastic</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Cheerful</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Miserable</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Uneasy</td>
<td>1</td>
<td>2</td>
<td>3</td>
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These questions ask about your engagement in your studies.

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<td>I find my studies to be full of meaning and purpose.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
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<tr>
<td>My studies inspire me.</td>
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I am enthusiastic about my studies.
I am proud of my university studies.
I find my studies interesting.

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<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
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<td>Work</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
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<td></td>
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**Here are some questions about you**

1. What is your age? (years)

______________________

2. What is your gender?

Please choose only one of the following:

- Female
- Male

3. What is your relationship status?

Please choose only one of the following:

- Single
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4. Which year of study are you in?

Please choose only one of the following:

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- 2nd
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5. Are you an international or domestic student?

Please choose only one of the following:

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- Domestic

6. Are you...?

Please choose only one of the following:

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7. What is your academic course?

___________________________

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1. Name (FIRST AND LAST NAME) __________________________
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<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>

These questions ask about you working while studying.

<table>
<thead>
<tr>
<th></th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Somewhat Disagree</th>
<th>Somewhat Agree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Despite having to work while I study, I still have enough time for leisure.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Even though I work and study, I still get enough time for myself.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Even though I work and study, I have plenty of social time.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>I have enough time for a social life even though I work and study.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>

These questions ask about how you tackle your tasks.

<table>
<thead>
<tr>
<th></th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Somewhat Disagree</th>
<th>Somewhat Agree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>If I see something I don’t like, I fix it.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>No matter what the odds, if I believe in something I will make it happen.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>I love being a champion for my ideas, even against others’ opposition.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>I excel at identifying opportunities.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>I am always looking for better ways to do things.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>
If I believe in an idea, no obstacle will prevent me from making it happen.

<table>
<thead>
<tr>
<th></th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Somewhat Disagree</th>
<th>Somewhat Agree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>My workplace lets people forget about work when they're studying.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Where I work, people can keep work matters at work.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>At my workplace, people are able to prevent work issues from creeping into their study life.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Where I work, people can mentally leave work behind when they are studying.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>

These questions ask about the people around you.

<table>
<thead>
<tr>
<th></th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Somewhat Disagree</th>
<th>Somewhat Agree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>My family really tries to help me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>I get the emotional help and support I need from my family.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>I can talk about my problems with my family.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>My family is willing to help me make decisions.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>

These questions ask about your life in general.

<table>
<thead>
<tr>
<th></th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Somewhat Disagree</th>
<th>Somewhat Agree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I lead a purposeful and meaningful life.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>My social relationships are supportive and rewarding.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>I am engaged and interested in my daily activities.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>I actively contribute to the happiness and well-being of others.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>I am competent and capable in the activities that are important to me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>I am a good person and live a good life.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>I am optimistic about my future.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>People respect me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>

These questions ask about your task performance.

<table>
<thead>
<tr>
<th>I am achieving my study objectives.</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Somewhat Disagree</th>
<th>Somewhat Agree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I am meeting the criteria for good university performance.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>I am demonstrating expertise in all university-related tasks.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>I am fulfilling all university study requirements.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>I could manage more responsibility than typically assigned at university.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>I would be suitable for a more demanding course.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>I am competent in all areas related to my university studies.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>I am performing well in my university studies by carrying out all tasks as expected.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>I plan and organize to achieve my university study objectives and meet deadlines.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>

These questions ask about how you perceive your employability.

<table>
<thead>
<tr>
<th>Right now, I am generally confident of success in job interviews and selection events.</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Somewhat Disagree</th>
<th>Somewhat Agree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I feel I could get any job at the moment as long as my skills and experience are reasonably relevant.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>The skills and abilities that I possess now are what employers are looking for.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>
At the moment, I can easily find out about opportunities in my chosen field.

![Table]

<table>
<thead>
<tr>
<th>At the moment, I can easily find out about opportunities in my chosen field.</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
</table>

I am satisfied with the progress I have made meeting my current goals for development.

![Table]

<table>
<thead>
<tr>
<th>I am satisfied with the progress I have made meeting my current goals for development.</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
</table>

I want to be in a position to do mostly the work that I like.

![Table]

<table>
<thead>
<tr>
<th>I want to be in a position to do mostly the work that I like.</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
</table>

**Here are some questions about you**

1. What is your age? (years)

   ________________

2. What is your gender?

   Please choose only one of the following:
   - Female
   - Male

3. What is your relationship status?

   Please choose only one of the following:
   - Single
   - Partnered

4. Which year of study are you in?

   Please choose only one of the following:
   - 1st
   - 2nd
   - 3rd
   - 4th
   - P/G

5. Are you an international or domestic student?

   Please choose only one of the following:
   - International
   - Domestic

6. Are you...?

   Please choose only one of the following:
   - Part-time student
   - Full-time student

7. What is your academic course?

   _______________________

8. How many hours on average do you work per week? (hours)
9. What type of work do you do (e.g., sales, waitering)?

10. What grade did you typically receive in Year 12 (or equivalent)?

Please choose 1 answer: A B C D E

Please see the key below to work out your Year 12 grading equivalent with other Australian states.

<table>
<thead>
<tr>
<th>Equivalent grade/state</th>
<th>QLD</th>
<th>NSW</th>
<th>VIC</th>
<th>ACT, SA, NT &amp; WA</th>
<th>TAS</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Very high achievement</td>
<td>Band 6</td>
<td>41-50</td>
<td>A</td>
<td>Exceptional achievement</td>
</tr>
<tr>
<td>B</td>
<td>High achievement</td>
<td>Band 5</td>
<td>31-40</td>
<td>B</td>
<td>High achievement</td>
</tr>
<tr>
<td>C</td>
<td>Sound achievement</td>
<td>Band 3 and 4</td>
<td>21-30</td>
<td>C</td>
<td>Commendable achievement</td>
</tr>
<tr>
<td>D</td>
<td>Limited achievement</td>
<td>Band 2</td>
<td>11-20</td>
<td>D</td>
<td>Satisfactory achievement</td>
</tr>
<tr>
<td>E</td>
<td>Very limited achievement</td>
<td>Band 1</td>
<td>0-10</td>
<td>E</td>
<td>Preliminary achievement</td>
</tr>
</tbody>
</table>

Please choose only one of the following:

- A
- B
- C
- D
- E

11. When you compare yourself to others at university, how would you describe your current financial position?

Please choose only one of the following:

- Much better off than others
- A little better off than others
- About the same as others
A little worse off than others
Much worse off than others

12. In Australia, we mostly think of ourselves as Australian, but many Australians also identify with different cultural backgrounds and think of themselves as, for example, Chinese Australians, Aboriginal Australians, or Italian Australians.

With what cultural background do you identify?
What is your cultural background (e.g., Australian, Asian, African)?
Please write your answer here:

___________________________

When you submit this survey, you will be redirected to a separate survey for prize draw and credit claim

Research Participation Credit and Prize Draw Entry Survey

Participants who have participated in the study "Working While Studying: How do Students manage it?" are eligible to enter into the prize draw to win one of four $50 shopping vouchers. For those who enrolled in 1001PSY are also granted with 30 minutes course credit for completing the survey.

There are 4 questions in this survey

Research Participation Credit and Prize Draw Entry

If you are enrolled in 1001PSY and wish to be granted 30 minutes course credit for completing the Working while Studying Survey that you just completed, please enter your name and student number here.

NOTE: PRINT THIS PAGE ONCE COMPLETED AND RETAIN AS YOUR EVIDENCE OF PARTICIPATION.

IF YOU DO NOT NEED RESEARCH PARTICIPATION CREDIT, PROCEED TO THE QUESTION 3 FOR THE PRIZE DRAW

1. Name (FIRST AND LAST NAME) __________________________
2. Student ID number __________________________
3. What is your name? __________________________
4. Enter your mobile or other phone number on which I can contact you if you win. ________
Appendix D

Letter of Acceptance and Notification of the Online Publication by the

International Journal for Educational and Vocational Guidance of Study 1

“Development and Initial Validation of a Work-Study Congruence Scale
for University Students”

From:
em.ijvo.3.5cd3bc.f6c4183a@editorialmanager.com<em.ijvo.3.5cd3bc.f6c4183a@editorialmanager.com> on behalf of Helen James
<em@editorialmanager.com>
Sent: Friday, 27 July 2018 3:25 PM
To: Peter Creed
Subject: IJVO-D-18-00013R2 - Accepted (paper sent for copy editing)

Dear Dr. Creed,

We are pleased to inform you that your manuscript, "Development and Initial Validation of a Work-Study Congruence Scale for Tertiary Students", has been accepted for publication in International Journal for Educational and Vocational Guidance. It will now undergo some copy-editing. Our editorial assistant might contact you within the next few weeks in order to ask you to make some further specific changes or to approve the changes she might have done to your manuscript.

Please remember to quote the manuscript number, IJVO-D-18-00013R2, whenever inquiring about your manuscript.

Thank you very much.

Best Regards,
Helen James
JEO Assistant
From: Springer Nature Sharing <no-reply@email.authors.springernature.com>

Date: October 27 2018

To Moong Li Chu

Dear Author,

Congratulations on publishing "Development and initial validation of a Work-Study Congruence Scale for university students" in International Journal for Educational and Vocational. As part of the Springer Nature SharedIt initiative, you can now publicly share a full-text view-only version of your paper by using the link below. If you have selected an Open Access option for your paper, or where an individual can view content via a personal or institutional subscription, recipients of the link will also be able to download and print the PDF. All readers of your article via the shared link will also be able to use Enhanced PDF features such as annotation tools, one-click supplements, citation file exports and article metrics.

https://rdcu.be/baa75

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Sincerely,

Springer Nature

The Springer Nature SharedIt Initiative is powered by readcube technology.
Appendix E

Confirmation of Submission of Study 2 “Work-Study Boundary Congruence: Its Relationship with Student Well-Being and Engagement”

From: International Journal for Educational and Vocational Guidance (IJVO) <merlyn.daniel@springernature.com>

Date: Oct 09 2018

to me

Dear Miss Chu,

Thank you for submitting your manuscript, Work-Study Boundary Congruence: Its Relationship with Student Well-Being and Engagement, to International Journal for Educational and Vocational Guidance.

The submission id is: IJVO-D-18-00107
Please refer to this number in any future correspondence.

During the review process, you can keep track of the status of your manuscript through the Editorial Manager website.

Your username is: Moong Li
If you forgot your password, you can click the 'Send Login Details' link on the EM Login page at https://ijvo.editorialmanager.com/.

Should you require any further assistance please feel free to e-mail the Editorial Office by clicking on "Contact Us" in the menu bar at the top of the screen.

With kind regards,
Springer Journals Editorial Office
International Journal for Educational and Vocational Guidance

Now that your article will undergo the editorial and peer review process, it is the right time to think about publishing your article as open access. With open access your article will become freely available to anyone worldwide and you will easily comply with open access mandates. Springer's open access offering for this journal is called Open Choice (find more information on www.springer.com/openchoice). Once your article is accepted, you will be offered the option to publish through open access. So you might want to talk to your institution and funder now to see how payment could be organized; for an overview of available open access funding please go to www.springer.com/oafunding.
Although for now you don't have to do anything, we would like to let you know about your upcoming options.

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PublicationOfficeSPS@springernature.com

In compliance with data protection regulations, please contact the publication office if you would like to have your personal information removed from the database.
Appendix F


Journal of Career Development <onbehalfof@manuscriptcentral.com>
Date: Jan 20 2019
To Me
19-Jan-2019

Dear Miss Moong Li Chu,

Your manuscript "Work-Study Boundary Congruence, Contextual Supports, and Proactivity in University Students who Work: A Moderated-Mediation Model" has been accepted for publication in Journal of Career Development.

In order for SAGE to proceed with publication of your article, you must complete a Contributor Form.

You should review and complete the form online at the journal's SAGETRACK site. The following link will take you there directly:

https://mc.manuscriptcentral.com/jcdjournal?URL_MASK=f8124afc3fe3438b9916de720934ac5b

Please note that without a completed agreement, we are unable to proceed with publication of your article.

If your library does not currently subscribe to Journal of Career Development, please ask them to do so in order to allow your colleagues to access your published article.

If you have any questions please contact the Editorial Office.

With best wishes,
JCD Editorial Office
JCD@missouri.edu

Journal of Career Development Editorial Office
Appendix G

Confirmation of Poster Acceptance for the Australian Psychology Learning and Teaching Conference “Working while studying: How do student manage?”

From: Shirley Morrissey  s.morrissey@griffith.edu.au
Date: Sept 5 2017
to Elizabeth, me

Hi Liz and Moong Li

congratulations your abstract has been accepted and the poster presentation is scheduled on the Friday 15th September between 5.30 and 7pm.

Please see attached for information how to register:

Please see the attachments and this this link for more information

Thanks
Shirley

Professor Shirley Morrissey, FAPS
Director of Clinical Psychology Programs
School of Applied Psychology
Griffith Health Centre (G40, room 7. 87)
Griffith University
Gold Coast
QLD 4222

Phone: +61 (0)7 5678 8524
Fax: +61 (0)7 5678 8056
Email: s.morrissey@griffith.edu.au

Fellow of the Australian Psychological Society
www.psychology.org.au
Appendix H

Confirmation of Acceptance for the 25th Biennial Meeting of the
International Society for the Study of Behavioural Development Conference

“Work-study conflict and facilitation mediate between work-study congruence and engagement and well-being of students: The important role for family congruence”

From: ISSBD Registration registration@issbd2018.org via mail70.atl31.mcdlv.net
Date: Apr 6 2018
To me

SPEAKER CONFIRMATION

6 April 2018

Dear ISSBD Presenter,

On behalf of the committee, I would like to confirm you as a presenter at the 25th Biennial Meeting of the International Society for the Study of Behavioural Development (ISSBD2018) to take place from the 15th to 19th July 2018 on the Gold Coast, QLD, Australia. Please see below details.

Speaker Session

Please refer to the program online for your session date, time and room of your presentation. The program is being updated so please be sure to check it every so often to ensure you are up to date.
https://www.issbd2018.org/full-program

About the Conference

The International Society for the Study of Behavioural Development (ISSBD 2018) ISSBD is the largest international organisation of researchers studying human development across the lifespan. It has over 1100 members from 60 countries and welcomes researchers interested in human development from any scientific discipline.

The 2018 meeting will see ISSBD convene in Australia at The Star, Gold Coast with an exciting scientific program. ISSBD 2018 will cover various aspects of developmental science, such as brain-behaviour relations across the lifespan, academic engagement, emotion and coping, life events and transition, health, media and technology, culture and context, policy, and intervention. The conference will provide wonderful
opportunities to communicate with colleagues from different societies on interesting issues. In addition to the main conference, there will be social events and a series of workshops during the period mainly for early career scholars. These workshops, led by internationally prominent scholars and researchers, will focus on helping early career scholars develop research abilities and skills.

ISSBD 2018 provides a rare opportunity to bring together leading and emerging researchers of human development and to foster scholarly exchange on a diversity of developmental topics from infancy to late life.

**Venue**

The Star Gold Coast  
The Star, 1 Casino Drive, Broadbeach QLD 4218  
Phone: (07) 5592 8100

**Presentation**

Please refer to the relevant presentation guidelines below. These are also available on the ISSBD2018 website.

**Poster Workshop Presenter Guidelines:**
https://docs.wixstatic.com/ugd/3e200d_9fce235b0bbf4dfa95d29b32f27c50bd.pdf

**Individual Poster Presenter Guidelines:**
https://docs.wixstatic.com/ugd/3e200d_c864de828de04bed84b26a074190943c.pdf

**Symposium Presenter Guidelines:**
https://docs.wixstatic.com/ugd/3e200d_c36dfb859ebe402abdb3a5fd616e0378.pdf

**PLEASE NOTE:** All PowerPoint presentations will need to be in a **16:9** format.

**Conference Sessions**

A copy of the congress program can be found here https://www.issbd2018.org/full-program

**Visa Information**

For international travelers, please ensure you have either obtained the relevant visa or ETA prior to travel. Information on Visas can be found on the ISSBD website by scrolling to the bottom of the Visitor Information page here: https://www.issbd2018.org/visitor-information
Some countries are eligible for an ETA (Electronic Travel Authority).

For ETA (Electronic Travel Authority) – please visit:  
Countries eligible for an ETA can be found here:  
*This includes the United States of America. Americans need to apply for an ETA.

**Getting there from Brisbane Airport, Australia**

The Gold Coast is about a 1-hour drive South of Brisbane. To get directly to the conference venue (The Star) from Brisbane Domestic or International Airport:

- Catch the Brisbane Airtrain from the airport to the Gold Coast - Helensvale Station.
- Get off at Helensvale Station and walk 2 minutes to the G:Link Tram station at Helensvale to catch a tram from Helensvale to Broadbeach North.
- Get off at Broadbeach North Station (also the Gold Coast Convention and Exhibition Centre) and head on foot towards the pedestrian walk bridge to The Star (approximately a 5-minute walk).

*Please note the Brisbane Airtrain running direct from the airport to the Gold Coast ends operation between about 10pm and 5am. Be sure to check when your flight arrives and if the Airtrain is available. Currently, the website shows that the last Brisbane Airtrain to leave the International Airport is at 22:08 (see https://airtrain.com.au/timetable)

**Getting there from Gold Coast Airport, Australia**

The Gold Coast Airport (also called Coolangatta Airport) is at the South end of the Gold Coast. To get directly to the conference venue (The Star) from Gold Coast Airport:

Gold Coast Cabs
You can estimate your fare here: http://203.35.157.212/WebCabDirect/AddBooking.aspx
Pick up: Taxi Rank located at Eastern Ave, Bilinga, QLD, 4225 (Gold Coast Airport)
Drop off: The Star, 1 Casino Dr, Broadbeach QLD 4218
Catch a Surfside Bus
To map out your journey please visit:
Book a Hire Car
For more information for the services available from Gold Coast Airport visit:  
For more information about getting to/from Gold Coast Airport, visit: https://www.goldcoastairport.com.au/parking-transport/transport/

Should you have any questions or concerns, please don’t hesitate to contact me. If you are no longer able to speak at the conference, please contact me immediately.

I look forward to speaking with you in the near future.

Kind regards,
Meredith Lambert
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