

**School of Management
Curtin Business School**

Online social networking and work-family balance: Friends or Foes?

Farveh Farivar

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DECLARATION

To the best of my knowledge and belief this thesis contains no material previously published by any other person except where due acknowledgment has been made.

This thesis contains no material, which has been accepted for the award of any other degree or diploma in any university.

Signature:

A handwritten signature in blue ink, appearing to read "Lash Privar", with a long horizontal flourish extending to the right.

Date: 09/10/2015

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Abstract

This thesis investigates the effect of online social networking on work-family balance in an Australian context. The work-family balance has been widely researched, as it is considered increasingly an important issue around the world. However, the effect of online social networking on work-family balance is still an under researched area. Recently, some studies have concentrated on whether communication technology might blur the boundary between the work domain and the family domain, however, none of these has focused on online social networking. In October 2011, 1.2 billion users logged into social networking sites, which indicates online social networking is one of the most popular online activities around the world. Consequently, companies find social networking sites, or social media, as a new opportunity to increase their publicity. Furthermore, the web 2.0 communication technology provides companies with new communication methods, which allow companies to connect employees to the workplace when they are physically absent from the workplace. Many companies around the world have launched private internal social networking sites to connect their employees to each other, which is entitled enterprise online networking.

Companies' participation in both public and private social networking sites causes doubts and controversies from legal and organisational perspectives. From the organisational perspective, some studies have revealed that employees' access to social media at the workplace has a negative effect on productivity, as employees spend time online for non-work related purposes. Using social media for non-work purposes in the workplace is referred to as cyberslacking. In addition, organisations are not the only gatekeepers, as employees have the opportunity to connect with the public and community directly through social media, which also creates legal concerns. Many companies around the world are banning the access of employees to public social media at the workplace to reduce cyberslacking, while companies simultaneously have increasingly participated in enterprise online networking as a family friendly strategy or teleworking. Teleworking allows employees to keep in touch with the workplace and get involved with work responsibilities when they are at home.

Employees have access to social media through their personal smartphones at the workplace and through personal networks at home. Sociologists and psychologists have reported a wide range of negative impacts of online social networking on family and personal life from its effect on family conflict (e.g. marital breakdown) to its effect on individuals' well-being. Therefore, a particular interest of this study was to investigate whether the effect of online social networking at home is transportable to the workplace. In the other words, this study defined online social networking as a bidirectional activity, which has the ability to blur the

boundaries between work responsibilities and family responsibilities. The present study sought to find whether cyberslacking at the workplace and enterprise online networking at home could negatively affect both work satisfaction and family satisfaction. Another particular interest of this study was to find which demographic features of social media users resulted in higher levels of work-family balance. To find the answer, a review of previous research was performed. The literature review was applied to develop two models: family domain model and work domain model. Subsequently, an online web-based survey was designed and the data were collected across Australia in two waves of data collection between October 2013 and June 2014 (n=797).

The target population was white-collar employees with office jobs. The data were scanned. Both exploratory and confirmatory analyses were carried out and the fit of the models to the data was investigated. Structural Equation Modelling (SEM) and Fuzzy-set Qualitative Comparative Analysis (Fs/QCA) techniques were adopted to test the hypotheses. The findings suggested online social networking across work and family domains had both direct and indirect negative impacts on the level of work satisfaction and family satisfaction. In the other words, the structural equation modelling revealed cross-domain participation in online social networking could be a predictor of work-family conflict that negatively related to work-family balance. In addition, fuzzy-set qualitative comparative analysis suggested full time male participants who were married, but did not have children or had one child, with lower levels of engaging in online social networking reported higher levels of work satisfaction as compared with the rest of the participants. Furthermore, married participants and/or who lived with a partner and a child, had fulltime jobs, and did not participate in cross-domain usage of social media confirmed that they were more satisfied with their family life.

This thesis has methodological, theoretical and practical contributions to the literature. From the methodological perspective, online social networking has been quantified and examine with SEM and Fs/QCA techniques. From the theoretical perspective, this research used both work-family border theory and boundary theory to examine online social networking and the findings suggested online social networking is an antecedent of work-family conflict. From the practical perspective, this thesis provide HR practitioner with new clues how online social networking influence work-family balance.

Key words: Online social networking, work-family balance, work satisfaction, family satisfaction, work-family conflict, demographic feature

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Chapter 1

Thesis Introduction

1. Chapter Overview

This chapter provides rationales for undertaking this thesis and explains the research background. This is followed by the research objectives and questions, as well as, a concise overview of the methodology employed. The thesis structure is presented at the end of this chapter.

The overall aims of the chapter are as follows:

- 1) Present an introduction to the research
- 2) Explain the research objectives and research questions
- 3) Explain the rationale for the study
- 4) Build a deeper understanding to support the research arguments
- 5) Develop a schema for the study

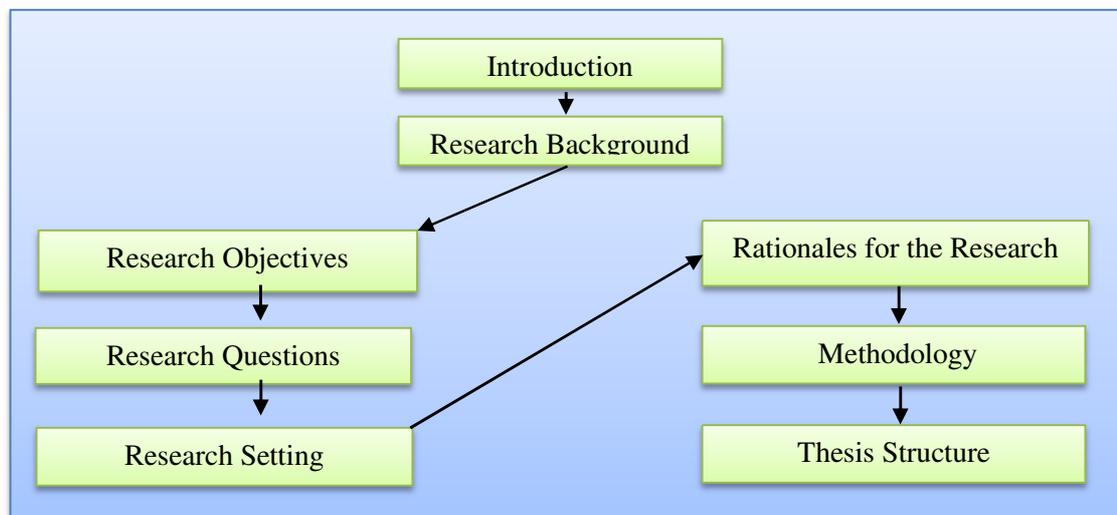


Figure 1.1. Chapter outline

1.1. Introduction

This thesis reports the research into the effect of online social networking on work-family balance. Recent studies suggest that work-family balance has been an increasing problem because of growing skill shortages and a shrinking labour force (Kossek et al., 2011). Consequently, there has been increasing research activity directed towards work-family

balance over the last decade (Greenhaus 2008; Rigby & O'Brien-Smith 2010). Simultaneously, new web-based communication technologies known as social media have increasingly become a ubiquitous part of individuals' personal and business lives in the digital era (Qualman 2012). However, whether at home or in the workplace, very little is understood about how the role of online social networking could affect the level of balance between work and family responsibilities. Thus, this thesis addresses some of the new challenges facing organisations that seek to improve their work-family balance strategies, but simultaneously are developing and improving their participation in online social networking and social media.

Technically, work-family balance refers to the absent of conflict between work and family responsibility (Burke & Greenglass 1999). Over the past two decades, work-family balance has gained importance in the management literature for two major reasons. First, a growing body of research suggests the lack of work-family balance has a broad range of negative effects on organisations. For example, work-family imbalance decreases work satisfaction, organisational commitment, and organisational performance (Burke & Greenglass 1999, Pfeffer 2005, Hughes & Bozionelos 2007). In addition, work-family imbalance likely increases absenteeism, turnover intention, employees' stress, burnout, and emotional exhaustion, which in turn can amplify mental and physical well-being difficulties (Kinnunen & Mauno 1998, Anderson et al. 2002, Haar 2004, Hughes & Bozionelos 2007, Jensen & Rundmo 2015). Secondly, dramatic demographic, social, and cultural changes have influenced the labour market (Hughes & Bozionelos 2007). A large increase in single parenting has ensued due to, growing rates of marriage breakdowns and more births outside marriage; this and a rise in dual career couples have led to a significant rise in women's participation in the workforce (Bianchi 2011). This in turn exacerbates childcare issues (Dex & Bond 2005; Neal & Hammer 2007; Qu & Zhao 2012). In addition, the aging of the workforce and decreasing birth rates in developed countries boost concerns for the provision of aged care (Hughes & Bozionelos 2007).

Likewise, changing employee values have had a significant impact on the labour market situation and conditions (Greenhaus 2008; Eikhof 2012). Traditionally, men were dedicated to work and women were devoted to household activities. However, today, men are focusing on other values and roles such as being a father or a husband, whereas women are moving ahead in the professional world (Sánchez-Vidal et al. 2011). Such changes place greater stress on the balance between work and family roles, and this contributed to the researchers' interest in work-family balance issues. In addition to these main reasons, modern communication technologies that allow for transporting work from the office to the home can have

considerable effects on work-family balance (Eikhof 2012). Modern communication technology in the workplace is a double-edged sword that has both positive and negative impacts on work-family balance. On one hand, online social networking results in teleworking that keeps employees in touch and up-to-date while they are away from the office and increases the possibility of flexible work schedules, which can positively affect work-family balance (Hayman 2009; Murphy & Doherty 2011). On the other hand, telecommunication can cause an increase in workload and blurring of the boundaries between work and home, which negatively influences work-family balance (Hill et al. 1996; Tabata & Johnsrud 2008).

Modern telecommunications have expanded dramatically over the 15 years since the first recognisable social network website (SixDegree.com) was launched in 1997. This new method of telecommunicating has dramatically affected business. For example, a survey of 406 senior global executives in 2007 showed 35 percent believed that Web 2.0 has transformed business and commerce (Denyer et al. 2011). The effects of online social networking are not limited to the workplace. Negroponte (1995, p 8) claims, "Computing is not about computers any more. It is about living". Therefore, psychologists and sociologists have started studying how online social networking affects modern life, both positively and negatively.

Online social networking (OSN), or connecting and interacting with people via web-based services, changes the way in which people communicate and thus has affected all aspects of modern life. Thus far, the majority of research into this phenomenon has focused on the separate influences of online social networking on either families or workplaces. However, several theories, for example boundary theory, work-family border theory, and various other studies suggest that work and family performance overlap emotionally and physically (Ashforth et al. 2000; Clark 2000; Greenhaus & Beutell 1985; Bedeian et al. 1988; Bacharach 1991; Grant-Vallone & Donaldson 2001). Therefore, this study aims to investigate ways in which work-family balance is affected by online social networking. In other words, this study examines online social networking as a bidirectional phenomenon that has the ability and capacity to blur the boundary between work and family responsibilities.

According to the literature, controversy surrounds whether online social networking has the potential to create strategic benefits for organisations or whether it is more likely to pose a risk. Some studies suggest that online social networking helps to form group relationships in an informal and voluntary way (Arrow et al. 2000; Johnson & Ambrose 2006; Kwai Fun Ip & Wagner 2008). This assists to solve communication problems and enhances organisational information processing and knowledge management to help determine the way companies

operate in the market (Arrow et al. 2000; Johnson & Ambrose 2006; Kwai Fun Ip & Wagner 2008). In contrast, various legal and business-related doubts have arisen about the use of online social networking in the workplace, particularly after some defamatory behaviour of employees has been uncovered. For example, a study of US medical schools by Chretien et al. (2009) suggested that 60 per cent of students that participated in the study (78/130 schools) disclosed patients' information and medical secrets on social network websites. In addition, other studies have concluded that online social networking in the workplace for personal reasons would negatively influence employees' performance and productivity (Greenfield & Davis 2002; Nucleus Research 2009).

Based on well-established literature, family and work domains overlap each other both emotionally and physically. Researchers from different disciplines' bases such as business and sociology have demonstrated how online social networking may separately affect an individuals' social life, or work life, and how social networking should be managed to reduce the downsides. Meanwhile, it is important to consider the influence of online social networking on both domains simultaneously, to reach a better understanding the real impacts of online social networking on societies. Moreover, questions arises as to what extent policies that try to control the downside of online social networking will be effective if policy makers only concentrate on one domain. Then, it becomes important to identify whether the effect of online social networking on one domain can lead to conflict in the other domain.

1.2. Background

Bellavia and Frone (2005) classified the framework of work-family conflict research into two generations. Kopelman, Greenhaus, and Connolly (1983) presented the first generation model, which proposed inter-role conflict mediates both the effect of work conflict on work satisfaction and the effect of family conflict on family satisfaction. Moreover, family expectation, work expectation, and personal expectation were recognised as sources of work-family conflict (Kopelman et al. 1983). The first generation model had two main weaknesses: firstly, this model conceptualised work-family conflict as a one-directional variable and with no difference between work-to-family conflict and family-to-work conflict (Bellavia & Frone 2005) and secondly, the reciprocal relations between the work and family domains was not articulated (Bellavia & Frone 2005).

Frone, Russell, and Cooper (1992) launched the second-generation model of work-family conflict, which was then reviewed and revised by Frone Yardley, and Markel (1997) five years

later. The major point of this model was the bidirectional nature of work-family conflict, which means this model illustrated a difference between work-to-family conflict and family-to-work conflict. In addition, this model suggested work related variables have the potential to affect the level of family distress through work-to-family conflict, whereas family-related variables could influence work distress via family-to-work conflict (Frone et al. 1992). Ford, Heinen, and Langkamer (2007) constructed cross-domain models based on Frone et al.'s (1992) model and examined the correlations among variables through a meta-analysis of 120 articles; this provided a better understanding of the cross-domain relationships. In this instance, the cross-domain concept refers to the extent that variables from one domain affect satisfaction in the other domain (Ford et al. 2007).

Strain theory (Goode 1960) and resource theory (Hobfoll 1989) illuminate the core of the cross-domain idea. These theories recognise that individuals have to play multi roles over their lives within a finite amount of time and energy. Thus, devoting more time and energy to one domain leads to lack of resources in the other domain. On the contrary, appraisal theories (Lazarus 1991) suggest individuals are likely to put the blame on the work domain when suffering work-to-family conflict because work related variables cause the conflict to occur. Thus, the family role is merely the victim (Shockley & Singla 2011).

Although the cross-domain perspective has dominated the work-family balance literature for two decades, some researchers have recently suggested that some empirical studies raise doubts that the cross-domain relationship may not be correct in all situations; whereas the relationship between the matching-domain conflict and affective consequences is always true (Shockley & Singla 2011; Amstad et al. 2011). A meta-analysis of 427 studies that included 355 cross-sectional studies, found that work-to-family conflict was chiefly created by work related variables and its major consequences appeared in the work domain, as compared to the family domain. Similarly, the family-to-work conflict primarily affected the family domain. The findings do not deny the cross-domain relationship, while the relationships were stronger with the consequences in the matching domain, rather than cross-domain outcomes (Shockley & Singla 2011).

The cross-domain versus matching-domain effects are not the only recent change, which is influencing work-family balance studies. Two other disparate streams can be identified through reviewing work-family balance studies. These streams are the 'traditional' and 'new' approaches used in this present study. Since the advent of the work-family balance concept, most theoretical models draw on three cores: a set of antecedents related to both family and

work domains, a combination of work and family consequences, and work-to-family conflict and family-to-work conflict as mediators (Michel et al. 2010). The antecedent side of the models is classified into three categories: work domain variables, family domain variables, and demographic/individual variables (Byron 2005). Work related variables result from the workplace, whereas family related variables are caused by responsibility for family members or friends. These variables and the studies from which they are drawn are summarised in Table 1.1.

Table 1.1. The antecedents of work-family conflict

Categories	Variables	Studies
Work domain variables	Work conflict	<i>Wharton & Erickson 1993; Frone et al. 1992, 1997; Sturges & Guest 2004; Ford et al. 2007</i>
	Work hours	<i>Frone et al. 1997; Fu & Shaffer 2001; Batt & Valcour 2003; White et al. 2003; Aryee et al. 2005; Ford et al. 2007; Breugh & Frye 2007</i>
	Job involvement	<i>Frone et al. 1992; Carlson & Kacmar 2000; Byron 2005; Ford et al. 2007; Hsieh 2008</i>
	Telecommunication systems	<i>Batt & Valcour 2003; Olson-Buchanan & Boswell 2006</i>
	Work stress (workload/job ambiguity)	<i>Frone et al. 1992, 1997; Carlson & Kacmar 2000; Glass and Finley 2002; Major et al. 2002; Ford et al. 2007</i>
	Job security	<i>Batt & Valcour 2003</i>
	Work/organisational support	<i>Frone et al. 1992, 1997; Clark 2002; Breugh & Frye 2007; Ford et al. 2007; Jang 2009; Michel et al. 2010; Kossek et al. 2011</i>
Family domain variables	Family conflict	<i>Frone et al. 1992, 1997; Carlson & Kacmar 2000; Grzywacs & Marks 2000; Ford et al. 2007</i>
	Family stress	<i>Byron 2005; Ford et al. 2007</i>
	Family support	<i>Grzywacs & Marks 2000; Baltes & Heydens-Gahir 2003; Ford et al. 2007;</i>
	Family hours	<i>Frone et al. 1992, 1997; Ford et al. 2007</i>
	Family involvement	<i>Adams et al. 1996; Frone et al. 1992</i>
Personal/demographic variables	Gender	<i>Guttek et al. 1991; Duxbury & Higgins 1991; Frone et al. 1992, 1997, 2000; Carnicer et al. 2004; Lyonette et al. 2007; Burke & El-</i>

		<i>Kot 2010; Powell & Greenhaus 2010</i>
	Education	<i>Adams et al. 1996; Carnicer et al. 2004</i>
	Parenthood	<i>Higgins et al. 2000; Hammer et al. 2003; Byron 2005</i>
	Self-efficacy	<i>Cinamon 2006; Cinamon et al, 2007; Yu 2008</i>
	Personality	<i>Bruck & Allen 2003</i>
	Age	<i>Voydanoff 1988; Martins et al. 2002</i>
	Job status	<i>Higgins et al. 2000; Rau & Hyland 2002; Bond 2004</i>

Source: developed for this study

Based on traditional approaches, these antecedents have the potential to cause conflict that leads to dissatisfaction either at work or at home, making a balance between work and family responsibilities difficult. Some researchers have recently presented a different approach to examine the effect of antecedents on work-family balance. Boundary theory (Clark 2000) and work-family border theory (Ashforth 2000) fuel the new approach, as these theories suggest emotional, temporal, and physical boundaries demarcate what belongs to work and family domains, and the strength of boundaries determines the degree that the antecedents of one domain affect the consequences of another domain (Hecht & Allen 2009).

Work related variables and family related variables cannot penetrate into the opposite domain when the boundaries are strong; whereas weak boundaries make little distinction between sources allocated to work and family responsibilities. The notion is that the reduction of boundary strength negatively affects work-family balance through increasing inter-role conflict (Olson-Buchanan & Boswell 2006; Bulger et al. 2007). This study is underpinned by this new approach. Therefore, this research aims to investigate the effect online social networking has on work-family balance through blurring the boundary between the work domain and the family domain. In other words, this study assumes online social networking has the potential to weaken the distinct boundary between family demands and work demands.

1.3. Research objectives

The primary objective of this study is to investigate how online social networking influences work-family balance. This study is inspired by Clark's (2000) conceptualisation of work-family balance; thus, work-family balance has been defined as a combination of work satisfaction and family satisfaction. In addition, this study tries to explore the effect of online

social networking on work-family balance through its impact on work-family conflict. Therefore, the following sub objectives will be investigated.

RO1: To investigate how online social networking influences work-family conflict

RO2: To explore how online social networking influences family satisfaction as a component of work-family balance

RO3: To examine how online social networking influences work satisfaction as a component of work-family balance

RO4: To study whether the effect of online social networking is transportable from one domain to the other domain through the mediating role of work-family conflict

RO5: To identify which demographic characteristics of social website users might be involved in higher levels of work-family balance

1.4. Research questions

Based on the research objectives, this dissertation will address the two following research questions to contribute to a better understanding of the role of online social networking in a developed society:

RQ_A: What is the effect of online social networking on work-family balance through the mediating role of work-family conflict?

RQ_B: Which demographic features of social website users relate to higher levels of work-family balance?

Based on the first research question, the following sub-questions were developed:

- *RQ1: What is the influence of online social networking on work-family conflict?*
- *RQ1.1: What is the influence of online social networking on work-to-family conflict?*
- *RQ1.2: What is the influence of online social networking on family-to-work conflict?*
- *RQ2: What is the influence of online social networking on family satisfaction?*
- *RQ3: What is the influence of online social networking on work satisfaction?*
- *RQ4: Does family-to-work conflict mediate the negative relationship between online social networking and work satisfaction?*
- *RQ5: Does work-to-family conflict mediate the negative relationship between online social networking and family satisfaction?*

1.5. Research setting: Australia

This study utilises data from Australia, as both online social networking and work-family balance appears to be persistent challenges in the Australian context, as is discussed in the following sub-sections.

1.5.1. Australia: Work-family balance Trends

Work-family conflict affects a wide range of Australian households despite the development of workplace family friendly policies (Skinner & Pocock 2014). Although men generally work longer hours more than women do, women report higher levels of work-family conflict in Australia (Skinner & Pocock 2014). Women deal with childcare and household responsibilities at twice the rate than what men do and unpaid childcare and household responsibilities raise the level of conflict between work and family demands among women (Chesters et al., 2009). A national survey found that 30 per cent of Australian adults aged 30-59 have downshifted their job between 1993 and 2003. Downshifting refers to a social behaviour in which individuals select a simpler lifestyle in order to reduce stress, overtime, and psychological costs (Nelson et al. 2007). The number of high-income downshifters were more than the number of low-income downshifters (Hamilton & Mail 2003). Hamilton and Mail's study (2003) found that 50 percent of Australian adults downshift to reach a better balance between their work and family life; in particular, 35 percent of participants reported '*spending time with family*' as their major reason. This suggests that work-family balance has become a vital factor for retaining and recruiting employees in Australia.

Over the past three decades, male participation in the job market has decreased, whereas job demand has continuously grown. Thus, women's participation in the labour market has improved, reaching 56.5 percent of the total female population in 2005 (Pocock 2005). Nonetheless, based on the traditional identification of women as caregivers, their work attachment decreases once they become a mother (Pocock 2003). The number of dual-earner families in Australia is increasing, and this in turn can result in an overload of responsibilities, if childcare and eldercare issues are added. From 1979 to 2011, the participation of married women in the labour force grew by 23 percent, to include 62 percent of the total married women in the Australia's population (Baxter & Chesters 2011). As the Australian population is aging, issues related to caring for aged family members adds complications to juggling work-family balance (Skinner & Pocock 2014). The Australian Bureau of Statistics (2014a) reports the proportion of the Australian population aged over 65 years has increased by 6.7

percent from 1970 to 2014 and will reach to 14.7 percent of the total population. In addition, this trend is predicted to increase, which suggests the population over 65 years of age will double over the next 40 years (Department of Communications, Information Technology, and the Arts 2004).

Furthermore, the number of Australians working more than 50 hours per week is growing faster than in other developed countries around the world, despite established National Employment Standards that suggest 38 hours per week is the standard limit for work hours in Australia (Messenger 2004). Based on the standard working hours for industrialised countries, along with the United States and the United Kingdom, Australian workers have the longest average working hours among industrialised countries, with 29 percent of men and 9 percent of women work more than the average standard working hours (Lee et al. 2007). In 2014, almost 18.5 percent of total employees in the Australian workforce worked more than 48 hours per week (26.7% of men and 9.7% of women). Skinner and Pococks (2014) findings suggest one-third of employees would rather work at least four hours fewer per week.

The other problem facing work-family balance in Australia is the gender pay gap. A comparison of full time ordinary payment rates in 2011 revealed women were paid 84 percent of what men were paid (Pocock et al. 2013). In total, 46 percent of women hold part time and casual contracts while only 18.6 percent of men are on part time and/or casual contracts (Pocock et al. 2013). In 2010, women occupied 70 percent of casual and/or part time jobs (Australian Bureau of Statistics 2012), which boosts the gender pay gap from 16 percent to 35 percent (Pocock et al. 2013). In 2006, mothers were responsible to provide for 86 percent of one-parent families with children under 15 years of age (Linacre 2007); thus, the negative influence of gender pay inequity on work-family balance is more severe than what it seems. In addition, although women' participation in the job market has increased over recent decades, women still tend to enter feminised employment sectors (e.g. education, hospitality, health) which have lower pay rates, when compared with technical, trade occupations and leadership positions that are primarily controlled by men (Pocock et al. 2013).

1.5.2. Australia: Online social networking Trends

Using the internet has become a regular part of Australians' everyday life. In 2013, it was found 83 percent of all households in Australia had access to the internet at home, which is an increase of four percent as compared with 2011 (Australian Bureau of Statistics, 2014b). Similarly, online social networking has increased over the past decade. For instance, Table 1.2 compares the growth of active social website users in Australia from January 2011 to

January 2015, showing how online social networking has increased radically over the five past years. Facebook is the most popular social website. Recent statistics show that 69 percent of Australians participate in online social networking and 99 percent of those have a profile on Facebook (De Meyer 2014). On average, a typical Facebook user spends 8.5 hours per week on Facebook (Sensis 2014). Compared with men, Australian women are more likely to join social networking websites and are much more frequent users (Sensis 2014).

Table 1.2. Social websites trends in Australia 2011-2105

Social networking websites	Jan 2011	Jan 2012	Jan 2013	Jan 2014	Jan 2015
Facebook	9,800,000	10,703,340	11,000,000	13,000,000	13,800,000
LinkedIn	760,000	1,800,000	2,400,000	3,300,000	3,100,000
Instagram	-	350,000	990,000	1,600,000	4,000,000
Tumblr	350,000	1,000,000	2,900,000	4,900,000	4,800,000

Source: Social MediaNews (2015)

The popularity of Facebook has grown companies' investment in advertising through Facebook in Australia (De Meyer, 2014). LinkedIn and Instagram are in the second and the third places, as 24 percent and 21 percent respectively of Australian networking sites users are actively on them (De Meyer, 2014). Similar to other countries, Instagram has the highest growth rate (21%) among the social networking websites (Sensis 2014). Although teenagers (61%) and young adults between 20-29 years of age (71%) are the most attracted to online social networking, more than 21 percent of users are aged over 65 years connect to social networking websites at least once per day (Sensis 2014). The frequency of use slightly differs across Australia, with the highest level of usage on a daily basis in Western Australia (57% of all internet users) and the lowest level of usage in New South Wales with (46% of all internet users) (Sensis 2014).

Australians access social networking websites through smartphones (71 %) whereas 38 percent login to social networking websites from desktop computers and 27 percent of Australian internet users connect to social networking websites every day (De Meyer 2014). In 2014, the statistics show that 58 percent of social website users generally logged in to their profiles after working hours (De Meyer 2014). Although 61 percent of Australian companies prohibit employee's access to social networking websites at the workplace, 21 percent of all social networking website users spent time on online social networking in the workplace, which is equal to 24 percent of total the Australian labour market (Chun 2014; Sensis 2014; De Meyer 2014). Accessing social networking websites via smartphone eases networking at

the workplace as businesses cannot monitor personal networks on smartphones. In total, 19 percent of Australians login to social networking websites at least five times per day, and the sharing of photos and videos is the most popular activity among social website users (De Meyer 2014).

Australian companies also participate in public social networking websites, as a source of obtaining a profitable position in the market. Sensis's (2014) report showed 77 percent of large businesses, 48 percent of medium businesses, and 36 percent of small businesses have a profile on public social networking websites. The statistics for small and medium businesses are higher when compared to statistics in 2011. In 2011, only 27 percent of medium businesses and 34 percent of small businesses had profiles on public social networking websites (Sensis 2014). In addition, 24 percent of small businesses have an established social media strategy (Sensis 2014). The report also revealed 65 percent of Australian large businesses update their social networking websites' profiles every day, whereas 24 percent update their profiles on social networking websites a few times a week (Sensis 2014). In large companies, marketing departments generally control and manage social media interactions with customers (77%), followed by communication departments (13%) and I.T departments (4%) (Sensis 2014). On average, a medium business invests a larger amount of money (A\$38,800) on social websites annually as compared with large or small businesses, with an average of A\$33,050 and A\$4,560 respectively (Sensis 2014).

1.6. Rationale for the research

This section provides the logic behind the present study. A review of the literature highlights the need for this study, based on the following rationales.

1.6.1. Theoretical rationale

The nature of this study is multi-disciplinary; it draws on the online social networking phenomena from the computer science discipline (human-computer interaction) and the work-family balance construct from the human resource management discipline. From the computer science perspective, a search of published studies to date suggests the majority of research about online social networking (OSN) has focused on the separate influences of online social networking on the family domain or on the workplace. In contrast, a wide range of theories have been developed in the human resource management field, such as work-family border theory (Ashforth et al. 2000) and boundary theory (Clark 2000) along with a rich body of empirical studies that suggest an indubitable relationship between the family domain and the workplace (Frone et al. 1992, 1997; Byron 2005; Ford et al. 2007). These theories

acknowledge a bidirectional and cross-domain relationship between the work and family domains; thus, every factor that possibly improves the permeability of boundaries between the two domains has the potential to influence satisfaction not only in the respective domain, but also in the other domain. Therefore, to reach a better understanding of a phenomenon, it seems necessary to examine the effect of the phenomena on both family and work domains.

From a human resource management perspective, modern communication technologies provide employees with 24/7 access to the workplace, which blurs the boundaries between work demands and family demands (Valcour & Hunter 2005). Van Gramberg, Teicher, and O'Rourke (2014) posit social networking media increasingly allows employees to operate across work and personal boundaries. Higgins and Duxbury (1992) recommend further research to find how organisations could ameliorate the intensity of conflict by providing flexible work arrangements through portable technologies such as mobile phones and computers. They also suggest that portable communication technology might affect work-family conflict in dual-earner families. Nonetheless, a review of the published research found no evidence of previous empirical studies examining the relationship between online social networking as the newest telecommunication technology and work-family balance. This study is the first to bring together the elements of paid and unpaid responsibilities to consider how online social networking affects the conflict between these two and thus, whether it benefits work-family balance or vice versa. In addition, rather than focusing on variables related to each domain individually, this study examines the effects of online social networking on the balance between family and work spheres.

Furthermore, there is considerable evidence to suggest many people across many countries are engaging with online social networking (Young 2009) and online social networking plays an undeniable role in the workplace. Little research has been undertaken into online social networking within the workplace context to focus separately on the effects of online social networking on productivity, marketing, and human resource management. Thus, it is important to understand whether online social networking is a general benefit or a harmful technology for the workplace in association with some other work related variables (e.g. work pressure, work involvement, operational flexibility). Finally, studying online social networking by incorporating boundary theory (Clark 2000) introduce the work-family balance theories to the computer science field.

1.6.2. Practical rationale

This study would benefit managers and HR practitioners to reach a better understanding of how online social networking contributes to work-family balance among employees. As using the internet has become an essential ingredient of many jobs, one of the emerging challenges facing management is to explore how e-communication and sharing organisation's news and knowledge through the internet might present issues that affect both businesses and employees (Van Gramberg et al. 2014). Several studies suggest modern communication technologies affect work-family balance, but there is some controversy as to whether the impacts are positive or negative (Chesley 2005). A group of studies argues that new communication technology increases the penetrability of boundaries between work and family responsibilities. Thus, the consequences are potentially negative for family life (e.g. work overload, distress) (Ventura 1995; Ayyagari et al. 2011; Chesley 2014). In contrast, others suggest new communication technologies provide employees with new arrangements (e.g. teleworking) to support both work demands and family demands (Hill et al. 2003; Valcour & Hunter 2005). Furthermore, the role played by online social networking as the newest communication technology in this area remains unclear.

Moreover, many companies across western countries filter and ban online social networking through companies' networks to reduce its negative effect on productivity and organisational performance (Bhasin 2011). Nonetheless, employees still participate in online social networking through their smartphones at the workplace (Sensis 2014). Inspired by boundary theory (Clark 2000), this study raises doubts about the banding of social networking websites in the workplace through linking the online social networking in the family domain to work satisfaction. In other words, the present study suggests banning online social networking websites might not be an effective solution by management to remove the negative impacts in the workplace, and may assist managers enact and develop new strategies to avoid or reduce the negative outcomes.

1.6.3. Methodological rationale

Quantifying online social networking is difficult, as it cannot be measured directly. Although the number of studies on information and communication technologies (ICTs) has grown in the last decade, the majority of these studies have been descriptive (Cotten 2008, Marcum et al. 2010, Capurro et al. 2014). Among those studies that adopted complicated analytical techniques, the majority utilised internet usage measures, rather than a specific measure of online social networking use. For example, Steinfield, Ellison, and Lampe's (2008) study on online social network sites employed LaRose, Lai, Lange, Love, and Wu's (2005) internet use measure of time. Another example is LaRose, Wohn, Ellison, Steinfield's (2011) study about

Facebook that applied Caplan's (2010) internet use scale. Furthermore, the previously established scale examined online social networking in workplaces and only concentrated on how online social networking is a time-consuming activity (e.g., cyberslacking studies) or how online social networking might cost businesses through damaging their reputation or raising legal issues (e.g., cyber legal studies). This study assumes online social networking is something more than a time-consuming activity. Therefore, concentrating on one feature of the phenomena is not sufficient to reach a comprehensive understanding of online social networking impacts.

Inspired by boundary theory's (Clark 2000) core idea, this study accepts the challenge of using a new measure to examine online social networking as a bidirectional construct and attempts to quantify online social networking as a latent variable that allows researchers to model and hypothesise online social networking patterns along with a wide range of other variables in a model. This study defines online social networking as having three components, which includes cyberslacking, enterprise online networking, and negative experiences as demonstrated in Figure 1.2. The cyberslacking component focuses on both how much time employees spend on public social networking websites and how often employees participate in public social networking websites for personal demands at the workplace. Therefore, the direction of transaction is from home to the workplace. In contrast, enterprise online networking refers to both how much time employees spend on companies' private social networking websites and how often employees log into companies' private social networking websites for work related purposes when they are at home. This means the direction of transaction is from the workplace to the family domain. In addition, this study assumes the negative experience caused by online social networking is important and has the capacity to raise conflict between the work and family domains.

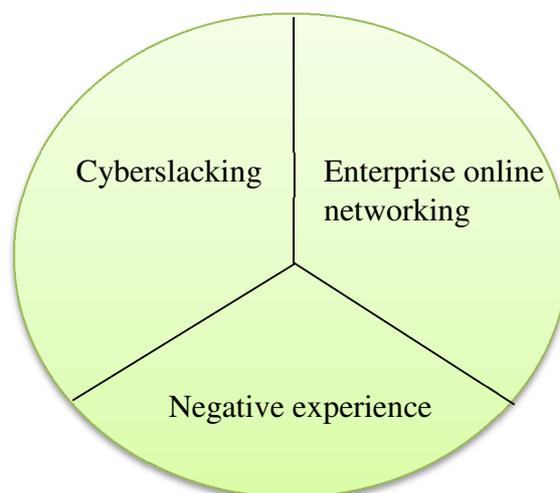


Figure 1.2. Online social networking components

1.7. Overview of the methodology

This study is a confirmatory study with an objectivist epistemological stance that analyses the hypothesised relations among variables inside a model utilising quantitative techniques, including structural equation modelling (SEM) and fuzzy-set qualitative comparative analysis (Fs/QCA) to examine the data. Utilising “research onion” designed by Saunders et al. (2012), Figure 1.3 illustrates the research choices made for this study

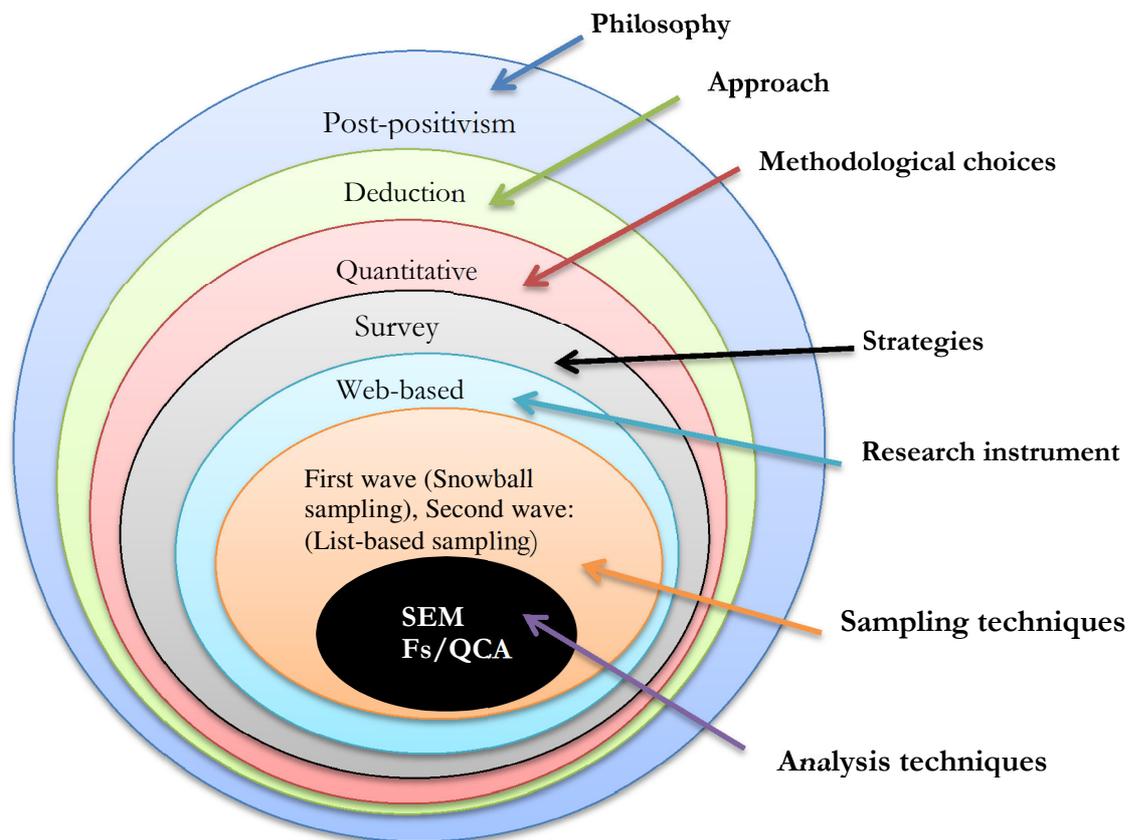


Figure 1.3. Research choices

Source: Developed for this study [inspired by Saunders et al. (2012)]

A web-based survey was employed to collect data in two waves from October 2013 until June 2014. Figure 1.4 illustrates an outline of the data collection process.

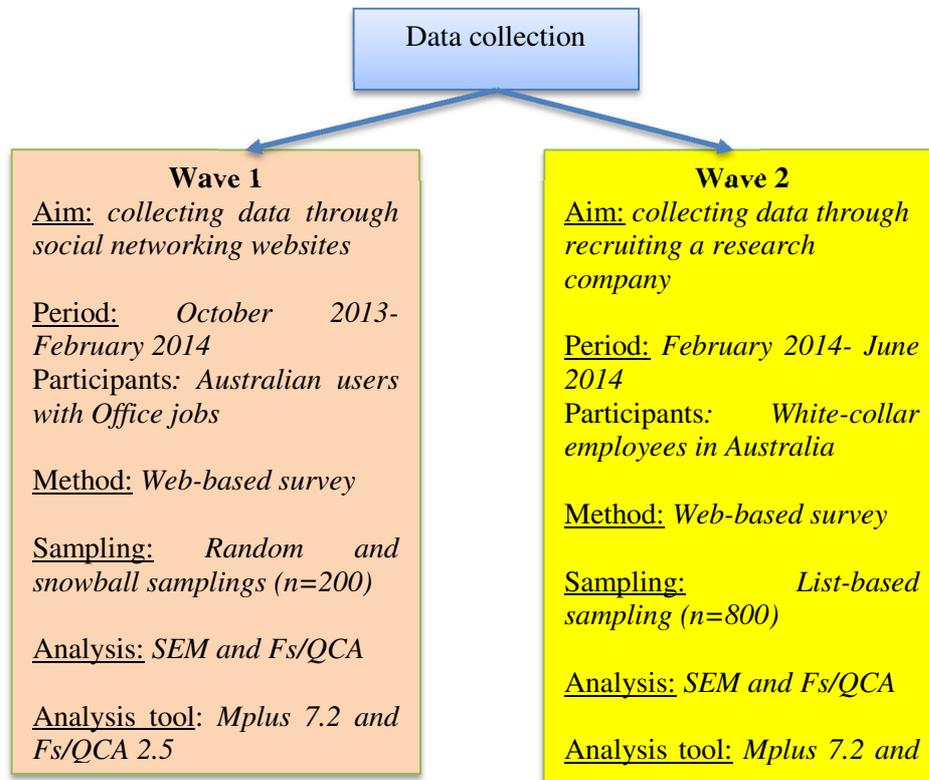


Figure 1.4. Data collection process

1.8. Overview of the Thesis structure

This thesis is composed of six chapters and two appendices. Chapter 1 introduces the study. Chapter 2 provides a literature review of the relevant theories and previously published studies related to work-family balance and online social networking and situates this study within other academic studies. The logic behind the literature review is to identify potential factors belonging to the work and family domains that are not only antecedents of work-family conflict, but are also correlated to online social networking. The literature review led to the conceptual framework and the research hypotheses. Chapter 3 discusses the research methodology and outlines the rationale behind the methodological choices utilised in the present study. This includes the research paradigm, research design, the sampling techniques, analytical techniques, and research measures.

The results of the data analysis are provided in two separate chapters. Chapter 4 relates to the structural equation modelling (SEM) analysis. Chapter 4 also discusses the descriptive and demographic analysis of the research sample, the structural equation modelling process in detail, and justifies the adopted statistical techniques deemed the best option for this study. Chapter 5 discusses the fuzzy set qualitative comparative analysis (Fs/QCA) that formed the second section of the data analysis. This explores the patterns of demographic characteristics among social networking websites users across the domains. Finally, Chapter 6 provides a discussion that expounds on the research findings and their implications and links the findings with theoretical, methodological, and practical contributions. In addition, the final chapter provides an explanation of the research limitations and recommendations for future studies.

1.9. Conclusion

This chapter has provided an introductory overview of the thesis. First, the chapter discussed the research was conducted, and the research objectives and questions were presented. This was followed by a brief discussion of online social networking and work-family balance trends in Australia. The remaining sections discussed why this study is essential and the rationales, which motivated the present study. The next chapter reviews the literature and empirical studies on online social networking and work-family balance with the aim of developing a research framework.

Chapter 2

Literature review

2. Chapter Overview

This chapter explores the literature most relevant to work-family balance and online social networking to build a deeper understanding of the research questions. In general, a review of the literature is an important means to increase and broaden understanding of the research topic (Hart 2003) and to assist in the development of a theoretical framework (Randolph 2009). This chapter begins with an overview of the role and emergence of online social networking. The second major focus is defining and chronicling the issues involved in managing work-family balance. The chapter considers past research, previous work-family balance models and drivers, as well as the influence of online social networking on work and family life. This literature review provides a theoretical foundation for the research; it identifies gaps in the literature and aids the development of the conceptual framework and testable hypotheses. An outline of the chapter is provided in Figure 2.1.

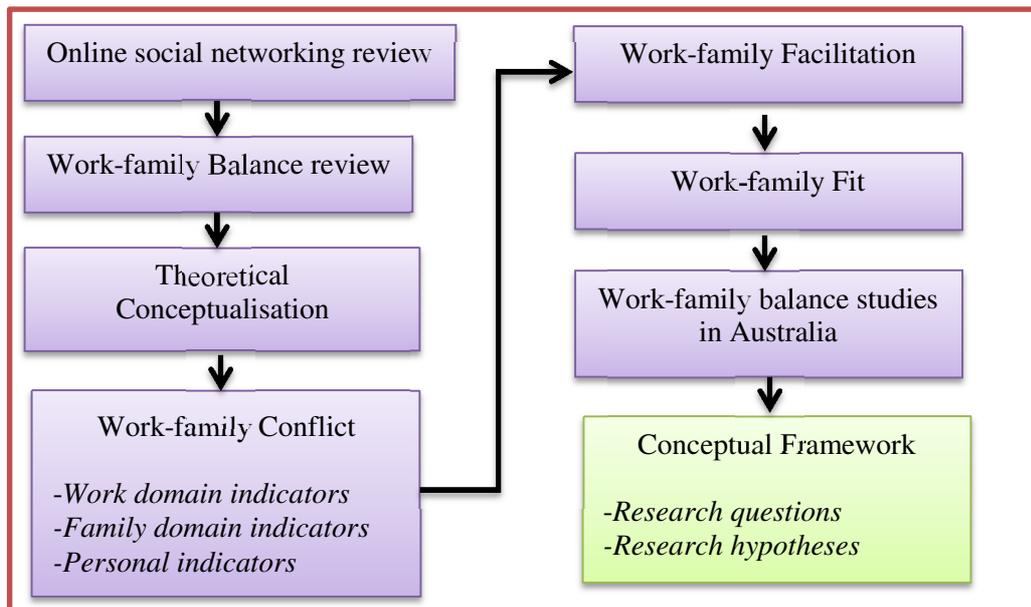


Figure 0.1. Chapter outline

2.1. Review: Online Social Networking

Web 2.0 is the basis of social network sites (SNS), which are the latest online communication tool (Boyd and Ellison 2008). The advent of Web 2.0 in 2004 provides a new set of

technologies to facilitate connections throughout social networking websites or social media. Social media is defined as online platforms and tools that allow people to share opinions and information (Lia and Turban 2008). Not only can people obtain information from the internet, but they can also contribute, add, or edit the information through Web 2.0 (Anderson 2007). Social network theory explains that a social network consists of nodes and ties, where nodes are individual actors and ties are the relationships among the actors. Social networks have two important characteristics: transitivity and homophily. Transitivity means that if A is tied with B and A is tied with C, it is likely that there is a relation between B and C (Williams & Durrance 2008). Homophily suggests people tend to tie to people with same interests and values in a social network (Williams & Durrance 2008).

Breiger (2004, p 506) defined social networking as: “*the patterning of relations among social actors, as well as the patterning of relationships among actors at different levels such as persons or groups*”. Thus, a social network is a map of specified relationships, and online social networking is generated when nodes use the internet to connect to each other. Social network sites are web-based services that allow users to erect a public profile based on a framework, to share information or their interests with other users and contemplate other users' activities (Boyd & Ellison 2008). Online social networks promote virtual and unrestricted relationships with people who may not otherwise be accessible. Popular online social networking sites can have millions of users; for example, Facebook grew to more than 900 million active monthly users worldwide since its launch in 2004 to October 2012, with almost half the users connecting at least once a day (Forbes.com 2012¹). According to Alexa (2014), the web information company, Facebook has the second most internet traffic after the Google search engine. This raises the question, why has online social networking become so popular?

Jones and Twidale (2005) proposed two reasons why users eagerly adopt a new technology; the new technology is a playful tool that allows users to generate ideas and be creative, and users find the new technology is a useful tool to satisfy a specific goal. Castells (2000) proposed three specific reasons for the popularity of social networking sites: firstly, globalisation and internationalisation of capital, products, and trade; secondly, the growth of a need for open communication and individual freedom based on a democratic approach; and thirdly, the development of information communication technologies (ICT).

¹ <http://www.forbes.com/companies/facebook/> (Last visit: Oct 2012)

Numbers are continuing to grow and online social networking has become a communications craze, with the majority of people around the world involved in online social networking, including high-rank politicians such as presidents and prime ministers. For instance, in 2013, 69 percent of American adult internet users participated in social networking websites up from 47 percent in 2009 (Rainie et al. 2013). The frequency of online social networking has also increased. A study of 1,006 adults living in the continental United States revealed 41 percent of users admitted to accessing social networking websites several times per day, while 33 percent of users reported the same level of frequency in 2011 (Rainie et al. 2013). In the UK, the number of social networking site users has increased from 28.8 million in 2012 to 34 million in 2015 (Statista 2015). Consequently, social and behavioural researchers have become interested in how the Web 2.0 is radically affecting communication behaviours and societies.

Business researchers use social capital theory to explain the reasons why users participate in social networking websites. Social capital refers to resources and benefits that are created through the interaction among members of social networks (Pfeil et al. 2009). Putnam (2000) suggested there are two degrees of social capital: bridging social capital and bonding social capital. Bridging social capital refers to loose relations among members in the network, whereas bonding social capital signifies emotional and close relations among individuals (Putnam 2000). Generally, bonding social capital forms among family members and close friends rather than among strangers (Pfeil et al. 2009). Later studies explained that media effects on social capital depend on individuals' preferences and motivations for participating in social media (Shah et al. 2009). Katz, Gurevitch, and Hass (1973) suggest that four motives drive people's online behaviour using social media: surveillance, personal identity construction, social relationships and entertainment.

Subsequent research conducted by Zhang and Chia (2006) showed that using social media for surveillance and collecting information positively relates to the individual-level production of social capital, whereas engaging in social media for entertainment has a negative relationship with the production level of social capital. In the same vein, Ellison et al.'s (2011) study of 450 undergraduate students in the US concluded that only social information-seeking behaviours are able to support social capital. Research has revealed that users mainly log into social networking websites to communicate with their offline friends and family members (Donath & Boyd 2004; Young 2009). For example, a laboratory study of 110 American university students (55 females and 55 males) aged between 18 and 29 years, found 81 percent of participants were involved in online social networking to keep in touch with friends they

cannot see regularly. In addition, 35 percent of participants used social networking websites as a tool to arrange plans with friends they meet often, and 61 percent used social networking websites to communicate with their relatives (Subrahmanyam et al. 2008). Therefore, online social networking may fortify bonding social capital. An area of the interest is to find whether demographic differences manifest in social website users' activities.

2.1.1 Demographic differences in online social networking

Most research about online social networking focuses on young adults, especially university students (Pfeil et al. 2009). The popularity of online social networking websites among different age groups has encouraged researchers to investigate how online user behaviours vary in terms of age or/and gender. Pfeil et al's (2009) comparative study of 100 MySpace profiles found that teenagers (n=25 girls, 25 boys) engaged in various activities on MySpace, whereas older users (n= 25 females, 25 males) were less active. In contrast to teenagers, mature participants had smaller friend lists in size, but more heterogeneous in terms of age and gender. Regarding gender differences, Pfeil and colleagues (2009) found female users have more MySpace friends than male users. Similarly, a Pew Research Center study of 1,802 USA internet users showed 67 percent of active Facebook users were women aged between 18 and 29 years (Duggan & Brenner 2013). Another USA study conducted in 2013 implied two-thirds of adult internet users were also Facebook users (Rainie et al. 2013).

Another study of MySpace profiles (n=23073) found only 17.73 percent of profiles (n=4090) had selected the privacy option to restrict the availability of profiles (Thelwall 2008). The number of females with private profiles (n= 2415) was much greater than the number of males who had private profiles (n=1616). Moreover, findings suggested no gender preference among close friends in MySpace, whereas various studies have recognised high gender preference in offline relationships (Thelwall 2008). Pfeil et al's (2009) results are consistent with Livingstone and Helsper's (2007) UK study that showed boys were likely to reveal more private information on the internet than girls were. Some studies indicated teenage girls aged between 15 and 17 spent more time communicating online than boys, and boys were more likely to play online games (Mitchell et al. 2003; Raphael et al. 2006). Consequently, teenage girls were subject to more risks such as sexual harassment and cyber-bullying (Mitchell et al. 2003; Raphael et al. 2006; Livingstone & Helsper 2007).

Moore and McElory's (2012) study of 219 undergraduate students suggested gender has significant impacts on participation in social networking websites and the content of participation, as women spent more time on social networking websites, added more friends,

and posted more photos than men did. However, men logged into social networking websites more frequently than women did. In contrast, data analysis of 800 undergraduate students in Singapore reported no significant gender differences in social website usages (Kim et al. 2014). Another survey of 131 psychology students in the US reported inconsistent results with the majority of previous studies, as the number of males who participated in social networking sites were more than the number of female users, 82 percent and 75 percent respectively (Subrahmanyam et al. 2008). This controversy encourages further investigation into gender difference among social networking users.

A series of interviews with British children and teenagers aged 9-19 years (n=1511) showed that age was a more effective and crucial factor in determining online behaviour than gender (Livingstone & Helsper 2007). The internet is an easy to use and user-friendly technology; thus, users do not need specific knowledge of computer science to surf the internet. In addition, social networking sites have 'Help' or 'Setting' sections that explain and simplify use and manage communication. In addition to simplicity, reasonable prices and advanced technology like Wi-Fi and portable modems provide easy access to social networking websites from anywhere, which can lead to both positive and negative consequences. The discussion below demonstrates the immense impact of online social networking on the workplace and family life.

2.1.2 Online social networking and the workplace

Online social networking has either direct or indirect effects on the workplace. Online social networking has an undeniable effect on businesses through facilitating the information flow. Nowadays, businesses are creating their own internal social networking sites that fit the respective workplace and allow companies to keep the information behind the firewalls (Stopfer & Gosling 2013). For instance, IBM has *SocialBlue*, HP has set up *WaterCooler*, and Schlumberger owns *CNP (Career Network Plan)* (Stopfer & Gosling 2013). In addition to safety purposes, these internal social platforms assist employees to have easy access to the workplace and colleagues when they are away from the workplace. Companies' internal social platforms have been inspired by public social networking websites such as Facebook and Twitter that allow employees to have personal profiles, post messages, connect to each other, build virtual teams, and attend virtual meetings when they are inside or outside the workplace (Stopfer & Gosling 2013). The term "enterprise online networking" refers to employees' use of companies' internal social platforms when they are away from the workplace, and this meaning is adopted in this study.

Rooksby and Sommerville (2012) argue that private and internal social networking websites do not offer new communication activates, as internal social networking websites overlap with functionalities of other available communication technologies across organisations (e.g. telephone, email). Therefore, policies and strategies are needed to manage the relations between internal social networking websites and existing communication technologies, for the company to benefit from internal sites. In addition, the technology companies that develop, launch and support social media change the platforms regularly which can be problematic for internal social networking websites. Therefore, companies or governments may need to change their internal social networking websites to fit modifications and alternatives (Rooksby & Sommerville 2012).

Public online social networks can be classified into formal and business-related sites such as 'LinkedIn' that links professionals together, and informal sites that purely focus on social interaction such as Facebook and MySpace (Benson et al. 2010). A study by Berg and colleagues (2007) showed that popular informal social network sites, such as Facebook, attracts young and middle age adults who are in their mid-careers, and concluded that informal social networking websites are a source of career management and employability enhancement. An example that supports this is the recent UK social media statistics from 2014 that showed the largest age group of Facebook users were between 25 to 34 years of age, and these comprised 26 percent of all users (Rose 2014).

Over the past three decades, companies controlled and managed the availability of the information related to their products and procedures. The advent of Web 2.0 relegates company controlled, dominated and/or manipulated information, as comments can now be provided by customers on social network sites (Kaplan & Haenlein 2010). Recognising the power of social media, organisations have increasingly used Web 2.0 technologies to develop interaction and information sharing with the community, as well as allowing employees to share their problems and concerns (Da Cunha & Orlikowski 2008; Denyer et al. 2011). Kaupins and Park (2011) suggest online social networking has become popular in the workplace because it allows managers to build internal intellectual engagement, enhance employees' motivation and satisfaction, and develop an effective communication channel to receive offers and suggestions. A 2010 study of IT and IS managers and computer users (n=1654) across North America, the United Kingdom and Europe identified popular work related activities through social networking websites, as presented in Table 2.1.

Table 2.1. The most common work-related activities through online social networking sites

ACTIVITIES	PERCENTAGE
Professional networking with colleagues	79%
Learning about colleagues	66%
Research	61%
Sales prospecting	37%
Marketing communication with customers	37%
Setting up meetings	25%
Sharing work related projects	18%

Source: Cited in Stopfer and Gosling (2013)

Generally, there are two paradoxical views about the effect of online social networking on business and employees; one suggests employees' access to social networking sites has negative effects on the business because of the time wasted on personal demands at work and the interruptions referred to as cyberslacking (Tidd et al. 2005; Selvarajan 2006, Klein 2007). Cyberslacking or cyber loafing refers to “*the use of the internet and mobile technology during work hours for personal purposes*” (Vitak et al. 2011; p.1751). Online shopping, visiting a social website, blogging, and online gaming are the most popular cyberslacking activities (Vitak et al. 2011). A study of 143 working professionals from a variety of industries in the US reveals cyberslacking has a negative impact on job involvement (Lieberman et al., 2011) and can reduce productivity (Griffiths 2003). Similarly, a US national study in 2006 estimated that US productivity decreased by \$178 billion annually due to cyberslacking (Vitak et al. 2011). Cyberslacking also can be considered as a source of interruption, which associates with disruption cost. “*The additional time that is spent to reorient back to an interrupted task after the interruption is handled*” is a type of disruption cost (Mark et al. 2008, p.1).

There is also another evidence of online social networking being costly for organisations. Greenfield and Davis's study (2002) found 47 percent of American employees (n=300) spent 3.24 hours per week on non-work related sites. In accord with the previous study, research into British companies (n=3500) by Employment Law Firm Peninsula revealed that British employees spent 233 million hours on SNS per month, which they claim must reduce efficiency (BBC News 2007). Another report of British employees (n=1000) by My Job Group (2010) found 55 percent of participants log into online social networking sites at work, and a third made negative comments about their workplace, with 19 percent criticising managers or owners online. Karpinski's (2009) study of US university students (n=219) identified that students who were regular Facebook users obtained noticeably lower grade point averages than those who were not users (cited in Ahmed & Qazi 2011).

A study of 48 German students showed that media-type interruptions resulted in a higher workload, work stress, higher frustration, and more time pressure, as it took 23 minutes for an employee to return to the original task after every distraction (Mark et al. 2008). A recent study suggested online social networking is one of the most powerful sources of cyberslacking and organisations might dissuade employees from cyberslacking through online social networking by applying both individual termination threats and detection mechanisms (Ugrin & Pearson 2013). Over the past decade, some companies have fired employees because of their online comments. For example, the Edinburgh branch of Waterston's bookstore fired a senior bookseller in 2005 for writing offensive comments about the company and his manager on his blog (Schoneboom 2011). Nucleus Research Inc. (2009) estimated American companies lose 1.47 percent of total productivity when their employees connect to Facebook at work. Nucleus's interviews with 237 American workers suggested that 77 percent of employees had Facebook accounts and 61 percent spent an average of 15 minutes daily on Facebook at work of these 13 percent had a business reason to use Facebook at work whereas the rest used Facebook for personal networking (Nucleus Research 2009).

In addition to the negative effect of social networking websites on productivity and timing, some researchers have posited that new communication technologies have changed the face of workplace bullying (Privitera & Campbell 2009). Workplace bullying refers to repeated humiliating, offensive and aggressive behaviour against an employee when the power is imbalanced. Often, the aggressive and negative act is considered as bullying when it occurs systematically on a weekly basis over at least a period of 6 months (Leymann 1996). Workplace bullying is defined as the protracted exposure to frequent systematic aggressive behaviour (Nielsen & Einarsen 2012). The emotional and physical dark side of workplace bullying is not limited to the workplace as it can transfer into victims' family and social lives (Richards & Freeman 2002).

As mentioned earlier, paradoxically, a second viewpoint considers the various positive impacts of social networking websites on business, through expanding communications beyond geographical barriers, facilitating the sharing of beliefs and opinions (Herring 1996), increasing positive self-image, increasing reputation (Lakhani & Von Hippel 2003), and improving professional status (Hall & Graham 2004). For example, a study of 1709 members of an internet technical forum² showed that 23 percent of frequent information seekers and 17

² *An Internet forum is a website for trading ideas or information. An Internet forum allows individuals to toll about their particular experiences. Generally, forums are composed of information seekers who post the questions and information providers who answer the questions (Wisegeek.org 2013).*

percent of other information seekers completely solved problems based on the answers providers gave to their questions online. Moreover, 69 percent of frequent information seekers and 87 percent of other seekers mentioned the information received helped them to solve their problems (Lakhani & Von Hippel 2003).

During the past decade, some researchers (Muniz & O'Guinn, 2001; Leader-Chivée & Cowan 2008; Kaplan & Haenlein 2010) have investigated the impact of online social networking on marketing and human resource strategies by focusing on how online social networking can affect organisations and their competitive advantages. Smith and Zook (2011) argued that online social networking enriches the quality of advertising through the 'monochrome' classification of clients such as gender, age, and specific interest. Social networking sites allow marketers to target specific customers when individuals share their information and interests on social networking websites. In addition, companies use online social networking to introduce and sell their products and communicate with consumers to obtain feedback and develop customer service. One strategy to improve relationships with customers is to create brand fan pages in social networking sites (De Vries et al. 2012). Brand fan pages allow customers to post and share their feelings and thoughts about a specific brand. Customers who become brand fans are more likely to be loyal and committed to the company, visit the store, and emotionally attach to the brand (Bagozzi & Dholakia 2006, Dholakia & Durham 2010).

Social networks can be a powerful source for selecting and recruiting staff and facilitating a cooperative organisational or group culture. HR managers have increasingly implemented social networking sites to collect extra information and check the job candidates' background before an interview (Stone 2013). In 2009, a study of HR experts in the United States (n=2667) revealed that 45 percent check job applicants' social network profiles before making a decision whether or not to hire them (Broughton et al. 2010). Jobvite's report in 2011 suggested 55 percent of companies located in the US recruit staff via social networking sites, which shows a 12 percent increase as compared to statistics gained in 2010 (Aspridis et al. 2013). Similarly, a Belgian study of 398 active social networking site users who were also recruitment and selection professionals, suggested 44.3 percent used LinkedIn to find potential candidates to fit vacancies; whereas, 82 percent claimed Facebook was not an appropriate source for recruitment (Caers & Castelyns 2010). However, 43 percent admitted to checking job applicants' profiles on Facebook to gain further information (Caers & Castelyns 2010). In addition, more than 41 percent believed applicants could further promote themselves if their profiles showed they had important and powerful friends, which is impossible to do in Curriculum Vita (Caers & Castelyns 2010).

The effect of online social networking on the workplace is not limited to profit-driven organisations and businesses. Waters and colleagues' (2009) study of 275 non-profit organisation profiles on Facebook indicated that non-profit organisations apply online social networking to absorb potential volunteers and donors. Non-profit organisations use social networking websites to inform people about their services and expand relationships with important public constituents (Waters 2010). However, solely creating a profile on social networking sites will not increase the stakeholders' awareness of organisations' programs and services (Waters et al. 2009).

These paradoxical viewpoints create ambiguity around the use of the social networking sites and this is one reason why so many organisations monitor employees' activities on SNS. In addition, there are ethical and legal reasons for why employers monitor their employees' online activities on SNS; these include checking on productivity, security, protecting the organisation's reputation, and learning about personality traits and moral health that may influence work duties. Based on the evidence of such problems, Brown and Vaughn (2011) recommend that organisations create a written policy to forbid the use of OSN in the workplace. Another response for employers is to block employees' access to social networking sites at work. For example, in the United Kingdom (UK), Portsmouth City Council blocked access to social networking sites in response to a study that estimated its employees wasted 572 hours on Facebook over a one-month period (Kisiel 2009). In a similar response, 54 percent of U.S. companies banned employees from using social networking sites in the workplace in 2009 (Webb 2012). The workplace is not the only place where employees access social networking sites.

2.1.3 Online social networking and family life

The internet has an impact on all aspects of modern life. The report of ComScore Inc.³ (2011) revealed that 1.2 billion users logged into social network sites during October 2011, which means online social networking is the most popular activity around the world. Cisco, a famous American systems company, conducted an online survey of 1441 college graduates or higher students (age 18–24) and 1412 full time employees (age 21–29) in 14 countries: USA, Canada, UK, Australia, China, India, Italy, France, Germany, Spain, Russia, Japan, Mexico and Brazil.

³ *ComScore is an American leading internet technology company that provides analytics for what people do as they navigate the digital world (Comscore.com 2013)*

The survey concluded that 49 percent of students and 47 percent of employees believed the Internet is as important as water, food, air, and shelter in their lives. More interesting, 55 percent of students who participated in the survey stated they could not live without the Internet. Moreover, most participants of both groups indicated they connect to Facebook at least once every day and 43 percent of students mentioned that they were interrupted by some kind of social media while they were working on their study projects and/or homework. In addition, 27 percent of students preferred logging in to Facebook to dating a partner and seven in ten of employees who used Facebook reported that they had added their colleagues and managers to their online friends list (Cisco 2011).

The rapid emergence of online social networking among both adolescents and adults has generated opposing attitudes toward its social outcomes. Some researchers believe that online social networking has a wide range of negative effects on social life and wellbeing. This negative perspective was reinforced in 2008, as studies found that social networking websites have become the second major source of cyber-bullying (Ybarra & Mitchell 2008). Cyber-bullying refers to aggressive and intentional use of electronic forms of contact (Smith et al. 2008), which is a type of indirect bullying. The evidence suggests that girls are relatively more involved in indirect bullying, which is not face-to-face or physical, whereas boys dominate in direct and physical bullying (Olweus 1993; Whitney & Smith 1993; Noret & Rivers 2006; Smith et al. 2008). In 2007, the US National Crime Prevention Centre reported 40 percent of teenage users were bullied through the internet. Although cyberbullying is not physical, its harmful psychological impacts on victims can lead to serious consequences. For example, the Associated Press reported that in 2006 a 13-year-old American girl committed suicide by hanging herself after receiving a group of abusive messages on Myspace, which said the world would be a better place without her. Similarly, in 2010, another American teenage girl died after hanging herself because of harassment by six classmates that occurred both in person and on Facebook (NPR 2012).

Finkelhor and colleagues' (2000) survey of American children (n=1501) between 10 and 17 years of age found 25 percent received gendered messages and one in 17 were harassed. Although 25 percent of participants confessed that they had been distressed, only a few reported the aggressive messages to their parents or a law-enforcement agency. Similarly, a mixed method study of children and young people (n=819) aged 8 to 17 years and their parents in Australia reported that 19 percent of children and adolescents have experienced cyber-bullying via SNS and mobile phone, 17 percent and 2 percent respectively (Australian Communication and Media Authority 2009). In addition, the findings suggest there is a

positive relationship between the risk of being bullied and age. Although cyber-bullying is a very serious issue, it is not the only problem associated with social networking sites.

Rosen's studies from 2009 to 2011 suggest that teenage Facebook users show more narcissistic tendencies than non-users. Rosen's (2011) survey of American parents (n=1000) their children's eating habit, exercise routine, mental and physical health, and how much time the children spend online found that time on-line had a powerful effect on children's health. Rosen's further study of the effect of Facebook on young adult users suggested frequent use correlated with antisocial personality disorder, bipolar disorder, and borderline personality disorder (cited in Chamberlin 2011). Similarly, a study of 275 adolescents in Singapore reported participants with narcissism showed predictable disorder behaviours through their Facebook profiles (Ong et al. 2011). Some studies have identified that relying on online communication reduces individual well-being, regardless of age because it gives a false sense of communication and displaces face-to-face social relationships with existing friends (Kraut et al. 1998; Nie 2001; Nie et al. 2002; Morgan & Cotten 2003).

Another problem is that online social networking sites can be a source of identity theft because users are encouraged to share very private information and a digital identity can easily be hacked (Jagatic et al. 2007). A study conducted by Sophos UK⁴ revealed shocking findings that Facebook users disastrously shared intimate information and details, consequently setting themselves up for identity theft. In a part of the study, two fraudulent profiles were signed in to Facebook. One of them had a photo of a rubber duck named "Daisy Feletin" and the second one was a photo of two cats. Researchers sent friendship requests to 100 users in their 20s via Daisy's profile and asked 100 users over 50 years of age to become friends with the cats. More than 46 percent of young users accepted friendship connections with the duck and all of them shared their email address; 98 percent gave their date of birth, four percent displayed their full address and seven percent allowed the duck to have their phone numbers. The results for the over 50s group were almost the same, with 41 percent becoming friends with the cats, 92 percent provided their date of birth, and 22 percent gave their personal phone number as well (Sophos Press 2007).

The effect of online social networking on marital breakdowns is another example of a negative effect on family life. In the UK, a recent survey by Divorce Online⁵ found Facebook is

⁴ *A leading internet security firm*

⁵ *Divorce-Online was the first online divorce service in the UK and Europe and was launched in 1999*

increasingly being cited as a contributing factor to divorces, for 33 percent of divorces in 2011, an increase from 20 percent in 2009. The 33 percent of divorced women or men cited their partners' Facebook profile or status as evidence of a partner cheating or flirting with another.

Despite these concerns, an alternative point of view suggests that online social networking can positively influence life. For example, in 2009, research sponsored by the US Red Cross identified social networking sites as the fourth most popular source for finding emergency information and informing people of unsafe places and situations. These results have contributed to the US Federal Emergency Management Agency using SNSs to manage emergencies and disasters (Lindsay 2011). Moreover, some other researchers suggest that internet communication strengthens friendships because of improved self-disclosure, which is an important factor of mutual trust and caring (Joinson 2001; Tidwell & Walther 2002; Valkenburg & Peter 2007).

Internet communications are useful methods for persons with low self-esteem, as it allows them to minimise their social weaknesses (Zywica & Danowski 2008), by creating a social interaction opportunity for those who have difficulty with face to face social interaction (Sheng et al. 2011). Steinfield and colleagues' study (2008) of students at a large Midwestern American university found that Facebook helped students with low self-esteem to participate in forming large heterogeneous networks, by reducing the obstacles that they might experience in face-to-face communication. Similarly, another study that examined two different attitudes toward the effect of online communication on adolescent well-being among Dutch teenagers (n=1210) aged between 10 and 17 years concluded online communication with offline friends enhanced feelings of self-esteem and well-being. However, the analysis did not find any relationship between wellbeing and online communication with strangers (Valkenburg & Peter 2009). Furthermore, some studies have found that using social networking websites can help form online relations, as a form of social support (Selfhout et al. 2009).

Online social networking websites play an important role in sharing knowledge and information. In 2001, Yahoo! listed almost 150 Web ring⁶ topics that allowed experts to express their opinions, share their knowledge, provide, and receive assistance from one another (Katz & Rice 2002). Like other countries, online social networking increasingly affects work and family lives in Australia, so Australian based research has grown over the past two decades.

⁶ *Web ring is a group of sites linked together, focusing on a specific topic (Katz & Rice 2002)*

2.1.4. Online social networking in Australia

Australians have increasingly embraced social activities through the internet. The Nielson Company ⁷ (2010) reported Australia had nine million social networking site users in 2009 with 78 percent sharing their photos and almost 74 percent sharing a link through social networking websites. The findings demonstrate that although Facebook remains the most popular social networking website in Australia, the number of Australians who joined Twitter has grown by 400 percent. In addition, the number of active profiles in social websites has increased from 51 percent of total profiles to 57 percent. Active profiles refer to the profiles that have been regularly updated and the owners have been interacting with the other members (The Nielson Company 2010). Similarly, Young's (2009) online survey of students and employees (n=725) of an Australian university revealed 68 percent had an OSN profile and 22 percent of those have more than two active profiles. Participants stated that OSN had positive outcomes, such as keeping them in touch with family and friends (79%), enabling communication with others (70%), helping them to find out what is happening in the lives of others (67%), entertainment (61%), facilitating their social life (40%), and enabling them to express themselves (29%).

Similarly, another piece of Australian research (480 men, 536 women) conducted by Sweeney Research ⁸ in 2012 revealed that 62 percent used social networking sites and 36 percent of those logged in to social networking websites such as Facebook and Twitter every day. A comparison with a previous survey conducted in 2011 found the number of daily SNS users had increased by 6 percent. In addition, women and young adults aged 20-29 years used SNS more than men and other age groups. The participants who never used SNS mentioned three major reasons for not joining a social networking website, including 'not interested/doesn't appeal' (58%), 'security concerns' (18%), and 'not having enough time' (15%) (Sensis 2012).

In 2010, The Australian Psychology Society (APS) conducted an online survey that was advertised publicly through social networking websites, local newspapers and email. In total, 1,834 Australian adults (between 18 and 80 years of age) participated, returning a random non-stratified sample made up of 267 males and 1344 females. Despite that most online social networking research has concentrated on youngsters, the results indicated 81 percent of Australian adults between 31 to 50 years of age, and 50 percent of adults over 50 years of age

⁷ *An American research company*

⁸ *An Australian research company*

use online social networking sites. Most importantly, 51 percent of participants confessed they login to OSN sites several times a day. Twenty-eight percent reported they had at least one negative experience on social networking sites, and of these, 60 percent were under 30 years of age.

Negative experiences included other people releasing unwanted and inappropriate information about them, someone of the opposite gender sending abusive messages to them, or other forms of cyber-bullying. Privitera and Campbell's (2009) study of Australian workers (n=103) revealed that a total of one-third were bullied face to face and 11 percent of those were bullied through modern communication technology such as email. Moreover, Privitera and Campbell (2009) acknowledge that mobile phone and social networking websites are two major devices that facilitate bullying in the workplace. In 2007, to address concerns about cyber-bullying, the New South Wales government enacted a law ⁹ that convicted sexual offenders must provide police with all their electronic identities such as email address and chat room identities, details of service providers, and details of their internet network. In addition, the Australian government has established a consultative working group to address the issues related to social networking sites and sexual offenders (Australian Law Reform Commission 2007).

Recently, a Perth-based general physician revealed another epidemic fuelled by Facebook and online social networks. Data from the Princess Margaret Hospital in Perth has shown there is a growing number of teenagers who have self-harmed and needed emergency treatment in the past three years, as is illustrated in Table 2.2. Similarly, the Western Australian (WA) Health Department announced data from all metropolitan public hospitals in WA showed the number of children who self-harmed has steadily increased over the past five years. The Australian Medical Association-WA Psychiatry branch has warned that teenagers' wide use of social media and sharing of their feelings on Facebook, contributes to the levels of self-harm (O'Leary 2012).

Table 2.2. Princess Margaret Hospital data related to teenage intentional self-harm

Year	Self-harm children	% of all injuries
2010	276	1.57 %
2011	365	1.88 %
2012	418	2.30 %

Source: O'Leary (2012)

⁹ *Child Protection (Offenders Registration) Amendment Act 2007*, NSW

As the forgoing literature review demonstrates, online social networking has various effects on both business and family life around the world, and Australia is no exception. This study aims to investigate the impact online social networking has on the balance between life and work domains. In order to understand the issues, the work-family balance literature is reviewed next.

2.2. Review: Work-Family Balance

Although the term work-family balance frequently occurs in the literature, it is not an explicitly defined concept. Generally, ‘Work’ is understood as ‘paid-work’ or duties and ‘Family’ refers to ‘unpaid-work’ or responsibilities in all other domains outside the job responsibilities (Lowry & Moskos 2008). Work-family balance is defined as “*The ability of individuals, regardless of age or gender, to combine work and household responsibilities successfully*” (Wheatley 2012, p.815). Similarly, Bailyn et al. (2001, p.135) assert that work-family balance is a “*Holistic integration of work and non-work*” responsibilities that allows individuals to accomplish their potential throughout their different roles.

Many scholars in this area refer to “role strain” theory to define work-family balance. Role theory stipulates that individuals have finite resources, time, and energy to allocate to all their roles and goals; thus, many face difficulties in accomplishing their different role demands (Goode 1960). As a result, role theory suggests work-family balance means the minimising of conflict and interface between work and family responsibilities (Greenhaus and Beutell 1985; Frone et al. 1992, 1997; Grant-Vallone and Ensher 2001; Byron 2005; Ford et al. 2007). This definition is known as a conflict perspective and it is embedded within the resource-based theory (Pillay et al. 2013). Inspired by resource theory, scholars assume individuals who engage in multiple roles inevitably suffer from conflict because time and energy are invariant and resources are finite (Pillay et al. 2013).

Based on an alternative approach, the concept of work-family balance is concerned with how people achieve satisfaction from accomplishing work demands and family demands. Thus, work-family balance refers to “*Satisfaction and good functioning at work and at home with a minimum of role conflict*” (Clark 2000, p. 751). In other words, work-family balance embraces two predictors: work satisfaction and family satisfaction. Individuals’ overall feelings toward their jobs refer to work satisfaction, while family satisfaction refers to overall satisfaction with personal life (Clark 2000). Greenhaus et al. (2003) suggested a positive spillover between work and family experiences implies an equally high level of satisfaction, while negative

spillover results in low levels of satisfaction with each role. Stressors that negatively affect both work and family outcomes are classified into three groups: work stressors, family stressors, and stress caused by the interaction between work and family roles (Grant-Vallone & Donaldson 2001). Over the last seven decades, several theories have been developed and used to clarify and explain the connections between work and family domains. These theories have not only adopted different views of work-family balance, but have also presented irreconcilable approaches as discussed below.

2.2.1 Theoretical conceptualisation of work-family balance

Theories and models that support the relation between work and family domains can be classified into two groups composed of traditional approaches and new approaches. The main traditional approaches or descriptive models are segmentation model, compensation model, spillover model, instrumental model and conflict model (Guest 2002). Based on the segmentation approach, work and family are two quite separate domains with specific purposes; thus, the satisfaction in one domain is not correlated to the satisfaction in the other domain (Guest 2002). Table 2.3 outlines the most cited theories in work-family balance area.

Table 2.3. Theories of work-family balance

Theories	Developed by
Role strain theory	Goode (1960)
Segmentation theory	Blood and Wolfe (1960)
Role accumulation theory	Sieber (1974)
Human capital theory	Becker (1975)
Role expansion theory	Marks (1977)
Person-environment fit theory	Kulka (1979)
Spillover theory	Stains (1980)
Ecological systems theory	Bronfenbrenner (1989)
Resources theory	Hobfoll (1989)
Compensation theory	Lambert (1990)
Boundary theory	Nippert-Eng (1996) and Ashforth et al. (2000)
Work-family border theory	Clark (2000)
Enrichment theory	Greenhaus and Powell (2006)

Source: developed for this study

Judge and Watanabe's (1994) study of an American stratified random sample of 804 employees found that there was insignificant correlation between work satisfaction and life satisfaction among 20 percent of respondents, while 68 percent of participants supported a negative spillover between work satisfaction and life satisfaction. Therefore, Judge and Watanabe (1994) suggested individual differences could change the nature of the relationship between work and family domains.

On the contrary, the compensation approach suggests that work and family domains may balance each other's weakness and strength, which means there is a reverse relationship between work and family responsibilities. However, the strength in one domain reimburses the weakness in the other domain, suggesting a negative correlation between work and non-work activities (Evans & Bartolom1984; Heller et al. 2002). Compensation relationships between work and non-work activities are reactive or supplemental in nature (Zedeck 1992). Reactive compensation refers to the extent that privations in one sphere are compensated in the other one (Zedeck & Mosier 1990). For example, a reactive compensation happens when an employee goes on annual leave to refresh, whereas supplemental compensation signifies the situation where the least desirable experience or behaviour in one domain improves perceptions in the other domain (Zedeck & Mosier 1990).

The compensation model is very different to the instrumental model. The compensation model proposes the activities in one domain enhance the chance of success in the other domain whereas the instrumental model suggests conditions in one domain facilitates positive consequences in the other domain (Cohen & Liani 2009). For example, well-paid jobs lead to improved family welfare (Zedeck & Mosier 1990; Guest 2002). The conflict model relies on role theory and suggests the work and family domains negatively affect each other (Guest 2002). This means sacrifices are inevitable in one domain to become successful in the other, as people have limited amounts of energy and time to allocate to various responsibilities. Therefore, conflict arises in one domain, whereas the source of conflict is located in the other domain (Evans & Bartolome 1984, Greenhaus & Beutell 1985). This conflict model is consistent with the negative spillover concept.

Spillover theory (Stains 1980) suggests work and non-work activities could affect each other either positively or negatively, because emotions and feelings spill over from one domain into the other one. In addition, attitudes towards the workplace might influence behaviours at home or vice versa (Mortimer et al. 1986). Stains (1980) argues the relationship between work and family domains is positive if the integration between work and non-work activities leads to a higher level of involvement in both areas. On the other hand, Stains (1980) specifies there is a negative relationship between work and non-work roles in terms of limited time, energy and money. The more time, energy, and money spent on one domain, the less there is available for the other domain. The majority of studies about work-family balance have been influenced by spillover theory (Zedeck & Mosier 1990). Several studies provide empirical evidence for both negative and positive spillover effects for work and non-work responsibilities that will be

discussed further in the next section. The new approach to the relations between work and family domains is underpinned by boundary and work-family border theories.

Boundary theory

Nippert-Eng (1996) introduced boundary theory, which relies on ecological systems theory. Ecological systems theory recognises that the environment around individuals is composed of four systems: the microsystem, the mesosystem, the exosystem, and the macrosystem (Bellavia & Frone 2005). Systems determine the suitable pattern of individuals' roles and activities (Bellavia & Frone 2005). Each role takes place within a specific sphere and boundaries are deliberately created around the spheres (Ashforth et al. 2000; Clark 2000). Boundaries enable individuals to order and simplify the environment around them. The strength of boundaries differs from thin to thick, and depend on individual preferences to integrate or segment roles (Bulger et al. 2007). Individual preferences are affected by several factors such as job structure, personality differences and the perceived benefits or disadvantages of blurring the role boundaries (Fonner & Stache 2012). Ashforth et al. (2000) defined a role boundary as "*Whatever delimits the perimeter- and thereby the scope- of a role*". Boundary theory relies on individuals being more active rather than reactive, so they can negotiate and manage the strength of boundaries between different roles (Ashforth 2000). Therefore, dealing with multiple roles at the same time has no negative or positive effects on the outcomes, but the construction of roles can influence the outcomes.

There are two levels of role transition, or '*crossing the role boundaries*': these are the micro and macro levels. Macro role transition refers to a process of exiting from one role and entering into another role and it is a permanent and hierarchical transition, whereas micro role transition includes shifting forward and backward among various roles that an individual plays simultaneously (Desrochers & Sargent 2004). Flexibility and permeability of the boundaries control the process of micro role transactions across domains (Ashforth et al. 2000; Clark 2000). Flexibility determines to what degree a physical time and location may be changed. Permeability explains the extent to which individuals are in one domain, while psychologically focused on the responsibilities of the other domain (Hall & Richter 1989). The degree that a role prompts individuals to behave in a certain persona with particular goals and norms is role identity (Stryker 1980). Ashforth et al. (2000) propose that the degree of contrast among role identities and the permeability and flexibility of role boundaries determine how roles stand on a continuum from a segmented role, to an integrated one, as illustrated in Figure 2.2.

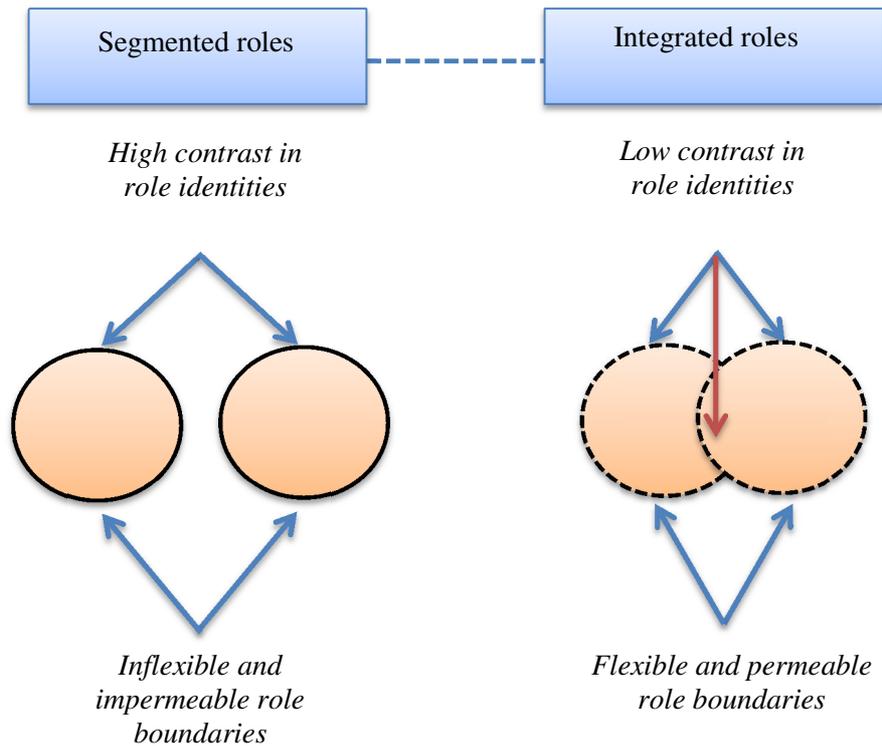


Figure 2.2. The concept of boundary theory

Source: adapted from Ashforth, Kreiner, and Fugate (2000)

Nippert-Eng (1996) proposed that some bridges facilitate the transition between work and family realms. Bridges are objects and activities that encourage mental transition between spheres, such as telephone calls and online communications via computer. Bridges help individuals to detach from one domain prior to leaving it and reattach to the other domain just before full immersion (Nippert-Eng 1996). As communication through private and social networking sites allows employees to have 24/7 access to the workplace or to their personal life, online social networking could be a bridge that simplifies the mental transition between family and work responsibilities.

Work-Family Border theory

According to work-family border theory, work and life are assessed like two neighbouring countries with different cultures and purposes and a border between them. Individuals are *border-crossers* and frequently cross the border between work and life domains through adjusting their goals, focus, and interpersonal styles with the specific demands of each (Clark 2000). Figure 2.3 illustrates the concept of work-family border theory.

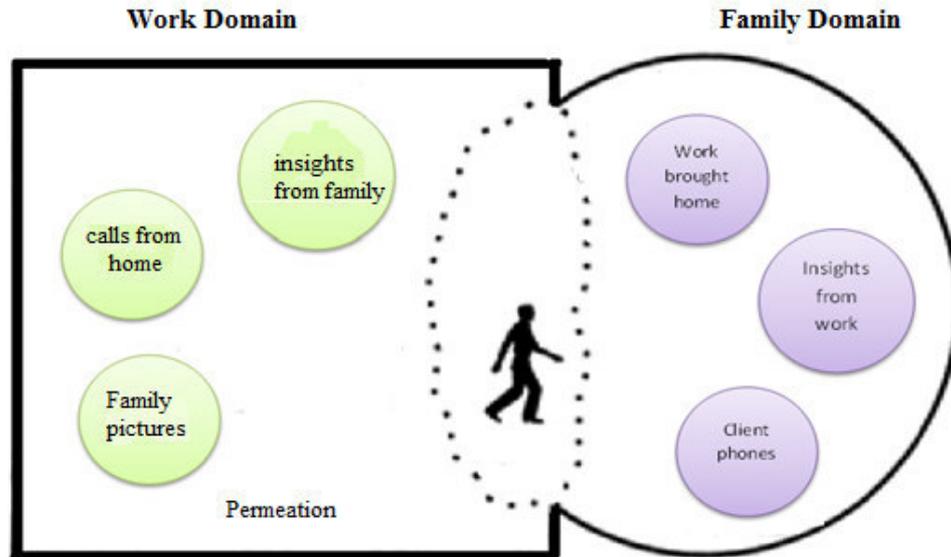


Figure 2.3. Work-family border theory

Source: Clark (2000)

The intellectual foundation of work-family border theory is Kurt Lewin’s notion of ‘life space’. Lewin (1936) believed that individuals organise the internal and external spaces around them. People manage all activities within the space for different zones, which represent the different roles and the borders that separate roles from each other. Lewin also suggested that penetration into different zones depends on the permeability of the borders. Clark (2000) identified three different types of borders that separate life and work spheres from each other: physical, temporal and psychological. Physical borders determine where behaviour related to each domain should take place, while temporal borders define when responsibilities related to each domain should be accomplished; and psychological borders control the appropriateness of behavioural and emotional patterns associated with each domain.

Similarly, the core of work-family border theory is the notion that people are active and choose when and how to blur the borders between family and work domains. Clark (2000; 2002) implied that borders are characterised by three factors: permeability, flexibility and blending. The concept of flexibility and permeability is the same in both work-family border theory and boundary theory. Blending refers to a high level of permeability and flexibility around the borders that make the scope of domains unclear and occurs both psychologically and physically (Clark 2000; 2002). For example, teleworking, or working from home, is a type of physical blending. Psychological blending occurs when an employee applies experiences obtained from work to deal with a family issue.

Within the context of work-family border theory, Clark (2002) reported a relationship between boundaries with low permeability, high flexibility, and low work-family conflict. Everything that decreases permeability and increases the flexibility of borders can reduce work-family conflict or increase work-family balance and vice versa. The work-family border provides a further understanding of work-family balance and suggests antecedents of work-family conflict that increase or decrease work and family satisfaction. Both work-family border and boundary theories provide a theoretical framework to examine how work and family spheres overlap each other over the first decade of the new millennium that leads to the development of new practical measures of boundary features, or flexibility and permeability (Matthews et al. 2010a). Researchers focused on measuring the strength of boundaries between work and family domains, as strong boundary reflects work-family balance and weak boundaries are a sign of work-family conflict. For example, employees with strong work boundaries deal with work issues only at the workplace and on work time.

Boundary strength

Depleted boundary strength is a source of inter-role conflict because individuals' have a limited amount of resources to allocate to different roles (Hecht & Allen 2009). Based on this perspective, engaging in work responsibilities at home reduces the resources available to meet family demands. Similar processes cause conflicts between domains to occur if individuals take care of family responsibility when they are at work. Boundary strength is a continuum from segmentation to integration that is composed of two main features: flexibility and permeability (Bulger et al. 2007). Flexibility is the degree that allows individuals to play a certain role in different settings whenever they want (Bulger et al. 2007). For example, an employee who can leave the workplace earlier and complete his task at home has a flexible job. Initially, flexibility was considered as a feature of working conditions. However, some studies found that flexibility is important in both work and family domains: (Pedersen & Jeppesen 2012). Family flexibility refers to the degree that family members take care of family responsibilities based on their schedules. The more flexible schedule individuals have, the more responsibility they have to take (Pedersen & Jeppesen 2012).

Permeability refers to the extent that individuals involve physically in one role, but are psychologically and behaviourally concerned about another role (Nippert-Eng 1996). For example, when employees are at work and can contact a friend or a family member, their roles are permeable. Nippert-Eng's definition of permeability emphasised mental transition, which differs from Pleck's definition of permeability, whereas, Pleck (1984) underlines transitions between multiple roles. According to Pleck (1984), permeability is the degree to which

individuals transgress the allocated time and space of one domain in order to address the demands of the other realm. Rothbard and Edwards (2003) propose that boundary management through segmenting strategies reduces permeability and limits work-family interference. When flexibility and permeability are low, segmentation is high; thus, work and family domains cannot easily overlap each other (Clark 2000). For example, an employee cannot leave his/her workplace to cope with some family demands. Matthews and Barnes-Farrell (2004) suggest that both individuals' willingness and ability to leave one domain to attend to the demands of the other domain should be considered as flexibility. Thereby, boundary strength is composed of flexibility-willingness, flexibility-ability, and permeability.

A sample of 332 American employees (59% females and 41% males) from 24 different organisations who use computers at work for non-work purposes revealed that work flexibility-ability and work flexibility-willingness was negatively correlated with work-to-family interference. The data analysis did not support the relationship between family boundary strength and family-to-work conflict. Moreover, high family permeability and low work flexibility-ability increased work-to-family interference (Bulger et al. 2007). The findings also suggest that work flexibility-willingness and family flexibility-ability were negatively related to family-to-work interference, while work permeability increased family-to-work interference (Bulger et al. 2007). Thus, high permeability and low flexibility infer high work-family interference. Despite that Bulger et al's (2007) study suffered from a small sample size, the findings are consistent with Ashworth's suggestion (2000) that strongly segmented boundaries may cause some costs.

A later study of 323 American employees (62% females and 38% males) found further support for the notion that work-to-family transition is greater than family-to-work transition (Matthews et al. 2010a). The study of American employees found work flexibility positively related to work-to-family transitions, and family flexibility also positively related to family-to-work transitions. However, work-to-family transition occur more than family-to-work transitions. The study revealed that inter-domain transitions predicted work-family conflict. Matthews et al. (2010) argue that flexibility is defined not only in terms of an individual's ability to move from one domain to another one, but also includes the actual frequency of movement between domains. Thus, when an employee can often shift from one domain into another domain, the flexibility-ability of the origin domain is high, which amplifies conflict and interference with the destination domain; nonetheless, some studies suggest that work flexibility negatively relates to work-family conflict (Bulger et al. 2007; Matthews & Barnes-Farrell 2010).

Kreiner's survey (2006) of American employees (n=325) from a broad range of occupations and organisations suggested that work-home conflict depends on the symmetry between the individuals' work-family segmentation preferences and the segmentation possibility granted by organisations. Interviews with professionals (n=245) from two American companies in the Fortune 500 list, who had the teleworking options, revealed that employees who perceived greater psychological experiences with flexibility, had significantly lower family-work conflict and depression (Kossek et al. 2006). Psychological experience with flexibility refers to the extent that individuals believe they have control over where, when and how to complete their responsibilities and this includes control to separate work-family boundaries as well (Kossek et al. 2006). The concepts of individual 'segmentation preference' and 'psychological flexibility' are consistent with Matthews and Barnes-Farrell's definition (2010) of flexibility-willingness, which proposes that individuals move across boundaries based on inclination, rather than simply because it is possible.

Hecht and Allen's online longitudinal survey (2009) of 793 Canadian employees (67% females, 33% males) implied that boundary strength is a bidirectional concept composed of boundary strength at work (BSW) and boundary strength at home (BSH). Findings revealed that boundary strength at work was stronger than boundary strength at home and strength was relatively stable over a period of one year. Similar findings came from an investigation on 631 New Yorkers (56 females, 44% males) employed for at least 20 hours per week and living as married and/or have children at home, claiming that family boundaries are more permeable than work boundaries (Frone et al. 1992b). This suggested work and family boundaries are asymmetrically permeable.

Hetch and Allen (2009) also found that work related issues tended to penetrate participants' family life more than family related issues permeated into work. Furthermore, this study demonstrated role identification was an antecedent of boundary strength that positively related to work-family conflict. In other words, employees with high job identification tend to concentrate on work related issues inside and outside of the workplace, and so experience higher levels of work-to-family conflict. In contrast, an employee with high family identification has stronger boundaries at home that prevent work-to-family conflict. On the one hand, Bulger et al. (2007) found no relationship between family boundary strength and family-to-work interference. On the contrary, Hecht and Allen (2009) found that boundary strength at home was negatively related to both sides of work-family conflict (WFC and FWC), whereas boundary strength at work was only related to WFC.

Although different theories about work-family balance have been presented, the main idea is the same - to create an “*overall sense of harmony in life*” (Clarke et al. 2004, p.121). The work-family balance literature has been rooted within a role conflict approach and thus work-family balance has been described as an acceptable level of conflict between work and family responsibilities (Greenblatt 2002).

2.3. Work-Family Interference/Conflict

Work-family conflict entails an inter-role conflict where role pressures related to organisational membership are incompatible with life role pressures (Greenhaus & Beutell 1985). Because time and energy are limited, increased work or family demands consume time and energy that should be spent on the other domain. Voydanoff (2005a) suggests that work and family demands are the psychological claims and allegations related to role requirements, based on individual expectations and norms of behaviour that people must follow. Traditionally, work-family conflict was considered a unilateral concept, while a wide range of studies have highlighted that work-family conflict is bidirectional, which means work-to-family conflict differs from family-to-work conflict. Furthermore, several pieces of research have indicated that their antecedents and consequences are different (Greenhaus & Beutell 1985; Adams et al. 1996; Frone et al. 1992b, 1997; Edwards & Rothbard 2000; Ford et al. 2007; Fisher et al. 2009).

When family related responsibilities interfere with work duties, family-to-work conflict happens, whereas work-to-family conflict occurs when work related activities intrude into family roles (Bulger et al. 2007). Shortland and Cummins (2007) argue that high levels of workload, burnout, business travel and resentment negatively affect family roles. On the other hand, the distraction from work by family responsibilities negatively influences on the job performance and effectiveness at work. In the same vein, working overtime is considered a symbol of job commitment, but it shrinks the time and energy available for family responsibilities and as Walsh (2012) points out, many professional jobs encompass working overtime and often nights and/or weekends.

Over four decades, work-family conflict has attracted the attention of business researchers because of its various outcomes either at home or at the workplace. Regarding the source of conflict, Bellavia and Frone (2005) divided the consequences of work-family conflict into three categories, including individual outcomes, family related outcomes, and work related outcomes. Kelly and colleagues (2008) differentiated work and business outcomes that are

influenced by work-family conflict. Work outcomes refer to employees' behaviour and attitudes in the workplace that can be assessed based on self-report processes such as work satisfaction, organisational commitment and turnover intention. Business outcomes encompass the organisational-level of employees' performance, such as stock market performance, productivity and return on investment.

There is a rich body of research about the relationship between work and family conflict and employees' emotional and physical well-being (Frone et al. 1992a; Aryee 1992; Thomas and Ganster 1995, Adams et al. 1996; Grzywacz & Marks 2000; Grzywacz & Bass 2003; Greenhaus & Powell 2006). For instance, telephone interviews of 2877 wage and salaried workers in the US showed that family and work stress were predictors of work-family conflict; work-family conflict also reinforced the stress that threatens individuals' well-being (Anderson et al. 2002). Further support is found in Ross and colleagues' study (2006) of 4228 female and 1043 male workers in Finland, which revealed a strong direct relationship between work-family conflict and drinking problems among men and heavy drinking among women.

Similarly, the findings of both a telephone interview and online survey of 1986 employees (52% males and 48% females) in the United States showed that work-family conflict, especially work-to-family conflict, reinforces depression and causes drinking problems (Grzywacz & Bass 2003). Similar results have been reported in eastern countries. For instance, Noor (2002) found that work-family conflict was positively related to depression among 310 Malaysian female workers. The detrimental health outcomes of work-family conflict negatively affect outcomes in family and work domains. In contrast, a more recent study of 1416 employees from seven distinct populations– Malay, Chinese, New Zealand Maori, New Zealand European, Spanish, French and Italian – reported higher levels of work-family balance were significantly and negatively related to both the levels of depression and anxiety with 99 percent of confidence, $\beta = -.38$ and $\beta = -.37$ respectively (Haar et al. 2014).

A Meta analyses of more than 180 empirical studies found that both directions of work-family conflict have a negative impact on work satisfaction (Ford et al. 2007; Byron 2005). Moreover, family-to-work conflict increases work pressure and absenteeism due to consuming the work hours that leads to self-report of low levels of work performance (Bellavia & Frone 2005). In addition, work-to-family conflict increases turnover (Frone 2003) and decreases organisational commitment (O'Driscoll et al. 1992; Mesmer-Magnus & Viswesvaran 2005). To the contrary, a study of 420 Australian public and private sector employees revealed that work-family positive spillover, or work-family enrichment, was negatively associated with

turnover intention ($\beta = -.22, p < .001$). However, the relationship between family-work positive spillover and turnover intention was insignificant, which suggests positive spillover has a greater impact on outcomes related to the same domain (Haar & Bardoel 2008).

The effect of work-family conflict is not limited to the workplace. Family life is also affected by work-family conflict as well. Several studies have found a negative direct relationship between both sides of work-family conflict and life satisfaction, where the impact of family-to-work conflict was stronger than the effect of work-to-family conflict (Carlson et al. 2000; Byron 2005; Ford et al. 2007). Furthermore, Adams and colleagues' study (1996) of 163 American workers who lived with at least one family member suggested that work-to-family conflict has a negative influence on family role performance. To examine how work-family conflict affects the workplace and family life at home, different variables have been examined and these indicators suggest various impacts on the intensity of work-family conflict. A discussion of these variables is presented in the following section.

2.3.1. The predictors of work-family conflict

Similar to work-family conflict outcomes, work-family conflict predictors come from three sources: the family role environment, the work role environment and the individual (Bellavia & Frone 2005). Empirical studies have found these predictors have direct and indirect relations with work-family conflict; some have causal relations with work-family conflict, while others only affect the intensity of the conflict between work role and family responsibilities. However, in general, these variables are referred to as antecedents of work-family conflict (Bellavia & Frone 2005).

Antecedents from the workplace

Work related variables anticipate the degree of work-to-family conflict rather than family-to-work conflict. These work related variables are discussed in more detail below.

- *Work hours*

The amount of time spent on work is the most common predictor of work-to-family conflict. Individuals with higher amounts of work hours suffer from a higher level of work-to-family conflict, so that the work hours factor is negatively related to work-family balance (Frone et al. 1997; Fu & Shaffer 2001; Batt & Valcour 2003; Aryee et al. 2005; Ford et al. 2007; Breaugh & Frye 2007). However, a study of 572 American employees showed that as work hours increased, employees with low control over work time were unsatisfied with work-family balance. By contrast, employees with high levels of control over work time reported

no significant relationship between work hours and satisfaction with work-family balance (Valcour 2007). This suggests that time flexibility moderates the negative effect of work hours on work-family balance.

Recently, Greenhaus and Allen (2011) suggested that an individual's perception of similarity between work responsibilities and family responsibilities and their life values affects the level of work-family balance. Odle-Dusseau and colleagues' (2012) study of employees from an American university (n=330) proposed that discrepancies in work- or family hours- had a significant negative effect on work family-balance. Work and family hour discrepancies refer to the difference between actual and desired time spent respectively, either at work or at home (Odle-Dusseau et al. 2012). Their findings demonstrated that the actual amount of time spent at work and home had a strong negative influence on work-family balance, but no specific effect on organisational commitment.

Using employee data from the Netherlands (n=2,377), Geurts et al. (2009) examined the impact of three types of worktime demands on work-family interference: contractual hours, which refers to the time spent on work according to one's contract; overtime hours; and commuting hours defined as time spent travelling between home and the workplace. These findings revealed strong relationships among higher numbers of contractual hours, overtime hours and work-family interference; whereas commuting hours was not significantly related to work-family interference. In this study, work hours and family hours were considered indicators of work and family stress, because time is a major source of pressure that leads to distress.

- Work stressors

Work stress is another work related variable that is significantly related to work-family conflict (Frone et al. 1992, 1997; Carlson et al. 2000; Glass and Finley 2002; Major et al. 2002; Ford et al. 2007). Work stress refers to the pressure caused by role conflict, role ambiguity, and role overload in the workplace (Kahn & Byosiere 1992). Frone et al. (1992) suggest contributing factors to work stress are work pressure, lack of autonomy and role ambiguity. Some researchers believe that work-related demands, such as working hard and fast, handling different task simultaneously, and dealing with complicated tasks, are the main sources of employees' stress at work (Fox et al. 1993; Schaubroeck et al. 2000). From another perspective, Voydanoff (2005) suggested job demands and job insecurity are two major sources of work strain.

Stranks (2005) classified sources of work stress into nine groups. Work stress is caused by (1) the physical environment, (2) organisational culture and policies, (3) procedures within organisations, (4) the roles that employees play, (5) relations within the organisational levels, (6) career development, (7) personal and social relations among employees, (8) equipment, and finally, (9) individual concerns such as difficulty in coping with change and the lack of confidence. Work stress is infamous because of its several negative impacts on employees and the organisational outcomes. However, from an alternative perspective, stress differs from work pressure (Stranks 2005). In other words, some stress can be beneficial for employees and operates as a motivator (Stranks 2005). Contrary to the general negative perceptions of job stress, creating positive stress at the workplace may demonstrate the skill of mature leadership, because positive stress fuels organisational performance (Stranks 2005).

For the past two decades, the most influential and widely used model of work stress is the Karasek (1979) Job Demand-Control (JDC) model illustrated in the Figure 2.4 below. The JDC model focuses on the interaction between demand and control in the workplace (Rydstedt et al. 2007). Social support was added to the model as the third dimension in the 1980s, which led to a new model known as Demand-Control-Support (Johnson & Hall 1988). Job demands are the amount of workload that results in psychological work stressors such as time pressure, role conflict, and ambiguity (Rydstedt et al. 2007). In contrast, the control dimension refers to the level of control that individuals have over the jobs such as autonomy over a job's schedule and process (Probst 2005). A mismatch between work responsibilities and control places individuals under pressure and stress.

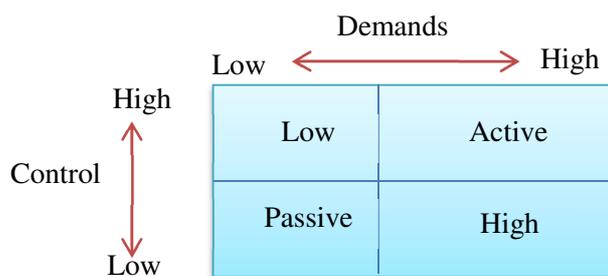


Figure 2.4. Job Demand-Control Model

Source: adopted from Karasek and Theorell (1990)

Based on Karasek's model (1979), jobs with high demands and low control produce the most harmful working environment. Ford and colleagues' (2007) meta-analysis of 120 empirical studies found that work stress had the strongest negative impact on family satisfaction. In

addition, meta-analysis results of 60 studies with 34622 participants found that participants with higher levels of job stress reported a higher level of work-to-family conflict ($r=.48$) and of the work variables, job stress was the most strongly correlated to work-to-family conflict (Byron 2005).

Recently, Wells' study (2013) of American sole or senior pastors ($n=833$) found work stress has a negative and radical effect on both emotional and physical health. In addition, a study of American employees ($n=1410$) found that work stress can result in increased levels of alcohol consumption and alcohol related issues (Moore et al. 2007) and this was supported in another study of American employees ($n=1314$) (Hill 2005). Both work and family stressors can influence work-family balance, and both are negatively related to work-family facilitation and well-being (Hill 2005). Hill's (2005) study found fathers suffered from lower levels of individual stress than working mothers. In the present study, work stress is defined as a combination of workload, time pressure and role ambiguity at the workplace.

- *Work Autonomy*

Work autonomy is the freedom to complete a task without direct monitoring or restriction (Grzywacz & Butler 2005). Blair-Loy (2009) defined work autonomy as control over the terms, conditions, and content of the job, along with the daily work schedule. Thus, work autonomy can be considered a two-directional concept that focuses on both the level of control over the process of a job and the level of control over time management. This approach is similar to Clark's (2001) definition of work flexibility that combines operational flexibility and temporal flexibility. Operational flexibility refers to controlling and managing the terms and conditions of work (Bailyn 1997) and a broad range of studies suggest that employees with high levels of operational flexibility are more satisfied with their work and involved in their jobs (Clark 2000). Bailyn (1993) expanded the results of work operational flexibility into the family domain, whereby operational flexibility provides employees with extra resources to manage their family lives.

Clark's (2001) study of 179 individuals from several organisations in the US supports Bailyn's (1993) claim, as her findings identified a significant relationship between work operational flexibility, work satisfaction and family well-being. Although temporal flexibility is commonly believed to increase work satisfaction, Clark (2001) could not find any significant relationship between work hour flexibility and any work or family outcomes. Inconsistent with Clark (2001), the analysis of 2958 telephone interviews with American employees found participants with a higher level of control over work schedule reported higher levels of

perceived work-family balance (Tausig & Fenwick 2001). To explain the conflicting findings, Clark (2001) adopted Bohlen and Viveros-Long's (1981) point of view that employees tend to assume that time flexibility is a part of operational flexibility.

Work autonomy has a controversial effect on work-family balance between employees with high status jobs (Michel et al. 2011). Work autonomy in high status jobs provides more opportunity to deal with family responsibilities, while high status jobs bring higher levels of work responsibilities. Therefore, employees with high status jobs suffer from higher levels of stress and difficulties in balancing their work and family responsibilities (Michel et al. 2011). From this point of view, the negative effect of stress lessens the positive effect of work autonomy on work-family balance. As a result, job status may moderate the relationship between utilising work autonomy and work-family conflict.

Grandey and colleagues' (2005) study of 174 American couples found that work autonomy and work monotony explained a significant amount of variance in work satisfaction for both men and women (25% and 15% respectively). Grandey et al (2005) defined work autonomy was a composite of control over work tasks and work schedule. Job monotony referred to the lack of a wide variety of tasks (Grandey et al. 2005). Similarly, a meta-analysis of 259 studies that included a total 219625 participants found work autonomy explained 34 percent of the variance in work satisfaction (Humphrey et al. 2007). Another recent examination of both objective and self-reported job characteristics data from 2045 American full time and part time employees found work autonomy was negatively related to work-to-family conflict (-0.11 , $p < 0.01$) (Grzywacz & Butler 2005).

Voydanoff's (1984) study of 1027 married participants in the US, (74% males and 26% females), concluded that work role characteristics had more influence on work-family conflict for men than women. Furthermore, perceived control over work schedules and job demands relatively modified the relationships between work role characteristics and work-family conflict among men and women. Therefore, it was pointed out that in general, individuals avoid using control over work if it is expected to lead to difficulties in other areas; thus, increasing control over work may not necessarily be an effective strategy for reducing work-family conflict. To some extent, the results of Batt and Valcour's (2003) study corroborate Vaydanoff's findings. Their study of 557 dual-earner employees in the US indicated work autonomy explained more variance in family demands, rather than in work-family conflict. Based on an empirical study of 2377 Dutch employees, Geurts et al. (2009) found that employees with a high level of control over taking their vacation reported lower levels of

conflict between family and work domains ($\beta = -0.12$, $p < 0.001$) than the employees with a flexible work schedule.

Recently, in-depth interviews with 15 full-time employees from European countries showed that childless participants, with or without a partner, think of temporal flexibility as an extra benefit rather than a necessity (Galea et al. 2014). In contrast, employees with children believe temporal flexibility is a necessity to obtain balance between their family and work responsibilities (Galea et al. 2014). In addition, managerial support was related to the usage of temporal flexibility. In other words, some employees do not feel free to use temporal flexibility because cultural values do not support it (Galea et al. 2014).

All the studies above describe work autonomy influences on work-family conflict. In the present study, work autonomy is assumed as a composite construct composed of operational flexibility and temporal flexibility.

- Work/Job involvement

Since Lodhal and Kejner (1965, p 24) conceptualised the job involvement construct as, “*The degree to which a person is identified psychologically with his work, or the importance of work in his total self-image*”, hundreds of studies have concluded that job involvement is a key factor to activate employee motivation for establishing competitive advantage in business (cited in Pfeffer 1994). Psychologically, when individuals realise an activity has potential for satisfying needs and demands, they become more involved in that particular activity (Kanungo 1982). Thereby, productivity and organisational effectiveness can be enhanced by increasing job involvement (Brown 1996).

Traditionally, job involvement was considered an antecedent of work-family conflict. However, several definitions of job involvement have been proposed that change the effect of job involvement on work-family conflict. At first, based on Greenhaus and Beutell’s (1985) study about the sources of work-family conflict, the amount of time spent at work was considered as job involvement. Alternatively, job involvement has been defined as the extent to which the job is the centre of individuals’ interests and psychological identification (Kanungo 1982). Job involvement is also defined as the degree to which an employee is cognitively engaged in and concerned with his/her current job (Paullay et al. 1994). This last definition makes a distinction between involvement in the present job and the importance of the job in general, with the latter commonly known as work centrality. In other words, Paullay

and colleagues (1994) tried to clarify the boundary between job involvement and work centrality, suggesting work centrality referred to the importance of work in the individual's life, whereas the job involvement construct focuses on the current job an individual holds.

Two meta-analyses of previous studies tested the antecedents of work-family conflict and concluded job involvement is an antecedent of work-family conflict and has a significant negative effect on family satisfaction (Byron 2005; Ford et al. 2007). Orpen (1997) investigated the moderating role of job involvement on the relationship between work satisfaction and communication quality, using a sample of 135 American managers from a variety of industries. Quality of communication refers to a combination of three factors: timelines, accuracy and completeness of communication (Orpen 1997). Regression analysis identified higher levels of job involvement were associated with stronger positive relations between low quality communication and job dissatisfaction (Orpen 1997).

As part of a larger study into stress processes, analysis of longitudinal data from 795 employed adults in the U.S concluded that job involvement aggravated relations between role ambiguity and physical health, and role ambiguity and heavy drinking (Frone et al. 1995). Kanungo (1982) posited that job involvement, on the one hand, implies a positive engagement of the self in the job, while on the other hand, it increases alienation and separation of the self from the workplace. Job involvement was linked to the importance of work in daily life, which affects all aspects of life, so the effect of job involvement is not limited to the workplace and organisation (Reitz & Jewell 1979).

Regardless of the negative effects of job involvement on work-family balance, it has positive influences for organisations. Brown's meta-analysis (1996) of 25 studies investigated the relationship between job involvement and performance and found an attenuated direct correlation of only 0.08, and concluded job involvement has indirect effects on job performance rather than direct impacts. For example, Brown and Leigh's study (1996) of 233 sales people in the US showed that effort mediated the relationship between job involvement and job performance as illustrated in Figure 2.5.



Figure 2.5. Job involvement and performance

Source: Brown and Leigh (1996)

On the contrary, Diefendorff and colleagues (2002) suggested that Brown et al's (1996) choice of performance factors resulted in the insignificant direct relationship between job involvement and performance. Furthermore, their study of 130 employed undergraduate students who worked for different companies in the U.S demonstrated that job involvement positively related to both role performance ($r=0.19$ $p<0.05$) and organisational citizenship behaviour. In addition, several studies link job involvement and organisational commitment; for instance, Mathieu and Farr's US study (1991) of 505 bus drivers and engineers linked job involvement and affective organisational commitment.

- Work support/Organisational supportive culture

Receiving social support in the workplace is another predictor for reducing conflict between workplace demands and family demands (Frone et al. 1997; Grzywacz & Marks 2000; Batt & Valcour 2003; Frone & Bellavia 2005). Work support refers to an atmosphere where employees feel there is a friendly, positive and supportive environment within the organisation (Pedersen et al. 2010). Consequently, the work support construct consists of two core ideas, including availability of getting help and feeling cared for (Kossek et al. 2011). Work support encompasses any perceived support received from any aspect of the workplace (e.g., supervisor, colleagues, and organisation) (Ford et al. 2007).

Ford et al's meta-analysis (2007) of 120 studies with 8301 participants found a negative relationship between work support and work-to-family interference ($r= -0.18$, $p=.05$). McNamara and colleagues' study (2013) examined work hours, supportive work-family culture, and the satisfaction of work-family balance among US employees ($n=826$) and found supportive work-family culture moderates the negative effect of work hours on satisfaction with work-family balance. Further, supportive work-family culture was positively related to satisfaction with work-family balance ($\beta = 0.18$, $p < .001$). Similarly, Hammer and colleagues' (2009) study of American university employees ($n=123$) reported family

supportive supervisors' behaviour was positively related to work satisfaction and negatively associated with work-family conflict.

Another meta-analysis of 85 studies comprising 72,507 participants revealed specific work-family supports were more strongly associated with work-family conflict than general supervisor support and organisation support respectively (Kossek et al. 2011). General support from supervisors and the organisation involves concern and tangible assistance, which increase employees' wellbeing and personal effectiveness at work; whereas specific work-family support facilitates employees' abilities to manage their work and family responsibilities appropriately (Hammer et al. 2009; Kossek et al. 2011).

A recent meta-analysis of 178 studies found that colleagues' and supervisor support both had small direct negative relationships with work-to-family balance ($\beta = -0.25$ and $\beta = -0.22$ respectively). Likewise, on the family side, the findings demonstrated family support and spousal support had small direct negative relations with family-to-work conflict ($\beta = -0.11$ and $\beta = -0.16$ respectively) (Michel et al. 2011). These findings ultimately suggest that although social support received from both work and family domains can reduce the level of work-family conflict, this direct effect is not significant.

Seiger and Wiese (2009) declared social support received from supervisors and co-workers has both direct and indirect effects on work-family balance. Consistent with Frone and colleagues (1997), they suggest that work support buffers the stress resulting from work demands, which is negatively related to work-family conflict. In other words, the lack of work support is the antecedent of work stress rather than work-family conflict. Data analysis from a study of working mothers (n=107) in Switzerland identified the benefits of work support on work stress, and found there was a stronger negative relationship between work support and work stress, rather than between work support and work-family conflict ($-.24, -.1$ respectively) (Seiger & Wiese 2009). The present study follows the same point of view, and so work support is not tested as an antecedent of work-family conflict in the present study.

Antecedents from the family domain

Family related predictors are primarily associated with family-to-work conflict and the effects these have on family satisfaction. The main variables from the family domain are discussed below.

- Family involvement

Family involvement is defined as the importance of family to the individual's self-image, as this determines the extent that a person is psychologically identified with family roles (Yogev & Brett 1985; Higgins & Duxbury 1992). The dominant research generally considers higher degrees of family involvement lead to greater family conflict (Greenhaus & Beutell 1985; Adams et al. 1996). However, other studies examining the relationship between family involvement and work-family balance reported more controversial results.

Frone and colleagues' studies (1992, 1997) found family involvement was significantly related to family-to-work interference. Similarly, Hammer and colleagues' (1997) study among dual-earner couples (n=399) in the U.S found a positive relationship between family involvement and family-to-work conflict ($\beta=0.18$, $p< 0.001$) for females but not males. However, Duxbury and Higgins's (1991) study of 240 employees (45% females and 55% males) in Canada reported a stronger relationship between family involvement and work-family conflict for men than for women, contradicting traditional expectations. More recently, Byron's (2005) study suggested that in studies composed of both male and female participants, family involvement is significantly related to family-to-work conflict, whereas studies with male participants have not found any significant relationship between family involvement and both directions of work-family conflict. However, Michel and colleagues' (2011) meta-analysis of 178 samples composed of both male and female participants suggested family involvement is more related to work-to-family conflict rather than family-to-work conflict.

From a different perspective, which employs role accumulation theory, some positive benefits of family involvement have been identified to outweigh the drawbacks. Role accumulation theory suggests that managing multiple roles or identities positively affects individuals (Barnett & Hyde 2001). For example, a greater sense of meaning is created by significant involvement in a certain role that provides a greater enthusiasm and energy for the other roles (Frone 2003). A study of 347 registered nurses in the U.S reported family involvement was positively associated with family-work enrichment ($b = .36$, $p = .01$) (Paustian-Underdahl et al. 2013). Employees' high involvement in the family domain fuelled work roles through extra resources in the form of new skills and positive emotions (Paustian-Underdahl et al. 2013).

From a more balanced approach, some studies identified family involvement generates both positive and negative relationships to work-family conflict. Using a sample of 163 American

employees who were living with at least one family member, Adams et al. (1996) examined the relationship between family involvement and work-family conflict. The results were contradictory as family involvement had a positive relationship with family support, while family support was negatively related to family-to-work conflict (-0.29). In other words, the more time and resources allocated to family responsibilities, the more emotional support would be received from family members. Similarly, Greenhaus and Powell (2006) suggested experience gained from family roles provided extra resources to enrich employees' work roles.

In contrast, family involvement directly increased conflict between the family and work domains because of the limited time individuals had to meet the demands of both domains (Adams et al. 1996). In addition, Pleck (1997) also suggested high involvement in one role increases the awareness of issues in that role, and so reinforces perceived role conflict. A third explanation comes from Hall and Richter (1989) who suggest that high involvement in one or both domains, increases the boundary permeability between domains, and so exacerbates the interference between domains.

- *Family stressors*

Based on the common perspective in the social sciences, family stressors are defined as those life events, personal and interpersonal issues among family members that have the potential to change the family system (McCubbin et al. 1980). Organisational science adopts a different perspective towards family stress, but this is coded similarly to work stress; the focus is on the role overload, role conflict, and role ambiguity at home (Ford et al. 2007). Family role conflict is a source of family stress, in relation to incompatible individual experiences, expectations and the role demands within the family domain (Michel et al. 2011). Family role overload refers to dealing with multiple demands and lacking resources to fulfil the demands within the family domain (Ford et al. 2007), while family role ambiguity focuses on the uncertainty and obscurity of actions that must be taken to fulfil a family role because of the lack of information (Michel et al. 2011).

Family stress has been considered an antecedent of family-to-work conflict since Frone and colleagues (1992) differentiated between work-to-family conflict and family-to-work conflict. Household interviews with 631 Americans found family stress was positively related to family-to-work conflict ($p = .37$) (Frone et al. 1992). Similarly, data analysis of a sample of 327 married employees and employed parents in the US reported family overload was positively related to both family dissatisfaction and family-to-work conflict ($r = .42$, $r = .38$ respectively) (Frone et al. 1997). In addition, Byron's meta-analysis (2005) of 60 empirical studies suggests

family stress was the strongest antecedent for family-to-work conflict among all family related variables ($r = .47$).

Consistent with Byron's findings, another meta-analysis of 120 studies investigating the cross-domain effect between work and family domains reported that family stress positively affected family-to-work conflict ($p = .21$). In addition, family stress directly and indirectly had a negative influence on work satisfaction ($-.04, -.05$ respectively) (Ford et al. 2007). A series of eight-day interviews with 1030 Americans (resulting in 7221 interviews in total), found negative work-family spillover increased the risk of experiencing work stress following a family stress experience by 47 percent to 74 percent. Similarly, the risk of reporting family stress after experiencing a work stress went up by 55 percent to 65 percent (Grzywacz et al. 2002). These findings suggest that stress in one domain is a source of stress in the other domain.

- Family support

Family support includes any types of support received from family members and involves two major streams, including emotional sustenance and instrumental assistance (King et al. 1995). Emotional sustenance refers to the family members' attitudes and behaviours that reflect the family's interest in the employee's work responsibilities, whereas instrumental assistance encompasses the behaviours that relieve the employees of family responsibilities (King et al. 1995). Based on investigating the instrumental assistance of family support, Lapierre and Allen's (2006) study of 230 employees in Canada suggests family support and supervisor support are the most promising in terms of avoiding work-family conflict and increasing well-being.

Frone and colleagues' (1997) study of 327 US employees who were married and/or parents reported spouse support had a more significant negative effect ($r = -0.42$) on family dissatisfaction than the support received from other family members ($r = -0.17$). Contrarily, there was no relationship between spouse support and family overload; family members' support was negatively, but not significantly, related to family overload ($r = -0.1$). In contrast, Seiger and Wiese's (2009) study of working mothers ($n = 107$) in Canada found that social support received from family members had a significant indirect effect on work-family conflict through its negative relationship with family stress (Seiger & Wiese 2009). This finding is consistent with Luk and Shaffer's (2005) study of Hong Kong employees ($n = 248$) and their spouses. Luk and Shaffer (2005) reported family support buffered the negative effect of family stress on family-to-work conflict. Similarly, Ford and colleagues' meta-

analysis (2007) comprising 1093 participants found support received from family members had negative relationships with family stress, family conflict, and family-to-work interference ($\beta = -0.28, \beta = -0.28, \beta = -.07$ respectively). The relationship between family support and family-to-work conflict is not significant. Therefore, based on the findings of these studies, lack of family support is not considered an antecedent of work-family conflict in the present study.

Individual's Predictors

Numerous work-family balance studies have concluded that the relationship between work-family conflict and its antecedents is influenced by individual demographic characteristics (Bellavia & Frone 2005). Some of these demographic characteristics are explained in the following sections.

- ***Parenthood and marital status***

Families with children experience more work-family conflict than families without children (Higgins et al. 1994). A meta-analysis of 60 studies aimed at exploring how demographic and individual factors might affect work-family interference showed that when the percentage of parents in the sample increased, the positive relationship between job stress and work-family interference became stronger. Therefore, Byron (2005) suggested parenthood moderates the relations between work-family interference and consequences related to both work and family domains, as individuals with children have more family needs to attend to than individuals who are married with no children, or are single and live alone. Ford et al's meta-analysis (2007) of 120 empirical studies reported similar findings.

Interviews with 2757 Canadian families found that family involvement is negatively related to satisfaction with work-family balance level for both traditional married men with children at home and working mothers in dual-earner households, suggesting family stage was an effective determinant of work-family balance (White 1999). In addition, Higgins and colleagues' national study (1994) of 3616 Canadian parents (47% fathers, 53% mothers) found parents with young children under six years of age experienced the highest amount of conflict, followed by parents with children between 6 and 12 years of age. Mothers suffered from higher levels of conflict than did fathers. Recently, a meta-analysis of 427 studies could not find any specific effect of parenthood on the relations between work-family conflict and its outcomes (Amstad et al. 2011). Therefore, the age and number of children are considered critical factors that reinforce the moderating role of parenthood. In this study, the age and

number of children are considered determinants affecting the relations between online social networking and work-family conflict.

The crossover effect is another reason to explain why families suffer from more work-family conflict than single employees do. The crossover effect refers to an interpersonal transmission of stress (Westman 2001). In other words, when one of the partners is stressed, the other becomes stressed as well. Based on a study of 60 married couples in Israel, the crossover effect was found to be more tangible for young couples raising young children. This was due to the fact these young couples are more dependent on each other and a child's age had a strong positive impact on levels of work-family conflict (Cinamon et al. 2007). Moreover, the results show both types of conflict had a strong negative influence on self-efficacy and parent-child interaction.

- Gender

Some evidence indicates men and women have contrasting opinions towards work and family responsibilities (McNall et al. 2010). Based on longitudinal interview data, Andrews and Bailyn (1993) argue that men are likely to adopt a segmented model, which draws a clear boundary between work and family responsibilities. In contrast, women tend to utilise a synergistic model, which builds a bridge between the two domains and leads to a higher level of work-family stress from the outset. Gender differences influence the direction of conflict, as some previous studies suggest men report higher levels of work-to-family conflict, whereas women reported higher levels of family -to-work conflict (Keene & Quadagno 2004; Allen & Finkelstein 2014). Several studies support Andrews and Bailyn's (1993) findings and report perception and attitudes toward work-family balance differs between men and women.

Bivariate and multivariate analyses of interviews with 887 American employees (46% females, 54% males) posited gender differences in the division of work and family responsibilities (Keene & Quadagno 2004). Unlike men, women were more likely to adjust their work schedules in order to meet family demands, such as childcare and housekeeping chores. Friedman and Greenhaus (2000) reported similar findings. Women reported more distractions at work caused by family concerns. Another survey of 156 young American couples in dual-career households found women saw a relationship between work satisfaction and family-to-work conflict; whereas men described work satisfaction as their wives' perception of their work-to-family conflict (Pedersen & Minnotte 2012).

Duxbury and Higgins's study (1991) of 240 American professionals (46% females, 54% males) who were parents with professional spouses, suggested gender has an effect on work-family conflict because of social expectations and the traditional perception towards men and women's responsibilities, rather than their biological differences. Traditionally, women are responsible for family demands at home and men are considered as breadwinners. As a result, the study found the family role reinforced higher levels of work-family conflict for men than women because it was inconsistent with males' traditional roles, whereas high involvement in work was more problematic for women. On the contrary, Grzywacz and colleagues' study (2002) of American adults between 25 and 74 years of age ($n = 1030$) concluded women reported higher levels of conflict either from work-to-family or from family -to-work than men did. As female participants worked fewer hours than men did, the findings suggest conflict between family and work responsibilities by gender was independent of the strong effect of working long hours and the levels of work-family spillover.

- Dual-career versus single-career couples

In recent decades, a growing body of research has focused on dual-career families because their social behaviour, norms, conditions and gender roles are quite different from the more established and traditional family norms. Several studies have suggested that dual-career families suffer from high levels of strain and stress because they have multiple demands and roles (Elloy & Smith 2004). Dual-earner families are more easily harmed by overload at both work and home because of the time limitations for family responsibilities (Lewis and Cooper 1987). Furthermore, playing multiple roles may lead to role conflict and role ambiguity, so that dual-earner families are more at risk of experiencing role conflict than single-career families (Elloy & Smith 2004). In addition, a study of dual-career couples ($n = 399$) in the US reported that work-family conflict had a strong crossover effect between couples, which means an individual's level of work-family conflict can be estimated from their partners' levels of work-family conflict (Hammer et al. 1997). Perrone and Worthington's US study (2001) of 52 males and 55 females from dual-earner families found higher incomes improved marital emotional and instrumental quality. In contrast, Ford and colleagues' meta-analysis (2007) also could not support the notion that living in a dual-career family positively related to experiencing a higher degree of work-family conflict when compared with living in single-earner family.

- Age

Researchers found the nature of stress experienced by older employees' is based on their responsibilities for others and workload, whereas the nature of stress reported by younger

employees is associated with physical stressors (Barnes-Farrell 2005). Stress fuels work-family conflict, thus, age differences might play a moderating role in studies linked to work-family conflict. A recent study of American employees ($n = 622$) investigated the moderating effect of age on work social supports, role stressors, and work-family conflict and found younger employees suffered from more work-to-family conflict when compared with the older workers. In addition, findings revealed there was a stronger correlation between work-to-family and family-to-work conflict among the older participants (Matthews et al. 2010b). A recent study of 85 working mothers found work conflicts negatively influenced the level of work satisfaction of young participants but not elder ones (Chan et al. 2015). In addition, findings suggested commitment to both work and family shielded the negative impacts of family conflict on family satisfaction only among elder employees (Chan et al. 2015). This suggests researchers may misunderstand the findings of work-family conflict studies if participants' age has been ignored. Table 2.4 highlights the antecedents of work-family conflict published in previous studies.

Table 2.4. Antecedents of work-family conflict in the present study

The origin of antecedents	Antecedents of work-family conflict
Work domain	Work stressors (Work pressure, Role ambiguity)
	Work involvement (work centrality)
	Temporal flexibility
	Operational flexibility
Family domain	Family involvement
	Family stressors
Individual demographic features	Age
	Gender
	OSN user vs. OSN non-user
	Marital status
	Parenthood status
	Number of children

Source: developed for this study

Despite the several decades' dominance of the work family conflict approach in the work family balance literature, the past decade of researchers, inspired by the positive psychology movement, have suggested (Seligman & Csikszentmihalyi 2000) work and family responsibilities are not always foes. In other words, work and family roles may enrich and positively overlap each other (Greenhaus & Powell 2006; Grawitch & Barber 2010).

2.4. Work-Family Facilitation/Enhancement/Enrichment

Role accumulation theory (Sieber 1974) and the expansionist approach (Marks 1977) suggest undertaking multiple roles increases the level of capacity, energy, privileges, status enhancement and levels of personal enrichment. Generally, a wide range of responsibilities and role commitments supplies more benefits to individuals than a limited range, as engaging in multiple roles can raise various skills, emotional gratification and quality of life (Baral & Bhargava 2010; Russo & Buonocore 2012). Grzywacz and Butler (2008) argue work-family facilitation is the extent that an individual's engagement in one domain supports growth in the other through the resources gained. Fisher et al. (2009) suggest work-family enhancement refers to the synergies that occur when work and life roles combine. This includes two dimensions: work enhancement of family, and family enhancement of work. Greenhaus and Powell (2006, p. 73) developed the most commonly cited definition of work-family enrichment: "*Work-family enrichment is the extent to which experiences in one role improves the quality of life in the other*".

Furthermore, Greenhaus and Powell (2006) suggest work-family enrichment is a bidirectional construct, as work-family enrichment focuses on how work roles benefit from family responsibilities, while family-work enrichment represents how family roles benefit from positive impacts driven from work responsibilities. Experience from work such as problem solving and self-esteem can enhance the quality of family life and increase family satisfaction (Nicklin & McNall 2013). Positive emotions, supports and time management skills obtained from family domain responsibilities can improve both job and life satisfaction (Areyee et al. 2005; Greenhaus & Powell 2006; McNall et al. 2010). The main assumption of work-family enrichment is that time, energy, and resources are finite, but resources can be reinvested and successfully expanded in different domains (Greenhaus & Allen 2011). The work-family enrichment phenomenon encompasses two separate paths toward enrichment: an instrumental path or an affective path (Greenhaus and Powell 2006). The instrumental path suggests one resource directly transfers from one domain into the other domain, whereas the affective path implies a resource belonging to one domain produces positive effects in the other domain (Greenhaus and Powell 2006).

Carlson et al. (2006) expanded the work-family enrichment concept, establishing a six-dimension model of work-family enrichment, including work-to-family development, family-to-work development, family-to-work affect, work-to-family affect, work-to-family capital, and family-to-work capital. Work-family development refers to an increase in intellectual and personal developments in one domain that improves the performance in another domain,

whereas work-family affect focuses on moods from one domain affecting the other domain (Carlson et al. 2006). Work-family capital reflects a development in psychological resources generated through one domain that increases performance in another domain (Carlson et al. 2006). Wayne et al. (2007) applied the resource-gain-development approach to conclude that the key drivers and predictors of growth and development are the personal and environmental resources in the originating domain.

Nicklin and McNal's (2011) study of 214 European adults supported Wayne et al's (2007) proposition, as the analysis suggested significant positive relationships between supervisor supports and work-to-family affect ($r = 0.35, p < .001$), work-to-family capital ($r = 0.39, p < .001$), and work-to-family development ($r = 0.28, p < .001$). Similarly, the findings proposed high significant relationships between family support and family-to-work development ($r = 0.51, p < .001$), family-to-work affect ($r = 0.48, p < .001$), and family-to-work capital ($r = 0.32, p < .001$). In contrast, Siu et al's (2014) study of 275 Chinese employees found no significant relationships between family supports and family-to-work enrichment. Conversely, supervisory support positively related to work-to-family development ($r = 0.31, p < .01$), work-to-family affect ($r = 0.17, p < .05$), and work-to-family capital ($r = 0.26, p < .01$). Extracting from Boundary Theory (Ashforth et al. 2000) and the Conservation of Resources Theory (Hobfoll 1989), a study of 161 human service employees in the US revealed participants with high positive affectivity experienced both directions of work-family enrichment, while participants with high preferences toward integration experienced work-to-family enrichment (McNall et al. 2015). This suggests individuals' boundary preferences account for work-family enrichment (McNall et al. 2015).

Both directions of work-family enrichment are negatively connected to stress, and are thereby positively related to work satisfaction and family satisfaction. For example, Hill's survey (2005) of American parents ($n=1314$) found that family-to-work facilitation increased marital satisfaction, family satisfaction, and life satisfaction, despite its negative effect on organisational commitment. Similarly, a meta-analytic review of 46 studies (21 studies on work-to-family enrichment and 25 studies on family-to-work enrichment) concluded that both sides of work-family enrichment positively affected work satisfaction, affective commitment, mental and physical health, and family satisfaction (McNall et al. 2010). Moreover, consistent with Wayne et al. (2007), the findings demonstrated work-to-family enrichment strongly related to variables from work domain, whereas family-to-work enrichment had strong relations with family related variables (McNall et al. 2010). In agreement with Fredrickson's broaden-and-build theory, cross-sectional analyses of a longitudinal dataset collected from

470 Australian workers showed work-to-family affect and work-to-family capital contributed to all three dimensions of work engagement, and family-to-work affect predicted family satisfaction (Timms et al. 2015). Through integrating the work-family conflict and work-family enrichment approaches, Barnett (1998) conceptualised another concept entitled “work-family fit”.

2.5. Work-family Fit

Theoretically and empirically, work-family fit is not a well-defined concept. Work-family fit refers to “*Multiple dimensions of compatibility and conflict*” received from the lived experiences of integrating work and family roles (Grzywacz & Bass 2003). In other words, work-family enrichment fuels work-family fit that allows individuals to tolerate and manage the negative effects of work-family conflict. Although work-family fit was initially designed to explain work stress, Edwards and Rothbard (1999) extend this concept to the family domain. Work-family fit as a bidirectional concept is composed of both work demands-family resources fit and family demands-work resources fit (Edwards & Rothbard 1999). Personal preferences determine which level of segmentation or integration of work responsibilities and family responsibilities fit people (Rothbard et al. 2005, Major & Burke 2013).

The person-environment theory drives the work-family fit mechanism. Holland (1959) suggested people fit into six distinct groups of personality in terms of different values and interests: realistic, investigative, artistic, social, enterprising and conventional. Each of these personality groups suits specific vocational environments with certain conditions (Holland 1997). Satisfaction and stability occur if the personality and environment match together (Spokane et al. 2002). Pittman (1994, p.186) defined work-family fit as “*the perception of a suitable correspondence between work and family that goes beyond the absence of role conflict*”. Work-family fit also refers to the extent to which an employee understands and adapts work-family relations to suit his/her conditions (Barnett 1998). Although work-family fit is used as a synonym for work-family balance, or is the antonym of work-family conflict in some studies, Grzywacz and Bass (2003) suggest that work-family fit is more than just the opposite of work-family conflict. Work-family fit contains several important factors such as resources, rewards, culture and family capital (Rothausen 2009). ‘Fit’ is considered a moderator or mediator that influences the relationship between work-family systems and consequences (Clarke et al. 2004).

Voydanoff (2005b) suggests there are two types of ‘Fit’: demands-abilities and needs-supplies. Demands refer to quantitative and qualitative job expectations, organisational norms,

and requirements, while ‘abilities’ are the available resources and skills applied to meet demands. Consequently, ‘Fit’ occurs when abilities cover and fulfil demands (Voydanoff 2013). Needs are all the physical and psychological requirements, whereas supplies encompass all resources and facilities that may meet these needs (Voydanoff 2013). When supplies satisfy needs, fit occurs. Some research has shown work-family fit decreases stress, while work-family misfit is a source of stress (Rothbard et al. 2005). As a result, work-family misfit negatively affects work satisfaction and family satisfaction. In evidence, telephone interviews with 1986 Americans (52% males and 48% females) between 25-74 years of age revealed that when work-family facilitation was high and work-family conflict was low, mental health was optimised (Crzywacz & Bass 2003). The following section discusses work-family balance studies in Australia.

2.6. Work-family balance in Australia

Multicultural workforces and an aging population are two critical issues facing the working environment in Australia, and these require an increase in supportive work-family policies (De Cieri et al. 2005). Australia has an aging population; with the population aged 65 and over, estimated to increase by 6 percent from 2005 to 2020 (Wilkinson 2008). Consequently, the number of employees with increased family responsibilities will also increase. Furthermore, in a highly competitive market for attracting and retaining valued employees, it is important for employers to have effective work-family support strategies (De Cieri et al. 2005). To improve work-family balance standards, the Australian government has set up a specific award entitled “ACCI/BCA Work and Family Awards” for Australian organisations that establish specific strategies related to work-family balance (De Cieri et al. 2005). This is an indicator of how work-family balance strategies have become a major concern of Australian employers and researchers over recent decades.

The growing participation of women in the workforce has increased the number of dual-earner families in Australia. The Australian Bureau of Statistics (1997) announced the number of dual-career families increased by 58 percent from 1979 to 1996, while the number of couples rose by 24 percent in the same period. These figures display a 66 percent rise in the number of working married women, which suggests an intensifying trend of work-family conflict challenges such as issues related to childcare (Hammer et al. 1997). In 2011, 62.6 percent of all Australian couples with children aged less than 15 were dual-earner families, whereas only 33.2 percent of Australian families with children aged less than three received formal childcare services (Australian Bureau of Statistics 2012).

The work-family balance initiatives implemented in Australia between 1997-2000 were part-time work, study leave, flexible starting and finishing times, teleworking from home, job share, rostered days off, paid parental leave, flexible working time, using flexible days or rostered days off as half days, telecommuting, 48/52 working year, career break and the compressed workweek (De Cieri et al. 2005). Nonetheless, fewer than 20 percent of participants used 50 percent of work-family balance options, and the majority of employees (more than 81%) only contributed in 6.4 percent of work-family balance programs over this period (De Cieri et al. 2005). These findings are consistent with the notion that employees' awareness of work-family balance strategies is more important than the availability of them. Employees revealed the main barrier to implementing work-family balance strategies was the lack of communication with staff (De Cieri et al. 2005). In addition, workplace culture and insecurity in the job market are other reasons why Australian employees avoid requesting certain family-friendly policies such as work flexibility (Pocock et al. 2012).

In 2008, interviews with a national sample of Australian (n=2,831) workers showed that to some extent, work interferes with personal life for most Australians. Over half the participants claimed that work responsibilities sometimes or often interfere with other activities, especially with time for family or friends (Skinner & Pocock 2010). A quarter of the participants felt that work responsibilities often, or usually, created conflict with time for family or friends. In addition, women reported a higher level of work-family conflict compared to men with the same work hours (Skinner & Pocock 2010). Furthermore, work-family negative interaction was significantly higher among young and middle age employees, when compared with employees over 55 years of age (Skinner & Pocock 2010). Another study of Australian employees (n=2691) showed that 31.4 percent of men and 12.7 percent of women suffered from work overload. In addition, the analysis found a strong relationship between long work hours and poor work-family balance scores (Skinner & Pocock 2011).

Some studies report that more than half of Australian employees are almost satisfied with the quality of work-family balance in Australia. However, the results differ based on gender and age. For example, Shrestha and Joyce's study (2011) of general practitioners (n=3906) in Australia revealed 53 percent believed the balance between their work and personal responsibilities was almost right. Findings also showed females and participants from generation X¹⁰ had better work-family balance than males and participants from the Baby-

¹⁰ *Generation X is defined as those born in the early 1960s through to the early 1980s (Sayers 2006)*

Boomer generation¹¹ respectively. In addition, better work-family balance was associated with good opportunity for leisure activities, good health and flexibility of work hours.

Similarly, a case study of 42 construction employees (23 wage and 19 salaried) in Queensland reported employees' wellbeing and satisfaction with work-family balance for both groups were approximately the same and greater than the midway point (4) on a 7-point scale. In addition, the mean score for salaried employees' perception of work-family conflict was also greater than the average point. Furthermore, both groups reported work responsibilities interfered more with their personal life (Lingard et al. 2007). Findings from a study of paid working Australians with children (n=2719) found work itself and the flexibility provided to balance work and non-work responsibilities were the most powerful indicators of work satisfaction among factors associated with work-family balance (Blackman & Murphy 2012).

In 2009, the Household, Income, and Labour Dynamics in Australia (HILDA) study suggested Australian mothers generally suffer from higher levels of parenting stress than fathers, and single parents reported higher levels of parenting stress than married parents did or the parents who lived with a partner (Cited in Wilkins & Warren 2012). In 2009, more than 30 percent of single mothers reported high levels of parenting stress, following by partnered mothers (24.7%), single fathers (20.3%) and parented fathers (15.7%) (Wilkins & Warren 2012). A similar pattern was found for the work-family stress construct; lone mothers with full-time jobs reported a higher level of work-family stress than the other groups. Findings revealed the main reason fuelling work-family stress among Australian households is work demands that eat into time that must be allocated to family responsibilities (Cited in Wilkins & Warren 2012).

Using data collected in three national Australian surveys in 1986, 1993 and 2005, Chesters and colleagues' (2008) study found that females in dual-earner families have gradually reduced their workloads, while over the same time the amount of workload has increased for men. The results of their findings are illustrated in Table 2.5. According to the HILDA statistical report in 2009, single fathers reported their main source of work-family stress was family responsibilities (Wilkins & Warren 2012). In addition, family responsibilities changed fathers' preferred work activities and opportunities (Wilkins & Warren 2012). Therefore, for

¹¹ *The individuals who born between 1945 and 1964 are referred to as 'baby boomers' (Shrestha and Joyce 2011)*

Australian fathers, work-family stress is more likely to increase because their workload has an upward trend.

Table 2.5. The mean of Australian males' and females' work hours in 1986, 1993 and 2005

	1986	1993	2005
Men	60.74	63.39	66.08
n	219	328	198
Women	65.96	68.0	61.89
n	295	326	232

Source: Chesters, Baxter and Western (2009)

Craig and Mullan's study (2010) compared time commitment to paid and unpaid work and parenthood status in Australia, the United States, Italy, France, and Denmark (n=5337). The findings proposed that parental status had more influence on time commitment in Australia than in European countries. In addition, Australian mothers were substantially more engaged in unpaid work than paid work and many did not engage in paid work at all. Pillay and colleagues' study (2013) attempted to explain the gender gap in paid work in Australian households and found that the majority of Australian participants were more concerned with childcare costs, so preferred to stay at home as compared with European participants.

More recently, a study of 693 university and TAFE employees in Australia (Victoria) suggests participants suffered from three major strains as well as the broader strain from participating in several roles which lead to work-family imbalance (Pillay et al. 2013). The source of these strains include stress due to workplace policies, feelings that quality of life would be improved if more time was spent with the family, work related strain resulting in tension, anxiety, fatigue, depression, apathy and irritability (Pillay et al. 2013). Increased workloads and the increased number of dual-earner families in Australia has resulted in less leisure time, higher demands for childcare and increasing health issues caused by stress (Edgar 2005). All these signs allude to an increasing work-family conflict phenomenon, consistent with Winslow's study (2005) that argued work-family conflict has become an ever-increasing problem over the past 20 years. One response, as is the case with other western countries, is that Australian companies have moved towards more flexible and family-friendly work policies.

Using online social networking (OSN) and online communication technology to increase flexibility at work is a suite of work-family balance strategies; nevertheless, to date, the effect of OSN on work-family balance remains a vague and unclear area. The objective of this study

is to provide an empirical research base for assessing the impact of online social networking on work-family balance. Thereby, this thesis seeks to answer the following questions:

RQ1: What is the influence of online social networking on work-family conflict?

- *RQ1.1: What is the influence of online social networking on work-to-family conflict?*
- *RQ1.2: What is the influence of online social networking on family-to-work conflict?*

RQ2: What is the influence of online social networking on family satisfaction?

RQ3: What is the influence of online social networking on work satisfaction?

To investigate whether the effect of online social networking in one domain is transportable to the other domain, the two other following questions arise:

RQ4: Does family-to-work conflict mediate the negative relationship between online social networking and work satisfaction?

RQ5: Does work-to-family conflict mediate the negative relationship between online social networking and family satisfaction?

2.7. Conceptual Framework

As the literature review suggested online social networking has been assumed to have the potential of blur the boundaries between work and family responsibilities, which reinforce the conflict between the two domains. In addition, the present study adopted the most dominant approach toward work-family balance and defined work-family balance as the absent of conflict between the work demands and the family demands. Therefore, work-family enrichment and work-family fit approaches were excluded from the research. The conceptual framework illustrated in Figure 2.6 has been developed to answer the research questions.

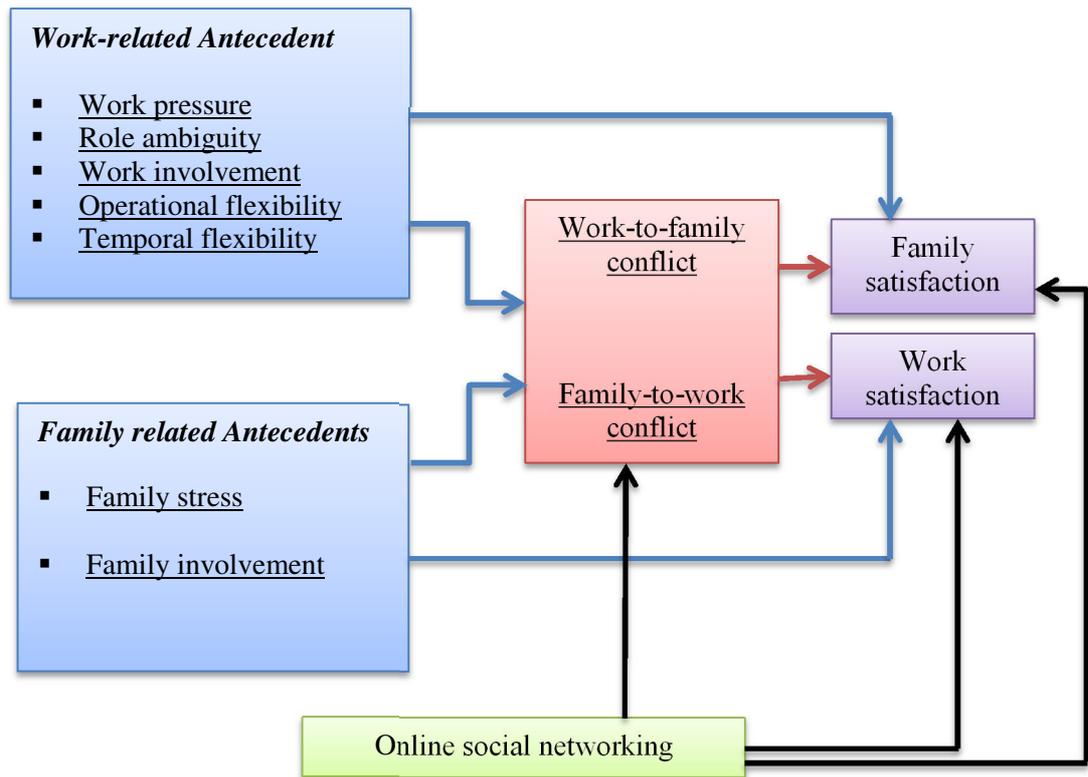


Figure 2.6. Conceptual model

The above conceptual schema implicates work satisfaction and family satisfaction are the proxy measures for work-family balance, which are measured by the level of work pressure, role ambiguity, work involvement, temporal flexibility and operational flexibility from the work domain. Aligned to this are family involvement and family stress from the family domain (independent variables). The rationales for choosing these predictors of work-family conflict are explained below.

- Firstly, based on the preceding literature review, among the various antecedents of work-family conflict, were work involvement, family involvement, family stress, work stress and work autonomy (temporal flexibility and operational flexibility), all of which have the strongest relationship with the amount of conflict between work and family domains. These will be discussed in the following paragraphs.
- Secondly, this study focused on work autonomy (temporal and operational flexibilities) because work autonomy is the overlapping space between traditional and new approaches toward work-family balance. The traditional approach views work autonomy as an antecedent of work-to-family conflict that provides employees with flexible arrangements

that allow them to manage their family demands effectively; thus, conflict between work and family domains would decrease. Based on the new approach, flexibility is a key factor that weakens boundary strength between work and family domains and results in higher levels of conflict between work and family demands.

- Thirdly, although, a wide range of previous studies indicates that the support received from the work domain has a strong relationship with work-family balance, this study did not consider work support as a predictor of work-family conflict alongside with work autonomy. Temporal flexibility and operational flexibility encompass a wide range of supportive strategies received from the workplace such as teleworking and flexible schedules. Therefore, investigating work support and autonomy in the model would have resulted in duplication.
- Finally, there is a limited range of studies investigating the impact of communication technology and/or online social networking on work stress, family stress, family involvement, work involvement, temporal flexibility and operational flexibility. Therefore, focusing on these variables would make a theoretical contribution. The following discussion suggests how online social networking is expected to correlate with the variables presented in the conceptual model.

The relationship between work-family balance and work autonomy, including operational flexibility and temporal flexibility is complicated. Temporal flexibility refers to control over the time to start and finish work and the ability to skip night and/or weekend shifts, whereas operational flexibility exhibits control over how and where individuals complete work responsibilities (Thornthwaite 2004). Temporal flexibility seems to have positive effects on both work satisfaction and family satisfaction because it allows employees to reconcile work and family demands effectively (Felstead et al. 2002). In Australia, temporal flexibility is a more critical factor for a household with young children than the amount of hours worked (Thornthwaite 2004). From another perspective, boundary theory and work family border theory suggested high levels of flexibility fuel the interference between work and family responsibilities and result in family and work dissatisfaction (Clark 2000; Ashforth et al. 2000). Empirical findings support this theoretical approach. For example, employees with teleworking opportunities reported higher levels of time-based family-to-work conflict compared with non-users of teleworking (Lapierre & Allen 2006). Therefore, it is important to investigate how online social networking, as a modern communication technology, may affect the light and dark sides of work autonomy in relation to work-family balance.

Work involvement plays a controversial role in the model. On the one hand, work involvement has a direct positive relation to work satisfaction (Kanungo 1982), but on the other hand, intensive involvement in work responsibilities can lead to a lack of resources needed for family responsibilities, which increases work-to-family conflict. Thus, work involvement indirectly reduces family satisfaction (Ford et al. 2007). One particular interest of this study is to investigate whether online social networking can moderate the positive and negative effects of work involvement on work-family balance. Porter and Roberts (1993) suggested employees with high levels of job involvement are more affected by the quality of communication at work. Both public social networking sites (e.g., Facebook and Twitter) and internal private social networking websites launched by large companies provide employees with new opportunities to connect to each other when they are at the workplace or when they are physically away from the workplace, which may lead to a higher degree of involvement.

Similar to work involvement, family involvement may have contradictory effects on work-family balance. Employees with high levels of family involvement could receive both emotional and instrumental support from their family domains (Adams et al. 1996). Instrumental supports significantly reduce the amount of family responsibilities and so provide employees with extra time and energy to allocate to work demands, and positively relate to general life satisfaction (Adams et al. 1996). However, employees with high levels of family involvement simultaneously report higher levels of family-to-work conflict because a high degree of family involvement eats into the time and energy that needs to be devoted to work demands (Ford et al. 2007). Therefore, this study expects that employees with high levels of family involvement will use OSN for non-work related purposes at the workplace. More precisely, it is expected that working mothers who are primarily involved in family demands would be more likely to use social networking websites to fulfil their family demands, particularly as women are more likely to use social media than men, and because women prefer to use OSN for socialising with friends and family members (Kimbrough et al. 2013).

Family stress relates to family-to-work conflict, both directly and indirectly. Family stress increases conflict among family members and thereby reinforces the conflict among work and family domains (Ford et al. 2007). In addition, family stress poisons the supportive environment and limits the ability and willingness for being supportive (Beehr & McGrath 1992). As mentioned before, OSN could be considered a source of stress in the family sphere due to its impact on marital and parental conflict and cyber-bullying. However, some studies report that online social networking improves social support. For example, a study of young

new mothers (n=146) in the U.S revealed that online social networking indirectly buffered parenting stress and depression through creating a sense of connection to the world outside the home (McDaniel et al. 2012).

Communication technology has the potential to increase role conflict and role overload at work that can lead to work stress (Coover et al. 2005). In addition, using new telecommunication systems in the workplace can be stressful, as employees need to improve their ICT skills and knowledge. Modern communication technology such as internal social network sites expand work related issues and demands into the family sphere via teleworking after usual working hours and during weekends. Thus, online social networking indirectly has the potential to enhance family stress and family dissatisfaction. This study aims to examine how online social networking may affect work-family balance. Another particular interest is to find out whether the effect of online social networking is transferable across work and family domains. In addition, the foregoing discussion above indicates online social networking affects the relationship between variables from work and family domains (independent variables) and work-family conflict (mediating variables).

The conceptual model presents both matching-domain and cross-domain effects of conflict between work and family responsibilities. The cross-domain effect happens when variables from one domain affect the outcomes of the other domain (Ford et al. 2007). For example, work stress simultaneously reduces work satisfaction (matching-domain effect) and increases work-family conflict, which in turn decreases family satisfaction (cross-domain effect) (Amstad et al. 2011). After Frone and colleagues (1992) comprehensively articulated that conflict in one domain mainly leads to problems in the other domain, many proceeding studies adopted the cross-domain effect to work-family conflict consequences (Amstad et al. 2011). Work-to-family conflict mediates the cross-domain effect of work-related variables on family satisfaction, while family-to-work conflict mediates the cross-domain effect of the family-related variables on work satisfaction (Ford et al. 2007). Appraisal theory (Lazarus 1991) explains the mediating role of work-family conflict in the model. When individuals are under the pressure of conflict, they tend to blame the source of the conflict and be dissatisfied with the originating domain. Therefore, it is hypothesised that variables from one domain directly interfere with the consequences of the same domain, which is entitled the “matching-domain” effect (Shockley & Singla 2011). To investigate the cross-domain effect, the work-family conflict construct has been adopted as a mediator to explain the transition of conflict between domains.

Based on the forgoing rationales, this study investigated the following proposed hypotheses as shown in Figure 2.7.

H1: Online social networking negatively affects work-family balance in both family domain and work domain

H1-1: Online social networking in the home negatively affects family satisfaction.

H1-2: Online social networking in the home negatively affects work satisfaction.

H1-3: Online social networking in the workplace negatively influences work satisfaction.

H1-4: Online social networking in the workplace negatively influences family satisfaction.

To investigate whether the effect of participation in social media in one domain is transportable to the another domain, along with direct effects of online social networking on work-family balance, the indirect effect of online social networking on both the work domain and the family domain was another particular interest of this study.

H2: Higher levels of online social networking relate to higher levels of work-to-family conflict

H2-1: Work-to-family conflict mediates the negative relationship between online social networking and work satisfaction. (Matching-domain mediating effect)

H2-2: Work-to-family conflict mediates the negative relationship between online social networking and family satisfaction. (Cross-domain mediating effect)

H3: Higher levels of online social networking relate to higher levels of family-to-work conflict

H3-1: Family-to-work conflict mediates the negative relationship between online social networking and family satisfaction. (Matching-domain mediating effect)

H3-2: Family-to-work conflict mediates the negative relationship between online social networking and work satisfaction. (Cross-domain mediating effect)

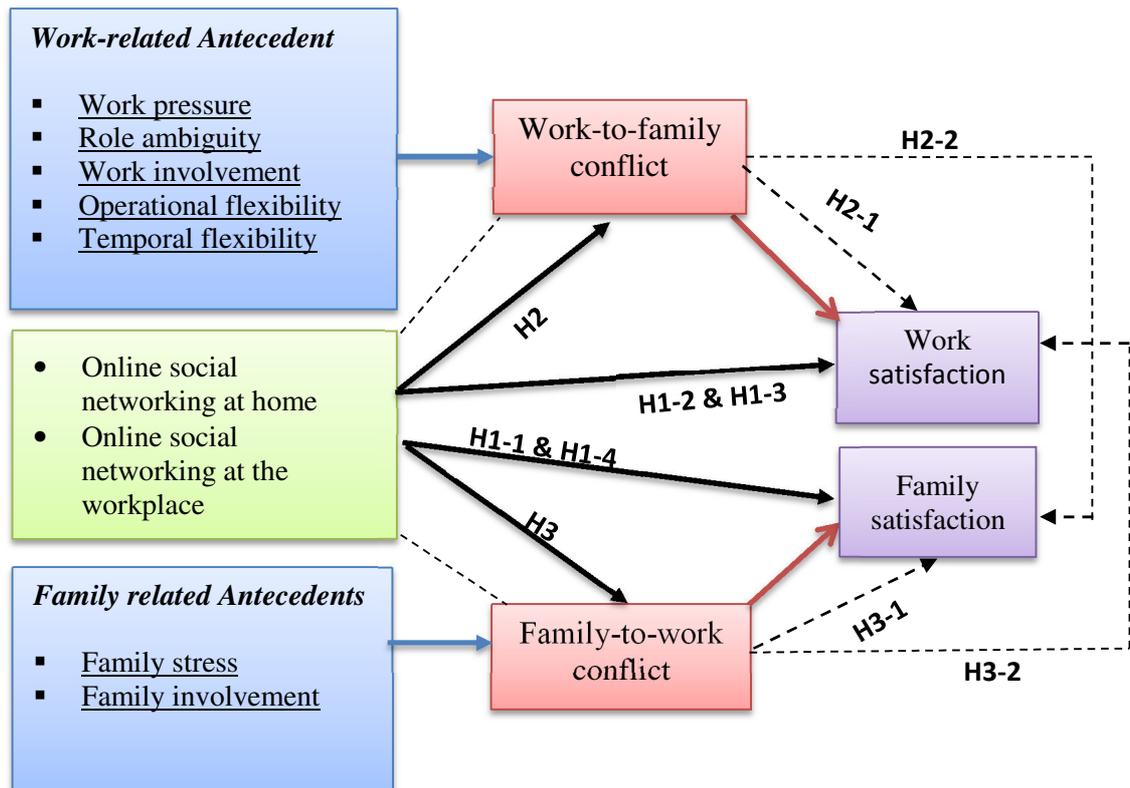


Figure 2.7. Research Hypotheses outline

In addition to the variables illustrated in the conceptual model (Figure 2.6), individual demographic features (displayed in the Table 2.5) were used as controlled variables, as the literature review suggests these variables could influence both the results for work-family balance and online social networking behaviours. For example, previous studies have proposed that age is a determinant of online social behaviours, so it is expected that younger employees will participate in online social networks more than older employees will. Nevertheless, there is little if any research on whether or not young individuals' online social activities have more influence on their work-family balance than elders' online social activities do. Furthermore, as previously mentioned, when various studies have shown that access to online social networking websites (especially Facebook at work) negatively affects productivity, a broad range of organisations have banned public online social networking sites in the workplace via filtering social networking websites, so employees have no access to these sites at work (Webb 2012). It is a concern of this study that the filtering of public SNS at work may affect the result of this study, and so SNS filtering in the workplace is another control variable.

2.8. Conclusion

This chapter has reviewed the previous studies in relation to work-family balance and online social networking to provide a more informed understanding of their assumed relations in the light of work-family conflict. Previous research suggests work-family balance is a combination of work satisfaction and family satisfaction, and so variables related to both domains should be taken into account. Consequently, indicators of work-family conflict in both the work domain and family domain were reviewed and five indicators, namely operational flexibility, temporal flexibility, role ambiguity, work pressure, work involvement from work domain, and two indicators from the family domain - family stress and family involvement- were included in the study. This proposed conceptual framework was supported by boundary theory and work-family border theory.

The next section of the chapter identified how online social networking could affect these research indicators. Although research into online social networking has significantly progressed, inadequacies remain. The relationships between online social networking and work family conflict and work family balance are poorly understood and warrant further attention from researchers. These relationships may well be more complicated than they at first seem. For example, some studies report that online social networking might be a stressful activity due to cyber-bullying or its effect on marital conflict (Divorce Online 2011); whereas other studies have found online social networking has a positive effect on parental support which decreases family stress (McDaniel et al. 2012). There is a similar dilemma regarding the relationships between work involvement, family involvement, flexibility, and online social networking.

This chapter has also explained the two research questions, three main hypotheses, and eight sub-hypotheses that will guide investigating the relationship among the variables of the conceptual research model. There is no doubt that social media, and online social networking in particular, is having an impact on homes and workplaces in the digital era; thus, further research is required to help the development of social and organisational policies and strategies to deal with the online social networking phenomena. The following chapter reports the research methods, research sample, measures, validity, and reliability of scales, data collection, and statistical procedures utilised in this study.

Chapter 3

Research methodology

3. Chapter Overview

The previous chapter reviewed the relevant literature linking online social networking to work and family domains to build the theoretical basis of the research. The literature review established the two main questions of this study that address the effect of online social networking on work-family balance. A conceptual framework that reflected the research hypotheses was established by relying on work-family border theory and boundary theory. From these, six hypotheses were developed to enable the effect of online social networking on work-family balance to be explored. Following an overview of the research paradigm, this chapter describes the research design in this study. The overall research paradigm, research design, and rationale behind these are represented in the first section of this chapter. A quantitative approach was selected to examine the hypotheses and the second section explains the measures and the research instrument. Finally, the sampling procedure, data collection method, the process of data collection, data analysis techniques and the research credibility are discussed. For simplicity of explanation, a synopsis of the chapter is outlined in Figure 3.1.

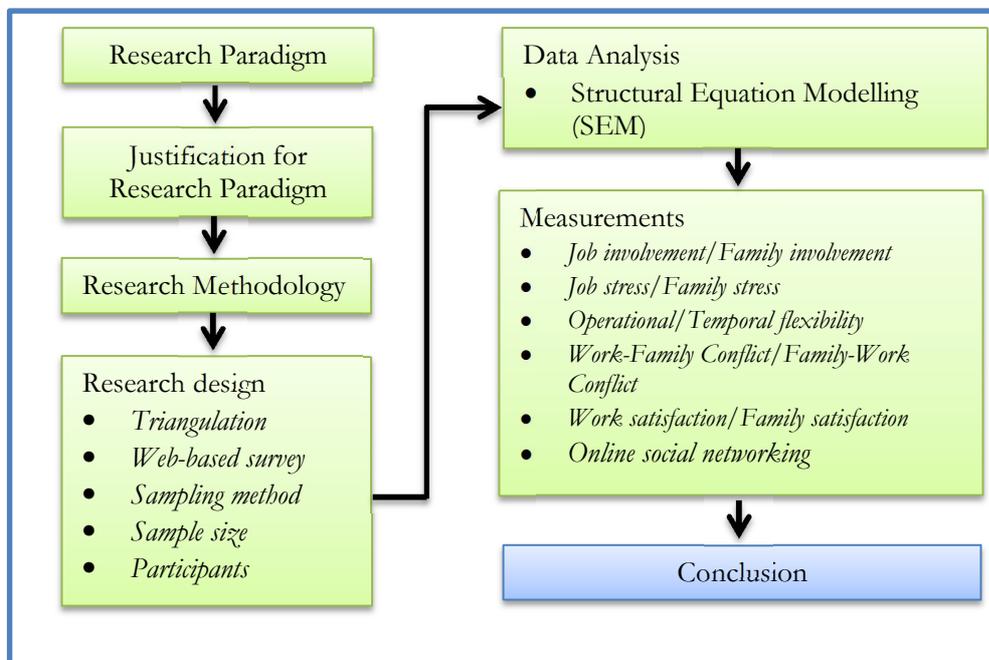


Figure 3.1. Chapter outline

3.1. Research Paradigm

A paradigm refers to a cluster of beliefs and practices that prescribe what should be investigated, how it should be investigated and how the findings should be interpreted (Greener 2008). Paradigms determine questions that would be asked, the tests that would be conducted in the research, and the subjects that would be considered (Kennedy 2011). However, research paradigms may raise bias because researchers would rather conduct studies that support or confirm a paradigm than diagnose all possible issues and solutions (Creswell 2009).

The paradigm manifests the interconnection of the ontology (what is the nature of reality?), epistemology (what is the relationship between researcher and that being researched?), the methodology (what is the process of research?), the axiology (what is the role of values?) and the rhetoric (what is the language of research?) (Creswell & Plano Clark 2007). The ontology is made of the basic assumptions of the research and is influenced by the researcher's beliefs, while the epistemology is the root that forms the knowledge (Creswell & Plano Clark 2007). Over the past century, different paradigms have been developed and some authors have classified paradigms into alternative categories as shown schematically in Table 3.1 below.

3.1. Major paradigm grouping

Burrell and Morgan (1979)	Guba and Lincoln (1994) Healy and Perry (2000)	Collis and Hussey (2009) Deniz and Lincoln (2005)	Creswell and Plano Clark (2007)
Functionalist	Positivism	Positivism	Positivism
Interpretive	Critical theory	Post positivism	Constructivism
Radical humanist	Constructivism	Critical theory	Advocacy and participatory
Radical structuralist	Realism	Constructivism Participatory action	Pragmatism

Source: developed for this study

The two main paradigms are at opposite ends of a continuum, with positivism at one end and interpretivism at the other end (Collis & Hussey 2009). Positivism recommends the methods of natural science are applicable for social science; thereby, it covers the ontological assumption that reality is composed of external structures that can be known through examination of hypotheses and so lead to presenting a new theory (Greener 2008). In contrast, interpretivism is an epistemological position that follows a subjectivist approach, so reality is considered as the human imagination (Collis & Hussey 2009). The other paradigms operate within these two opposing forms. Positivism advocates the principle of deductivism, while

interpretivism possesses an indicative rationale (Collis & Hussey 2009). The goal of a deductive approach is to postulate a theory, which is possible and test this through collecting relevant data and mathematical analysis, so it is associated with empirical testing and scientific research (Greener 2008). On the other hand, the inductive approach focuses on what should be studied to develop new constructs and theories (Greener 2008).

Although the positivist paradigm separates researchers from what they study, other paradigms encourage researchers to participate in real-world life (Thyer 2010). In the middle of the 20th century, controversy surrounding whether positivism was applicable in the social sciences led to a shift from positivism to post-positivism (Trochim 2006). Positivism is realistic and insists on 'empiricism', which means observation and measurement are the core of scientific endeavour, whereas post-positivism is critically realistic and believes that all observations and measurements are fallible and may possess various types of wrongdoing, so theories are definable (Trochim 2006). Critical realism has an emphasis on using multiple measurements and observations to improve the prospect of pursuing research bias and approaching objectivity (Trochim 2006).

Quantitative methods are often suitable for post-positivism approaches because rational claims are quite often made based on cause-and-effect thinking, through focusing on selected variables that are interrelated (Creswell & Plano Clark 2007). The post-positivism approach is associated with detailed observations and assesses variables to examine the theories, which are continually revised, so the methodology of post-positivism is deductive rather than inductive (Creswell & Plano Clark 2007). Thus, a quantitative survey starts out by focusing on a theory, develops some hypotheses from that theory, tests the hypotheses, and then modifies the hypotheses based on the new findings (Greener 2008).

The epistemology of post-positivism is based on objectivism so researchers collect data impartially (Creswell & Plano Clark 2007). However, post-positivism acknowledges that the researcher's knowledge and background may affect what is observed (Robson 2002). The notion of objectivism is that social entities, like organisations and groups, have qualities that are independent of the people in them (Greener 2008). The post-positivist paradigm assumes a singular ontology; thereby researchers reject, or fail to reject, the hypotheses related to the singular reality (Creswell & Plano Clark 2007). Thus, post-positivism adopts an unbiased axiology that includes various checks to reduce research bias (Greener 2008).

3.2. Justification for the Research Paradigm

The research problems and research questions highlight the relevant paradigm (Thomas 2004). The present study seeks to examine the effect of online social networking on work-family balance by positing two research questions:

RQ_{Main}: What is the effect of online social networking on work-family balance through the mediating role of work-family conflict?

The question above suggests the present study is model-based research as it predicts the relations among endogenous, exogenous, and mediator variables in a model, that was extracted from the literature review and lends support to the theorised relationships. Thus, the present study takes an ‘Objectivist’ epistemological stance that draws on a critical realist ontology, as the nature of this study is prescriptive and confirmatory, requiring deductive reasoning rather than inductive logic. This fits a post-positivism paradigm, where quantitative methods are suitable for confirmatory and model-based studies that follow deductive reasoning; this is in contrast to constructivist and qualitative methods that are acceptable in exploratory studies adopting an inductive rationale (Creswell & Plano Clark 2007). Therefore, quantitative methods seem to be the best match for this inquiry.

3.3. Research Methodology

There can be confusion between the concepts of research methodology, research methods, and research design. Research methodology encompasses the theory and analysis of how research should be undertaken (Walter 2006). The research paradigm determines which research methodology suits a study (Walter 2006) and Somekh and Lewin (2005, p. 346) define research methodology as the “*principles, theories, and values that underpin a particular piece of research is undertaken*”. The research method is a part of the research methodology that contains the process and instruments employed when selecting and constructing research techniques to conduct a study (Kothari 2004). In other words, the research method refers to all the techniques that researchers use to perform research, including methods used for collecting data, statistical techniques used for analysing data, and the techniques used for evaluating the accuracy of the results (Dhawan 2010). The research design is the framework that demonstrates how data are collected and analysed (Easterby-Smith et al. 2012). The present study is a survey-based study that follows naturalistic and dialectical principals, which suggest social phenomena need to be examined in their natural context, alongside the other phenomena around them (Ollman 2003).

Using a dialectical process brings together a wide range of the interactions among several variables to determine the reality, which increases the possibility of generalising the findings (Ollman 2003). Therefore, this study examined the relations between online social networking and work-family balance in the natural context along with the other relevant variables. Thus, the research methodology followed a survey instrument. Surveys are concerned with investigating the relationships between variables or with describing a predefined population (Glock 1967). They use quantitative methods to collect data, and adopt statistical and mathematical techniques to standardise the findings (Pinsonneault & Kraemer 1993). Thus, three key components of a survey include the research design, the sampling procedures and the data collection methods (Pinsonneault & Kraemer 1993)

3.4. Research design

Research design advocates a framework for the collection and analysis of data that should tally with the adopted paradigm and research methodology (Bryman & Bell 2011). Therefore, aligned with the post-positivism paradigm and survey methodology, this study employed quantitative research methods to identify the relationships through a systematic collection of numeric data and statistically based analysis. The research design illustrates the steps in the study, as outlined in Figure 3.2.

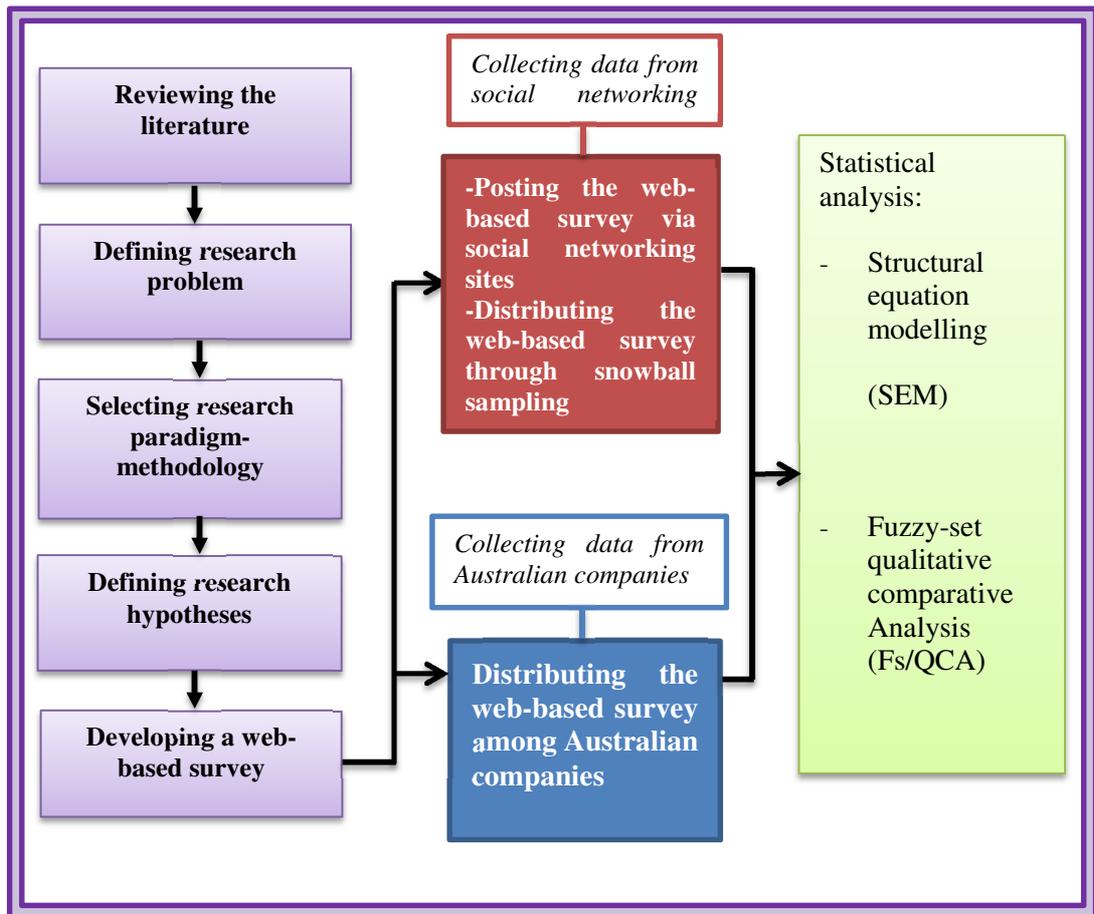


Figure 3.2. Research design

Source: Developed for this study

As shown above, this study was conducted in four main steps; firstly, a post-positivism paradigm was employed that clarified quantitative methods should be used to guide the study, rather than utilise a descriptive research approach and qualitative methods. A descriptive study describes the relationships between the variables, but does not predict either the relationships or the direction of the relationships between the variables. As this study was based on a conceptual framework that predicted the relations among the variables, quantitative methods were appropriate and applicable to examine the hypotheses. Secondly, based on the comprehensive literature review presented in the previous chapter, hypotheses and research questions were defined and the conceptual framework was designed.

Thirdly, a web-based survey was developed. The web-based survey was composed of one newly developed scale and eleven established scales utilised in previous studies. A web-based version of the survey was prepared using Qualtrics, and distributed in two waves of data

targeting two different groups. In the first wave of data collection, the web-based survey was distributed via social networking sites such as LinkedIn, Facebook, Tagged, Google +, and MySpace. The targets were internet users who work in Australia. An invitation letter and the URL link of the survey were directly posted as a message to the participants. In addition, participants were asked to pass on the survey to their colleagues who held white-collar jobs. The scope of the study was clearly stated in the invitation letter. The second wave of data collection used a web-based survey with a separate URL link, which was distributed among employees from different companies operating in Australia. This wave of data collection targeted white-collar employees. Finally, the data were analysed by structural equation modelling (SEM) techniques and fuzzy-set qualitative comparative analysis (Fs/QCA).

3.4.1. Web-based survey

Since the mid-1990s, the number of studies being conducted using the internet has radically increased. Research via the internet has become attractive because researchers are able to collect large amounts of data from spread-out samples with minimum cost because the collected data can be analysed without separate data entry (Dillman et al. 1998). In the early stages of web-based surveys, there was controversy surrounding whether collecting data through the internet would affect the results. The rationale behind these doubts was that a substantial number of households did not have full access to the internet in the 1990s, and users' computer knowledge was relatively limited, so researchers were afraid of coverage bias (Dillman et al. 1998). Today, some two decades on, this scepticism is no longer applicable!

Generally, online surveys are categorised into two categories: email-based or web-based surveys (Solomon 2002). Email surveys distribute research questions through either a simple email, or an email cover letter accompanied by an attached electronic survey (Alsnih 2006). Emails that include a URL link to an HTML-based questionnaire are not email-based surveys (Alsnih 2006). A web-based survey is available through a web server (Stanton 1998) and as such, can be alive in that survey questions may change based upon the participants' answers (Jansen et al. 2007). In addition, some extra facilities such as voice, video and animation can be added to the web-based survey to improve the participants' understanding of the research (Jansen et al. 2007).

Based on another classification by Jansen et al. (2007), electronic surveys or computer-based surveys are categorised into three main groups, including e-mail, web-based and point-of-contact surveys. A point-of-contact study refers to a survey that participants complete on a computer provided by researchers (Synodinos et al. 1994) and are conducted either in

laboratories or on-site to increase the amount of researchers' control over the context of the study (Jansen et al. 2007). Although this minimises problems related to participants' computer accessibility, time and the equipment cost issues have limited the application of this method (Jansen et al. 2007).

Email-based surveys have predominated internet-based research. The use of HTML forms dominate data gathering due to several advantages (Solomon 2002), such as being user friendly and including attractive formats. In addition, researchers can program HTML to streamline the data collection process, to enable real time and dynamic checking and correction of errors, and classification of participants based on their responses (Solomon 2002). Multiple question formats can be used and data can be captured directly into the database (Jansen et al. 2007).

Regardless of the advantages offered by web-based surveys, using the internet for social studies has some drawbacks. It can raise doubts as to the accuracy of reported findings in relation to coverage bias, non-response bias, measurement error, and sampling error (Alsnih 2006). Coverage bias addresses the point that some individuals do not have access to the internet, and so the probability of sampling error would increase (Dillman et al. 1998). Sampling error bias suggests that the study is conducted on a sub-set, rather than a sample of the population (Alsnih 2006). Non-response bias concerns the demographic characteristics of the internet users (Alsnih 2006); for instance, employed males are more likely to participate in web-based surveys (Thomson et al. 2003; Alsnih 2006). Measurement errors can stem from inappropriate wording of the survey items, or problems caused by internet browsers (Thompson et al. 2003).

As this study aims to investigate the effects of online social networking on work-family balance, coverage bias and sampling bias were irrelevant because participants had to be SNS users to meet the criteria for inclusion. To avoid problems caused by internet browsers, information related to suitable browsers was given to participants in the invitation letter. Participant demographic characteristics were considered control variables not only because of non-response error, but also because of the effects of demographic characteristics on work-family balance as explained in the previous chapter.

Three types of web-based surveys are addressed in the literature, including "open to any visitor", "closed" and "pop-up" (Alsnih 2006). Open to any visitor surveys have no limitation on who visits or completes the survey, whereas closed surveys target specific participants,

inviting participation via an electronic mail message with a URL link and a password. Finally, “pop-up” web-based surveys are randomly displayed to viewers of a website who are suddenly asked whether they would like to complete the survey (Alsnih 2006). To improve the coverage, this study adopted an “open to any visitor” approach and the URL link was sent through a message to the participants. The sampling methods were random and snowballing, as explained in the following section.

3.4.2. Sampling method

The two most common methods of sampling -probability and non-probability techniques- are applicable to internet surveys. The nature of the study determines which sampling method should be employed. Probability sampling refers to the sampling techniques that rely on three rules: (1) the research population is known, (2) the sample is chosen by chance, and (3) there is an equal chance to be selected (Bradley 1999). Conversely, non-probability sampling allows researchers to collect data based on their subjective judgment, so randomisation is not applicable to non-probability sampling (Saunders et al. 2009). Generally, quantitative research approaches use probability sampling, while researchers are sometimes forced to use non-probability sampling techniques due to the difficulty or impossibility of obtaining probability samples (Bryman & Bell 2011).

In contrast, qualitative research methods and mixed method surveys often adopt non-probability sampling. Non-probability sampling is not a randomised approach as not everyone has the same opportunity to participate in the study (Bryman & Bell 2011). The three main and popular types of non-probability sampling include convenience sampling, snowball sampling, and quota sampling (Bryman & Bell 2011). Convenience sampling refers to the situation where the researcher gathers data by accessing parts of the population, so the generalisation of findings may not be acceptable. However, this form of sampling provides clues for further research and is popular in the field of business and management (Bryman & Bell 2011). Quota sampling represents categorised data in terms of the relative proportions of the research population’s features such as gender and age. However, the final selection of the sample depends on the researcher’s opinion (Bryman & Bell 2011). Snowball sampling is a special non-probability method that asks participants to pass the survey to another person who fits the sampling scope of the study (Faugier & Sargeant 1997). This method increases the accessibility to the research participants when they are hard-to-reach and dispersed in a vast environment (Faugier & Sargeant 1997). In addition, snowball sampling is the only feasible method when there is no precise sense of the desired population (Saunders et al. 2009).

Some specific types of sampling that have been suggested for internet-based studies are presented in the following table and discussed below.

Table 3.2. Sampling techniques for internet-based studies

Sampling methods	
Probabilistic techniques	Non-probabilistic techniques
Intercept	Volunteer panel (opt-in) surveys
List-based	Entertainment-poll survey
Mixed-mode surveys with internet option	
Pre-recruited panels of internet users	Unrestricted self-selected surveys
Probability samples of full populations	

Source: Vicente and Reis (2010)

Knowledge of the sampling frame is a prerequisite for using probability-based sampling techniques in internet-based studies. Intercept surveys target the visitors of a particular website in the way that every n^{th} visitor would be asked to participate in the survey, whereas list-based sampling targets everyone on a specific list through sending an invitation (Andrews et al. 2003). List-based sampling is most practicable to homogeneous groups with accessible email addresses such as students from a university or employees of a company (Vicente & Reis 2010). The participants of pre-recruited panel surveys agree in advance to participate, so random sampling is applicable to pre-recruited panel members (Vicente & Reis 2010). The internet is an alternative to telephone or paper surveys, and minimises the pressure on participants when undertaking Mixed-Mode surveys (Vicente & Reis 2010). Nevertheless, issues related to measurement equivalence may arise (Andrews et al. 2003).

When the internet is used as a data collection tool, invitations can be distributed on multiple sites or sent by email to the participants of a self-selecting sample, while participants are not randomly selected (Andrews et al. 2003). In contrast, volunteer panel (opt-in) surveys are similar to pre-recruited panel surveys, but the surveys are open-access and there is no limitation on who can take part in the survey (Vicente & Reis 2010). Participants assist categorisation by submitting their demographic information (Andrews et al. 2003). Alternatively, entertainment-poll surveys are not academic or scientific surveys, but are popular on forums. These surveys aim at exchanging opinions among the members of sites and forums (Vicente & Reis 2010). Volunteer panel (opt-in) surveys, entertainment polls and unrestricted self-selected surveys are conducted through convenience sampling. However, in this study, both non-probability and probability sampling techniques were used to deal with

common method biases. Common method biases are one of the main sources of measurement error and threaten results validity (Podsakoff et al. 2003).

A snowball sample emerged during the first wave of data collection, as the URL link to the survey was sent to Australian white-collar employees identified through their social website profiles and they were asked to send the URL link to their friends and colleagues. Saunders and colleagues (2009) suggest that snowball sampling can suffer from bias because participants are more likely to identify similar participants. However, studies related to online social networking behaviour face a challenge because the population-sampling frame cannot be defined (Raissi & Ackland 2012), and in this circumstance, snowball sampling is appropriate to identify participants (Raissi & Ackland 2012).

Utilising social networking websites to distribute the link of the web-based survey can potentially mitigate snowball-sampling biases due to the potential wide distribution (Raissi & Ackland 2012). Social networks act as the media for broadcasting the invitation to participate in the survey and participants can make a choice as to whether or not to respond to the invitation (Raissi & Ackland 2012). As white-collar employees in the Australian labour market involved in online social networking created the desired population, identifying informants from their SNS friends list seemed an appropriate approach. To support the snowball sampling approach, the profile of members on popular social network sites such as LinkedIn, Facebook, MySpace, Google+, and Tagged were checked to ensure invited participants matched the targeted samples. An invitation letter, plus the URL link of the web-based survey, was sent to the list-based sample. Eleven hundred and twenty six invitation letters were sent out and 206 surveys were returned, giving a response rate of 18.3 percent.

To reduce common method bias, this study utilised data triangulation. A separate URL link of the web-based survey was prepared for a second wave of data collection, which was distributed by a research company across Australia. The web-based survey was distributed among white-collar employees working in different companies. Sixty hundred and thirty nine completed surveys were received from the second URL link.

3.4.3. Triangulation

In general, triangulation refers to the utilisation of multiple approaches to investigate the research questions (Mathison 1988). Over the past decades, there has been controversy surrounding whether triangulation increases the understanding of the phenomenon being studied, or is a strategy to validate findings (Hussein 2009). The concept of methodological

triangulation usually applies to qualitative and mixed-method studies. However, there are three other popular types of triangulation used in social research, including data triangulation, theoretical triangulation, and investigator triangulation, which can be used in either quantitative studies or qualitative research (Denzin 1970). Begley (1996) introduced another category of triangulation; 'Unit of analysis triangulation' uses more than one analytical approach to examine the same data set.

Based on Denzin's (2009) definition, methodological triangulation refers to the combination of several methods in one study. These can be selected from the same methods or from contrasting qualitative and quantitative methods. Theoretical triangulation refers to a study being conducted based on more than one theory, and investigator triangulation implies that more than one researcher participated in the same study (Denzin 2009). It is common that a specific set of hypotheses lead a study, but Denzin (2009) suggested that theoretical triangulation helped researchers move away from polemic criticism as they consider various perspectives and hypotheses when data is collected.

Data triangulation refers to the collection of data from multiple sources in a single study, which provides more accurate and in-depth data as well as increasing the validity of findings (Mathison 1988). Data triangulation is classified into three groups composed of time, space and person. The person category has three levels, including aggregate, interactive and collective (Denzin 2009). Time data triangulation happens when researchers collect data from one sample at different times, while person data triangulation involves collecting data from more than one category of individuals. Finally, space data triangulation implies that data was collected from multiple environments (Kimchi et al. 1991). Figure 3.3 illustrates the classification of data triangulation.

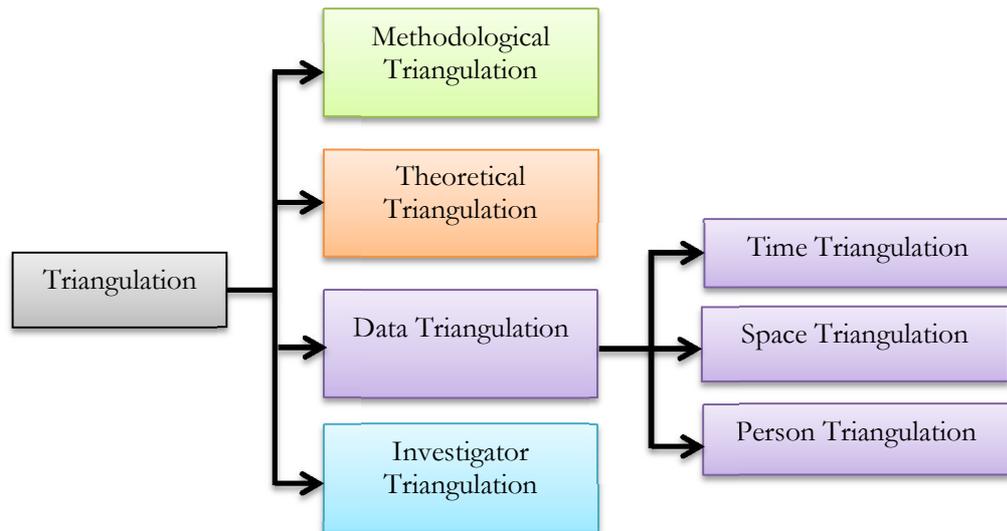


Figure 3.3. Triangulation categories

This study adopted data triangulation, which means the data was collected from different sources (e.g. online social networking websites and white-collar employees in different companies) and with different methods (snowball sampling and list-based sampling).

3.4.3. Sample size

Sample size has an unquestionable impact on the data analysis technique. This study adopts structural equation modelling (SEM) to investigate the research questions, as is discussed in the following section. There are different opinions about how large a sample size is needed for SEM analysis. The size depends on many factors such as data characteristics, reliability of the observed variables, the number of free parameters, the number of indicators per latent variables, the degree of data multivariate normality, and the complexity of the model estimators (Anderson 2001; Fan et al. 1999; Muthén & Muthén 1998-2012). Muthén and Muthén (1998-2012) suggested a reasonable sample size for normally distributed variables with no missing data is $N=150$ observations. One hundred observations per group is suggested for multi-group modelling (Kline 2011).

Some researchers argue that small samples are acceptable when the number of indicators per variable increases (Marsh & Hau 1999). For example, for a model with 3-4 indicators per factor, the minimum sample size is 100, whereas a sample size of $N=50$ may be acceptable for a model with 6-12 indicators per variable, as more indicators per variable may compensate for the small sample size (Marsh & Hau 1999). The general approach is that models with large numbers of indicators need more sample size. One other general rule of sample size for SEM

analysis is that a sample size of less than 100 is small, between 100 and 200 is medium, and more than 200 participants is large (Kline 2011). Two other widely accepted rules of thumb are referred to as the N: $q \geq 5$ and N: $Q \geq 10$ rules, which suggest the minimum sample size, would be at least five or ten times the number of free model parameters (Bentler & Chou 1987; Raykov & Marcoulides 2006). N: q rules are applied when maximum likelihood (ML) is used as the estimation method (Kline 2011).

Researchers suggest that adequate sample size results from a function of numerous factors, and so creating a universal guideline for use is difficult. Thereby, individual-model focused approaches suggest the sample size is adequate when the model fits well (In'nami & Koizumi 2013). Different indices judge the fitness of an SEM model. For example, MacCallum and colleagues (1996) proposed the root mean square error of approximation (RMSEA) as a fit index and an RMSEA less than 0.08 demonstrates a good fit (MacCallum et al. 1996). More recently, Steiger (2007) suggested an upper limit of 0.07 demonstrates the sample size is adequate. In the present study, the N: $q \geq 10$ rule was met with a sample size larger than 600. The fit indices were calculated to check the adequacy of sample size, which is explained further in the next chapter.

3.5. Data analysis

Structural equation modelling (SEM) and fuzzy-set qualitative comparative analysis (Fs/QCA) were used to analyse the web-based survey, and the results are explained in Chapter 4 and Chapter 5 respectively. Multivariate techniques are applied to data that have been collected by a set of measurements on a number of individuals or objects (Anderson 2002) and structural equation modelling is a multivariate technique that encompasses simultaneous observations and the analysis of datasets with more than one outcome variable (Johnson & Wichern 2007). Traditionally, multivariate techniques have been popular in behavioural and biological science. However, numerous other fields of study have become interested in multivariate methods. The core of multivariate techniques is simplification (Rencher 2002). When different variables are measured simultaneously in one sampling unit, correlated variables provide overlapping information; thus, multivariate techniques remove the effect of overlapping information and clarify the underlying relations (Rencher 2002).

3.5.1. Structural Equation Modelling (SEM)

Byrne (2012, p.3) defines structural equation modelling as “a statistical methodology that takes a confirmatory (i.e., hypothesis-testing) approach to the analysis of a structural theory”. SEM is a flexible and standard statistical approach that handles multivariate data, mixed

models, Bayesian analysis, binary and categorical variables (Cheung 2013). There are two groups of SEM techniques: covariance-based techniques and component-based techniques (Rouse & Corbitt 2008). Although component-based techniques are robust (Hair et al. 2011), this study adopted a covariance-based technique due to three reasons; firstly, covariance-based techniques are confirmatory rather than exploratory, while component-based techniques estimate components instead of factors, so do not report factor loadings (Rouse & Corbitt 2008; Byrne 2012).

Secondly, all the measures utilised in this study were reflective rather than formative. Generally, component-based techniques are applicable when either formative and reflective measures or only formative measures are used to collect data (Götz et al. 2010). Thirdly, component-based techniques, like Partial Least Squares (PLS), do not calculate the covariance between the items; whereas, covariance-based techniques estimate the common shared variance across all items to highlight the underlying construct (Rouse & Corbitt 2008). Therefore, component-based techniques cannot report the “*goodness of fit*” of the model and some researchers believe component-based techniques like PLS are unable to completely test the hypothesised model (Hair et al. 2011).

Covariance-based SEM techniques rely on two fundamental rules; firstly, a series of structural equations (i.e., regression) support the process of research; secondly, the research is based on a theory that can be conceptualised by a model composed of structural relations (Byrne 2012). These two important aspects demonstrate that SEM techniques are suitable for the present study because (1) a series of structural relations among variables could be predicted based on a theoretical foundation and (2) the relations between variables could be modelled. Latent variables are another reason why SEM techniques were suitable methods for the present study. Only SEM techniques can integrate and investigate observed and unobserved variables (Byrne 2012).

Unobserved variables, or latent variables or constructs, are conceptual and abstract phenomena that cannot be observed directly, so cannot be measured directly (Byrne 2012). Latent variables or constructs are linked to one or more observed variables that are termed indicators that can be assessed directly (Byrne 2012). There are two types of latent variables: exogenous and endogenous variables. Exogenous latent variables are interchangeable with independent variables, so the structural model does not explain changes in the values of these variables, whereas endogenous variables play the role of dependent variables in structural models (Byrne 2012).

A measurement model defines the relationship between underlying constructs and indicators, while a structural model illustrates the relations among constructs (Byrne 2012). Measurement models identify structural relations between constructs and their indicators through the covariation between the latent variable and the indicators of the latent variable. This means the variation in the indicators relates to the variation in the constructs, so the changes in the value of constructs can be detected in the indicator (Borsboom et al. 2003). Structural relations between indicators and constructs are reflective or formative (Edwards & Bagozzi 2000).

Reflective indicators are a series of highly correlated items that reflect the change in the value of their constructs and build the function of the construct (Diamantopoulos & Siguaw 2006). Reflective constructs and the indicators are conceptually interchangeable; thus, adding or removing measures does not affect the nature of the latent variable. However, this may influence the reliability of the relationships (Franke et al. 2008). In contrast, formative indicators are a series of distinct items, and changes in their values form and manifest the change in the latent variables (Diamantopoulos & Siguaw 2006). In this case, every indicator is a detached dimension, which means a formative construct is theoretically a composite of all relevant indicators (Bucic & Gudergan 2004). Hence, removing an individual indicator mainly affects the value of the formative construct (Roy et al. 2012). Structural equation models are developed based on the measurement model; thus, the accuracy of SEM is strongly related to the accuracy of the measurement model. One of the most common mistakes of measurement modelling occurs when a formative (reflective) construct is wrongly modelled as a reflective (formative) construct, which is known as model misspecification (Roy et al. 2012). Misspecification of scales may prejudice structural parameters, and the results in an improper examination of structural relations in SEM techniques (Bucic & Gudergan 2004).

Recently, it is increasingly suggested that formative measurements are valuable alternatives for reflective measurements (Cenfetelli & Bassellier 2009), even though reflective measures dominate structural equation modelling for several reasons. Firstly, formative measures are ambiguous because of multi-dimensionality (Edwards 2011), which means indicators of a formative construct present its different facets (Diamantopoulos & Siguaw 2006). When independent factors form a single construct, it is not clear whether the variation in the construct represents the variation in all factors (Edwards 2011). Secondly, the low correlations, or lack of internal consistency, among formative measures of a construct lead to pretext and wrong justification (Edwards 2011). For example, Diamantopoulos and Siguaw (2006) suggest low internal consistency of a measurement model is a sign of poor modelling. In addition, the lack

of internal consistency is not a sufficient reason to infer measures are formative (Wilcox et al. 2008). However, some researchers have concluded that their measurements are formative because their findings presented a lack of internal consistency (Edwards 2011).

Thirdly, in contrast to a reflective measurement model, formative measurement models do not assign measurement error to each indicator of a construct, but incorporate an error, known as a residual, to the construct (Edwards 2011). Therefore, formative measures are assumed to contain no error, and the recorded data demonstrates the construct exactly as they exist (Iacobucci 2010). This assumption is incompatible with the nature of data collected via interview, observation or survey (Edwards & Bagozzi 2000). Furthermore, free-error measures represent biased estimates of the factor loadings that relate indicators to the constructs (Cohen et al. 2003).

To estimate the parameters of formative constructs, MacKenzie and colleagues (2005) suggest that each formative construct be connected to at least two unrelated reflective indicators or two unrelated latent constructs. Thus, structural equation models with formative constructs are more complicated and more difficult to test than reflective models. This is another reason why researchers avoid using formative measurement models regarding the foregoing criticisms; this study has adopted reflective measurements to estimate constructs and these are explained in detail at the end of this chapter.

3.5.2. Fuzzy-set qualitative comparative analysis (FsQCA)

The present study employed fuzzy-set qualitative comparative analysis (Fs/QCA) to investigate whether a particular combination of demographic characteristics play any particular role in online social networking usage and its impact on work-family balance. Unlike regression analysis, Fs/QCA uses algorithms and is a configurational method, which “*establishes a logical connection between combinations of causal conditions and an outcome*” (Mendel & Korjani 2013, p.137). Analytical techniques adopting regression logic focus on ‘*net effect*’ among variables. The logic behind the regression is to estimate the influence of each hypothesised independent variable on dependent variables after eliminating the effect of other independent variables in the equation. Alternatively, it reports the effect of each hypothesised independent variable on a dependent variable, depending on the absence or presence of the other independent variables in a model (Woodside 2013). On the contrary, Fs/QCA investigates the possible combination of “*causal recipes*” bringing about a particular outcome (Woodside 2013). Causal recipes are configurations of two or more exogenous variables (Ragin 2008a). For example, in the present study, a possible causal recipe association

with a high level of work satisfaction might be a combination set of four conditions as a “young single male with a fulltime job”.

The justification behind utilising Fs/QCA to investigate the causal relation of demographic features of participants on work-family balance is “moving beyond the descriptive analysis and regression analysis” (Woodside 2013). In addition, Fs/QCA allows researchers to overcome the sample size effect (Cárdenas 2012). Descriptive analysis of the dataset suggested the sample size of the present study was not large enough to classify the participants based on their demographic features when using structural equation modelling, so Fs/QCA was suitable. Furthermore utilising both techniques for different hypotheses in the same study sheds further light on the research topic, as the two different approaches complement, rather than nullify, one another (Vis 2012).

Amenta and Poulsen (1996) suggest that theoretically the outcomes of moderately large-n studies are the results of interactions and complex causality among conditional factors, and multiple regression cannot explain them because of two reasons: first, the degrees of freedom are too low, and there is an enhanced possibility of multicollinearity. Ford, Duncan, and Ginter (2005) conducted qualitative comparative analysis (QCA) in addition to regression analysis, to examine hypotheses of a moderately large-n study. Besides sample size, applying Fs/QCA analysis to investigate the relations between demographic variables and work-family balance provided much more information than adding these variables as moderators into the structural model. Previous studies examining the relations between demographic features and work-family balance and/or online social networking reported controversial results, as discussed in Chapter 2. Fs/QCA allows this study to examine several configurations of demographic features to see which arrangements have the most impact on desired outcomes of combined high levels of work and family satisfaction.

3.6. Measures

A self-administered web-based survey was utilised for this study. The self-administered survey is composed of eleven established scales and a new scale. The established scales are operational flexibility (5 items); temporal flexibility (5 items); work satisfaction (5 items); family satisfaction (5 items), work involvement (5 items); family involvement (6 items); work-to-family conflict and family-to-work conflict (8 items); work pressure (7 items); role ambiguity (3 items); and family stressors (4 items). The newly developed scale for online social networking has six items, and this, along with all scales, will be described in the section

that follows. Seven-point Likert scale were used for this study, except for the demographic and descriptive questions. Table 3.3 lists the source of the scales used in the present study.

Table 3.3. Source of Components of the web-based survey

Measurements	Source
Family involvement (FI)	Misra, Ghosh, Kanungo (1990)
Work involvement (WI)	Kanungo 1982
Temporal flexibility (TF)	Clark (2001)
Operational flexibility (OF)	Clark (2001)
Family stress (FS)	Hennessy & Lent (2008)
Role ambiguity (RA)	Frone et al. (1995)
Work pressure (WPR)	Frone et al.(1995)
Work-family conflict (WFC)	Voydanoff (2005)
Family-work conflict (FWC)	Voydanoff (2005)
Family satisfaction (FSAT)	Brayfield & Rothe’s scale (1951)
Work satisfaction (WSAT)	Brayfield & Rothe’s scale (1951)
Online social networking (OSN)	Developed for this study by the researcher

3.6.1. Work involvement and Family involvement scales

Lodahl and Kejner (1965) operationalised job involvement into a 20-item scale, while subsequent studies have been conducted to modify job involvement measurement. Lodahl and Kejner’s (1965) quantified job involvement based on two dimensions: performance-self-esteem and psychological self-image of identification with the job. Lodahl and Kejner’s (1965) acknowledged that although job involvement could be adequately scaled, the reliability of their scale was not high and further modification was needed; nevertheless, no serious empirical revisions have been undertaken (Reeve & Smith 2001). Saleh and Hosek (1976) proposed another multidimensional job involvement scale based on their definition of the construct. They defined job involvement as the extent that individuals are identified by their jobs, actively participate in the job, and the job is considered important to individual self-worth. Thereby, Saleh and Hosek’s (1976) scale has four dimensions: “active participation”, “central life interest factor”, “centrality of performance to self-esteem”, and “consistency with self-concept”. Kanungo (1982) strongly criticised Saleh and Hosek’s insistence on the “self” construct in their scale, arguing this construct examines the psychological state of the individual and its outcomes instead of job involvement (Brown et al. 1996) and thus is not empirically useful.

Kanungo (1982) implied that job involvement scales have suffered from construct validity; hence, data collected by these scales was difficult to interpret. Besides, Kanungo (1981) posited that job involvement scales were unsuccessful in recognising the difference between job involvement caused by a specific aspect of the job and job involvement caused by its

indicators. Kanungo (1979) defined job involvement as a “*generalized cognitive state of psychological identification*” to separate the concept from its antecedents or consequences. Kanungo (1986) utilised a 7-point response format from “do not agree” to “fully agree” to test the 10-item scale of job involvement and the 6-item scale of work involvement. Through a pilot study, three items were dropped from each scale because of correlations among the items. The validity and reliability of the final 10 items were tested in a survey distributed in both English and French among full time employees in various industries in Canada. Factor analysis of 703 completed surveys reported a high internal consistency of the items, ranging between 0.68 and 0.88 coefficients. Several other studies adopted Kanungo’s one-dimensional scale (1982) to measure job involvement and all reported high levels of internal consistency, reliability, and validity.

The present study took a five-item version of the Kanungo scale (1982) that was previously tested by Frone and colleagues in 1995 and returned a Cronbach’s alpha of $\alpha = .87$. This shortened version of Kanungo’s scale reflects participants’ perceptions or assessments about how their jobs are important in their lives. In the present study, the results revealed the coefficient alpha of the job involvement scale was $\alpha = .86$. The items, along with the correlation matrix for this study, are presented below in Table 3.4.

Table 3.4. Inter-item correlation matrix (Work involvement scale)

Items	WI1	WI2	WI3	WI4	WI5
The most important things that happen to me involve my present job	1.000				
I am very much personally involved with my job	.457	1.000			
Most of my interests are centred around my job	.619	.516	1.000		
To me, my job is a very large part of who I am	.533	.585	.625	1.000	
My job is a very important part of my life.	.445	.558	.487	.717	1.000

Based on the ‘motivational approach of involvement’ presented by Kanungo (1979), Misra, Ghosh and Kanungo (1990) hypothesised that perceived expectation of satisfaction need in the family domain is strongly related to involvement in the family context. To develop a measure for family involvement, Misra, Ghosh and Kanungo (1990) considered family involvement as a one-dimensional construct composed of an individual standing for “self”, a house representing “family”, and the distance between them. Therefore, the level of distance between “self” and “family” determines the degree of family involvement. Then, six questions from the work involvement survey developed by Kanungo (1982) were adopted. In addition, two graphic items, one to represent the workplace and the other to represent the house, were added to assist participants in distinguishing the two roles.

To test the validity and reliability of their scale, Misra, Ghosh and Kanungo (1990) translated the survey into both English and French and distributed it between two heterogeneous samples of managerial and supervisory employees in India and Canada. In total, 269 completed surveys from India and 168 from Canada were collected and analysed. The findings demonstrated internal consistency with the Cronbach's coefficient alpha being 0.87 and 0.88 in the Indian and Canadian samples respectively. Rotated factor loadings suggested that more than 85 percent of variance in the case of the Indian sample and 87 percent of common variance of the Canadian sample were explained by family involvement. As a result, this study adopted the family involvement survey developed by Misra, Ghosh and Kanungo (1990). The Cronbach's alpha for the sample was $\alpha=.89$ and the items and correlation matrix for this study are presented below in Table 3.5.

Table 3.5. Inter-item correlation matrix (Family involvement scale)

Items	F11	F12	F13	F14	F15	F16
The most important thing that happens in life involves the family	1.000					
It is important to be involved with the family	.594	1.000				
Being involved with family life makes life more worthwhile	.630	.720	1.00			
The family should be a large part of life	.629	.678	.724	1.000		
The family should be considered as the centre of life	.594	.587	.575	.672	1.000	
An individual's life goals should be mainly family oriented	.508	.455	.485	.541	.716	1.000

3.6.2. Work stressors and Family stressors scales

Based on Frone's and colleagues studies (1992; 1995; 2003), the lack of autonomy, work pressure and role ambiguity are considered the main stressors at the workplace. To find the effect of OSN on job stress, it is important to examine how online social behaviour influences job stressors. Therefore, after several established scales related to work stressors were reviewed, a modified version of Frone and colleagues' (1992b; 1995) work stressors survey was adopted. Inspired by the previously published scales (Insel & Moos 1974; Rizzo et al. 1970; Sims et al. 1976), Frone et al. (1992; 1995) designed another scale for work stressors, comprised of three sub-scales: workload pressure, role ambiguity and lack of autonomy indicators.

The work pressure sub-scale (8 items) estimates the frequency of pressure resulting from a heavy workload and job-related demands (Frone et al. 1995). The role ambiguity sub-scale (6 items) assesses the lack of clarity about duties and tasks perceived at the workplace (Frone et

al. 1995). The lack of autonomy sub-scale examines the level of perceived pressure resulting from the lack of control over functions (Frone et al. 1992a). Frone and colleagues (1992) conducted a principal component analysis with oblique rotation that reported high loadings ranging from 0.52 to 0.70 for the work pressure sub-scale (8 items) and high loadings ranging from 0.33 to 0.72 for role ambiguity and lack of autonomy sub-scales (Frone et al. 1992). In addition, the construct validity of the measure was tested by 795 interviews and reported coefficient alpha reliabilities of $\alpha = 0.78$ and $\alpha = 0.71$ for work pressure and role ambiguity measures respectively (Frone et al. 1995).

In the present study, Frone et al's (1995) seven items of work pressure and 3 items of role ambiguity sub-scales were used for two main reasons. Firstly, the foregoing studies reported high reliability and validity of these scales, and secondly, Frone and colleagues (1992) test the sub-scales with structural equation modelling techniques that returned sub-scale compatibility with SEM techniques. In the present study, the results show that the coefficient alpha for role ambiguity was $\alpha = .79$ and the Cronbach's alpha for work pressure measure was $\alpha = .83$. The items and correlation matrix are presented in Table 3.6.

Table 3.6. Inter-item correlation matrix (Work stressor sub-scales)

Items	WPR1	WPR2	WPR3	WPR4	WPR5	WPR6	WPR7
At my workplace:							
I have too much work to do	1.000						
I do not have enough time to get everything done on my job	.695	1.000					
I have to work very hard-either physically or mentally	.552	.484	1.00				
I feel that I have a lot of responsibility for the work of others	.377	.317	.345	1.000			
I have too little help or equipment to get the job done	.422	.445	.271	.256	1.000		
I am under pressure to keep up with new ways of doing my tasks	.387	.399	.392	.350	.393	1.000	
I work too many hours	.585	.514	.461	.393	.384	.410	1.000
Items	RA1			RA2		RA3	
At my workplace:							
I am unsure about what people expect of me	1.000						
There is not clear goals and objectives for my job	.497			1.000			
I am confused about what exactly I am supposed to do	.585			.627		1.000	

To examine the overall family stressor construct, one of the most used scales is the Reeder Stress Inventory (RSI) (Reeder et al. 1968). The RSI scale is composed of four categories

comprising tension or nervousness, nervous strain, fatigue and challenge. The RSI asks participants to describe their personal experiences related to the items via selecting one option from four choices, including “exactly”, “to some extent”, “not very accurate” and “not at all”. Metcalfe and colleagues (2003) conducted a cross-sectional investigation of 1717 British employees to examine the contemporary validation of the Reeder Stress Inventory. The results validated the RSI scale and showed that significant evidence of a relationship between higher levels of stress, as measured by the RSI with heavy smoking and drinking behaviours.

More recently, Hennessy and Lent (2008) added the terms “at home” or “your family responsibilities” to the items of RSI scale in order to examine the overall family stress among 159 working mothers in U.S. Their results showed an acceptable reliability coefficient of $\alpha=0.75$. To investigate the degree of family stress, this study used a modified version of the Reeder Stress Inventory (RSI) (Reeder et al. 1968). Participants were asked to indicate their level of agreement with the four questions in the modified scale. The results reflected that the coefficient alpha reliability was .87. The questions and correlation matrix are presented in Table 3.7.

Table 3.7. Inter-item correlation matrix (Family stressor scale)

Items	FS1	FS2	FS3	FS4
There is a great deal of nervous strain in juggling family demands	1.000			
Coping with daily home duties is trying and stressful	.636	1.000		
I am usually tense or nervous at home because of my responsibilities at home	.544	.668	1.000	
At the end of the day, I am completely exhausted by my family responsibilities.	.534	.671	.694	1.000

3.6.3. Operational Flexibility and Temporal Flexibility scales

Flexibility was assessed using Clark’s (2001) sub-scales. Clark (2001) developed and validated a culture work scale, which is comprised of temporal flexibility, operational flexibility and supportive supervision sub-scales. Temporal flexibility refers to the ability to control working hours. Five items were used to examine the extent participants were free to determine or alter their work schedule. Clark’s operational flexibility scale is composed of five items that assess the extent individuals are in charge of their actions and responsibilities at work. Data from 179 participants reported the coefficient alpha reliabilities $\alpha= .84$ and $\alpha= .83$ for temporal flexibility and operational flexibility respectively (Clark 2002).

Clark (2001) performed exploratory factor analyses, principal component analysis with a varimax rotation, and confirmatory factor analysis to check whether the scales measured two

distinct constructs and found this to be so. In addition, the item standardised regression weights were ranked from 0.55 to 0.92 and 0.51 to 0.82 for temporal flexibility and operational flexibility scales respectively; standardised coefficients are preferred to unstandardised coefficient when comparing measurements with different units (Richards Jr. 1982). Using the AMOS statistical package, Clark (2001) reported the goodness of fit index (GFID) at .93 and the adjusted goodness of fit index (AGFID) at .89. These indices check the fit between the hypothesised model and the observed covariance matrix, on a range between 0 and 1; with a value of .9 indicating an acceptable model fit.

More recently, another web-based survey applied Clark's (2001) temporal flexibility sub-scale among 883 employees and reported a high inter-item reliability coefficient of .84 (Edwards 2012). Thus, Clark's (2001) temporal flexibility and operational flexibility sub-scales were used to assess individuals' flexibility at work in the present study. Using a 7-point Likert scale, participants were asked to declare the extent to which they agree with 10 items. The Cronbach's alpha of the survey items for Temporal flexibility was $\alpha=.85$ and for operational flexibility, it was $\alpha=.83$. The questions and correlation matrix are presented in Table 3.8.

Table 3.8. Inter-item correlation matrix (Flexibility sub-scales)

Items	TF1	TF2	TF3	TF4	TF5
I am able to arrive and depart for work when I want	1.000				
I am free to work the hours that are best for my schedule	.785	1.000			
I would easily take a day off or work, if I wanted to	.531	.579	1.000		
There is no flexibility in my schedule (Reverse)	.518	.548	.494	1.000	
It is OK with my employer if I work at home	.611	.578	.430	.420	1.000
Items	OF1	OF2	OF3	OF4	OF5
Others direct my activities at work (Reverses)	1.000				
I can choose what I do at work	.440	1.000			
I have a say in what goes on at work	.426	.560	1.000		
I am in charge of my activities at work	.443	.472	.589	1.000	
I determine where I place my time and energies at work	.464	.579	.577	.615	1.000

3.6.4. Work-to-family conflict and Family-to-work conflict scales

To assess the degree of conflict between work and family domains, several measures of work-family conflict were reviewed (Netemeyer et al. 1996; Cinamon & Rich 2002; Cinamon et al. 2007) and, finally, modified versions of Voydanoff's (2005) work-to-family conflict and family-to-work conflict measures were employed in this study. Voydanoff's (2005) work-to-family survey asks participants to indicate how often over the past three months their work responsibilities decreased the time and energy belonging to the family or personal life domain, so that it negatively affected their efficiency and effectiveness at home. Conversely, the

family-to- work conflict scale determines to what extent family or personal life responsibilities and activities drain the resources available for the work sphere.

Voydanoff (2005a) used secondary data from 2,155 interviews with adult employees who lived with a family member to validate the scales. Voydanoff's (2005a) analyses indicated that the coefficient alpha for the WFC 5-item scale was .86 and for the FWC 5-item measure was 0.80. In another study, Schieman and Young (2010) used 4-item versions of Voydanoff's (2005a) scales, testing four response points ranging from "never" to "frequently" among a sample of 956 participants. The findings demonstrate a similar coefficient alpha score ($\alpha=0.86$) to the original scales. The original scales are composed of interrogative items, but in the present study, the items were modified into declarative sentences and participants were asked to express the conflict between their family and work responsibilities through agreement with the ten items. The coefficient alpha of work-to-family conflict scale was $\alpha= .87$ and $\alpha= .88$ for family-to-work conflict scale. Table 3.9 shows the questions and correlation matrix.

Table 3.9. Inter-item correlation matrix (work-family conflict sub-scales)

Items	WFC1	WFC2	WFC3	WFC4	
In the past 3 months,					
I have not had enough time for my family or other important people in my life	1.000				
I have not had enough energy to do things with my family members or friends	.748	1.000			
I was not in a good mood as I would like to be at home	.590	.691	1.000		
I have not been able to get everything done at home each day	.559	.654	.622	1.000	
Items	FWC1	FWC2	FWC3	FWC4	FWC4
In the past 3 months, my family and my personal life:					
have kept me from completing work responsibility	1.000				
have kept me from being as good as I could at work	.677	1.000			
have drained me of the energy that I need for my work	.612	.684	1.000		
Have kept me from concentrating on my job demands	.598	.748	.709	1.000	
have kept me from taking on extra work at my job	.530	.541	.529	.561	1.000

3.6.5. Work satisfaction and Family satisfaction scales

Wanous and Lawler III (1972) suggested that measurements of work satisfaction depend on how researchers define work satisfaction in their studies. They proposed nine different scales of work satisfaction that can be classified into two groups. Impressed by Hoppock's (1935) definition of work satisfaction, the first group of scales relates to overall and general individual work satisfaction. Hoppock (1935) defined work satisfaction as a feeling caused by a

combination of psychological, physical, and environmental events and stimulators that make an individual say 'I am satisfied with my job'. The primary impression of this perspective is that work satisfaction is a result of the balance between what individuals invest in the work and the work outcomes; thereby, the assumption is work satisfaction increases if the work outcomes outweigh the inputs invested (Hulin et al. 1985). Evaluating overall work satisfaction increases the probability of forecasting employee's future actions such as quitting, loafing, sabotaging, absenteeism and delaying (Judge 1994).

On the contrary, the second group of work satisfaction scales or multiple measures concentrate on the satisfaction with various facets of the business. Multiple measures ask participants to rate a wide range of job features and conditions on a scale ranging from 'satisfaction' to 'dissatisfaction'. Pollard's (1996) comparison of three work satisfaction scales (two multiple-item measures and one overall measure) proposed that multiple scales provided a more comprehensive explanation related to work satisfaction. Another comparative study between multiple and overall scales of work satisfaction concluded that overall measures of work satisfaction are simple, easy to use, and more applicable for complicated and miscellaneous jobs (Oshagbemi 1999). Overall measures also suit comparative studies of work satisfaction between different contexts such as different countries or organisations. However, these measures of work satisfaction seem of little value to managers concerned with making the decision to improve employees' work satisfaction. Furthermore, employees' negative reaction to the overall work satisfaction scale may result in fake responses (Oshagbemi 1999).

The most important difference between overall scales and multiple scales of work satisfaction has been clarified via Structural Equation Modelling techniques. Overall, work satisfaction scales are reflective scales, while multiple scales of work satisfaction are formative scales. As mentioned previously, formative scales are problematic in structural equation modelling. Thus, in the present study, a shortened overall work satisfaction scale developed by Brayfield and Rothe (1951) was used to assess the overall work satisfaction. This 6-item scale is validated by different studies; for example, factor analysis among a sample of 550 employees reported a high Cronbach's alpha of 0.9 and confirmatory factor analysis reported high factor loadings ranging from 0.51 to 0.89 for the overall work satisfaction scale (Agho et al. 1992). Recently, another study using a 5-item version of Brayfield and Rothe's scale (1951) to examine work satisfaction of 1554 nurses and reported a high coefficient of $\alpha=0.84$ (Roelen et al. 2013). In the present study, analysis revealed a Cronbach's alpha of $\alpha=.89$. The questions and correlation matrix are presented in Table 3.10.

Table 3.10. Inter-item correlation matrix (Work satisfaction scale)

Items	WSAT1	WSAT2	WSAT3	WSAT4	WSAT5	WSAT6
I find real enjoyment in my job	1.000					
I like my job better than the average person	.803	1.000				
I am seldom bored with my job	.540	.502	1.000			
I would not consider taking another kind of job	.480	.484	.426	1.000		
I feel fairly well satisfied with my job	.732	.706	.529	.600	1.000	
Most days I am enthusiastic about my job	.755	.705	.567	.532	.776	1.000

To measure family satisfaction, overall and multiple scales of family satisfaction were reviewed. These scales of family satisfaction provide detailed information related to parenting and marital issues that were not relevant to the scope of this study. A few researchers have tried to present some indicators of family satisfaction that are more applicable for business studies. However, these scales are formative because family satisfaction is assumed to relate to various complicated psychological and emotional feelings. For example, Misra and colleagues (1990) suggested nine specific indicators of family satisfaction, including: ‘the amount of respect and recognition received from family members’, ‘the opportunity of independent thought and action’, ‘good interpersonal relationships between family members’, ‘the feeling of security received from family members’, ‘the feeling of having personal responsibility’, ‘the opportunity for growth’, ‘the feeling of having great personal achievements’, ‘receiving comfortable living standard at home’, and ‘feeling of being loved’.

To avoid misspecification, or using formative measures instead of reflective measures, a modified version of Brayfield and Rothe’s (1951) overall work satisfaction measure was adopted to assess overall family satisfaction through replacing the term “work” with “family life”. Aryee et al. (1999) applied a 6-item scale extracted from Brayfield and Rothe’s (1951) 18-item scale of work satisfaction to assess the level of family satisfaction among 320 participants. The findings showed a reliability coefficient of 0.84 for the modified scale of family satisfaction. More recently, another study used a 5-item version of Brayfield and Rothe’s scale (1951) to examine family satisfaction and returned a high coefficient alpha of 0.82 (Hennessy & Lent 2008). In this study, the 5-item version of Brayfield and Rothe’s (1951) measure was applied and participants asked to present their overall family satisfaction through agreement with five statements. The findings reflected a Cronbach’s alpha of $\alpha=.83$. The questions and correlation matrix are presented in Table 3.11.

Table 3.11. Inter-item correlation matrix (Family satisfaction scale)

Items	FSAT1	FSAT2	FSAT3	FSAT4	FSAT5
I feel fairly well satisfied with my family life	1.000				
I like my family life better than the average person does	.647	1.000			
I am often bored with my family life	.264	.270	1.000		
I find real enjoyment in my family life	.677	.669	.363	1.000	
Most days I am enthusiastic about my family life	.687	.668	.346	.840	1.000

3.6.6. Online social networking: A self-administered measure

A self-administrated measure collected the information about the participants' social networking behaviour. The measure was developed and used to collect descriptive and experimental data through 13 questions related to participants' activities on social networking websites. The measure had two separate sections. One section collected descriptive data including reasons for participating in social networking websites and the accessibility and availability of online social networking in the workplace. The descriptive section consisted of Yes/No questions, seven-point Likert scale and multiple choices. The second section comprised six items (rated on a seven-point scale) and assessed three components of the online social networking construct; including cyberslacking, enterprise online networking, and negative experiences resulting from participating in online social networking.

Cyberslacking covers both the duration of time spent on personal demands and the frequency of participation in public social networking sites in the workplace. This study assumes frequency of cyberslacking is as important as the duration of cyberslacking, as the frequency of cyberslacking can be seen as a disruption cost. Therefore, two questions were developed to collect information relevant to cyberslacking tendencies among the research sample:

1. How long (on average) do you spend on public social networking sites per day in the workplace?
2. How often do you use online social networking for personal demands at your workplace?

In contrast, enterprise online networking collects information related to how much time and how often employees used private networking sites developed by companies for work related demands when they were at home. This means the enterprise online networking component catches the transaction of work responsibilities from the work domain into family domain through two following questions:

1. How long (on average) do you spend on the private social networking sites per day at home?
2. How often do you use online social networking for work demands at home?

The third component was related to negative experiences associated with online social networking. As this study adopted a work-family conflict approach, it was assumed that online social networking has the potential to blur the boundaries between work and family responsibilities, and this can lead to conflict; thus, the focus was on negative experiences, rather than the positive experiences. In other words, this study assumes positive experiences resulting from online social networking were more likely to predict work-family enhancement, and this positive response was not the focus of this study. Therefore, the following question was developed to capture the negative experience of participants in the present study.

1. Have you ever experienced any type of negative experience when you participate in online social networking?

The scales developed by the Australian psychological Society (2010) and Young (2009) form the basis of online social networking measures. However, there are two major differences between these scales and the developed measure. Firstly, the previous scales were descriptive (Marcum et al. 2010; Capurro et al. 2014) and secondly, this study wanted to capture overlapping aspects of work domain and family domains. This recognises that online social networking measures need to be bidirectional; for example, cyberslacking demonstrates a demand transition from the family domain to the work domain, whereas enterprise online networking suggests a demand transition from work into the family domain. Adopting this measure highlights the boundary between the work and family domains. After items that were overlapping or had loadings valued less than .35 had been removed, the exploratory factor analysis suggested a final set of five items as Table 3.12 shows. The reliability coefficient was $\alpha=.80$ for the online social networking measure and the items correlations are presented below in Table 3.12.

Table 3.12. Inter-item correlation matrix (Online social networking scale)

Items	OSN3	OSN8	OSN15	OSN16	OSN17	EFA loading
How long (on average) do you spend on the private social networking sites per day at home	1.000					.634
How long (on average) do you spend on public social networking sites per day in the workplace	.561	1.000				.671
How often do you use online social networking for personal demands at your workplace	.389	.460	1.000			.718
How often do you use online social networking for work demands at home	.365	.440	.653	1.000		.698
Have you ever experienced any type of negative experience when you participate in online social networking	.360	.403	.449	.470	1.000	.570

3.7. Conclusion

This chapter describes the research paradigm that was adopted and the methodology for conducting the research. A quantitative approach was employed to analyse data collected through a self-administrative web-based survey that examined the relationship among eight independent variables, two mediators, and two dependent variables. All variables used in the model are continuous latent variables with ordinal indicators. Most measures were adopted from previously developed reliable instruments, while the researcher developed the scale for examining the new construct named online social networking. This chapter has explained the sampling methods taken for the study, including the list and snowball sampling methods used to allow the researcher to reach appropriate participants. In addition, the data collection process consisted of two separate waves and the rationale for this has been explained, along with issues related to measurement, and measurement reliability. The following chapter discusses the sample, data analysis process, as well as the techniques used to test the hypotheses and the rationale behind these.

Chapter 4
Data analysis (Part one)
Structural Equation Modelling

4. Chapter Overview

This chapter presents the descriptive and factor analyses that were conducted to examine the constructs within the conceptual model presented in Chapter 2. The data collected from November 2013 to May 2014 was analysed using SPSS (22) and Mplus (7.2) statistical software. The first section of the chapter presents the demographic information about the sample. Then, the procedure used to validate the measurement model is explained. Prior to presenting the hypotheses testing, confirmatory factor analysis and exploratory factor analysis was undertaken to ensure the data were suitable for structural equation modelling. Once satisfactory reliability of the data and a good fit to the measurement model were achieved, the theoretical model, and the structural relationship within the model was examined as will be explained in this chapter.

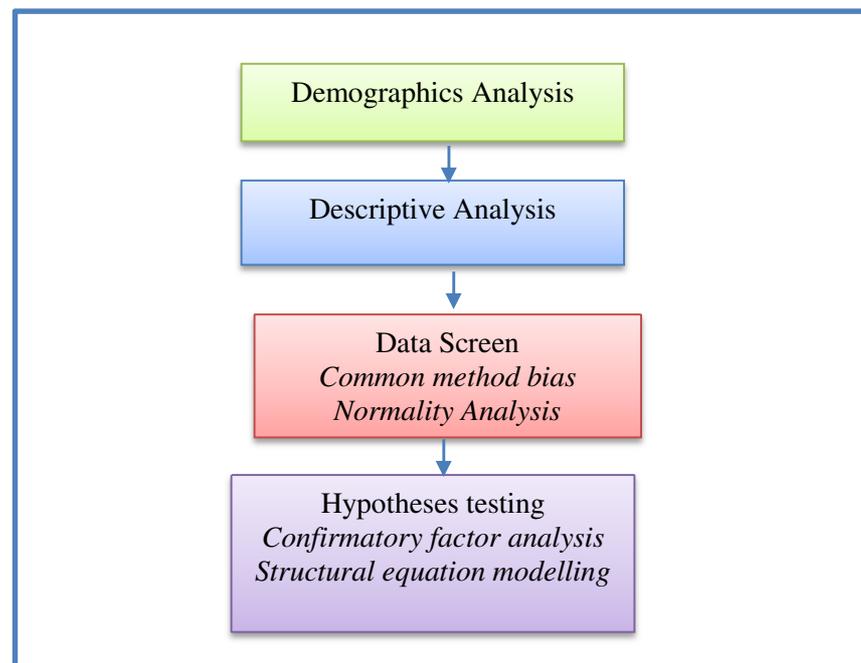


Figure 4.1. Chapter snapshot

4.1. Demographics of the Sample

The first wave of data collection was conducted from October 2013 to January 2014 and the second round of data collection commenced in February 2014 and completed in June 2014. Participants from the two waves of data collection answered demographic questions regarding gender, age, marital status, their employment status (full time/part-time), whether they had children, and the age of their children. Data screening determined 798 usable surveys consisting of 398 female (49.9%) and 400 male (50.1%). Of the total participants, 62.5 percent were married or lived with a partner (n=499), 26.1 percent were single (n=208), 8.4 percent (n=67) were divorced and the remainder were separated. The majority of participants were full-time employees (n=516, 64.7%), followed by part time employees (n=198, 24.8%) and casual employees (n=82, 10.3%). More than half of participants were parents (n=418, 52.4%) and lived with one (58.3%), two (17.2%), three (18.7%) or more than three children (5.7%). Of those who were parents, one participant did not report the number of children. Participants were categorised into seven distinct age groupings presented in Table 4.1 below:

Table 4.1. Age group frequencies

Age groups				
Age	Gender		Total	Percentage
	Male	Female		
Less than 18	1	0	1	.1%
Less than 25	24	42	68	8.5%
Between 25-34	105	121	226	28.3 %
Between 35-44	95	87	182	22.8%
Between 45-54	90	77	167	20.9%
Between 55-64	60	58	118	14.8%
65 and over	24	12	36	4.5%
Total	400	398	798	
Percentage	50.1%	49.9%	100%	

The Geographical distribution of the sample is illustrated in Figure 4.2 below.

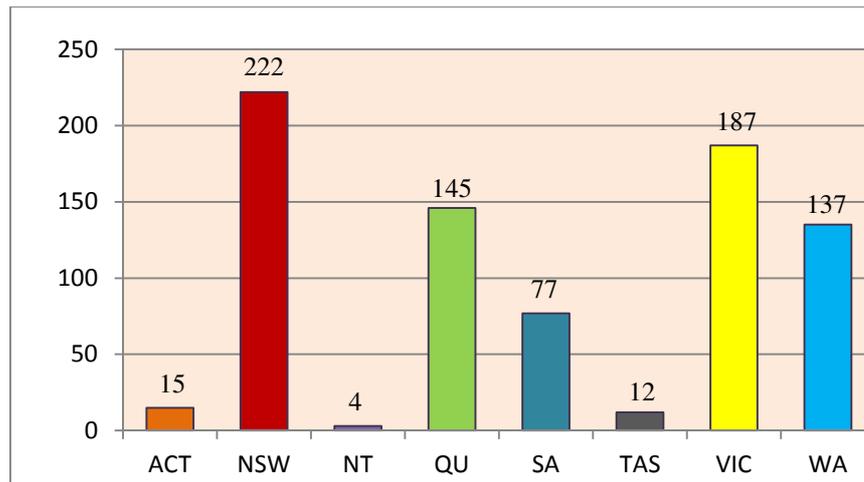


Figure 4.2. Geographical distribution of the sample

4.2. Descriptive analysis

Before running any analysis, the data related to one of the participants who was under 18 years of age was discarded. To increase the understanding of how online social networking may influence workplace and family life, participants were asked to answer seven questions with different purposes. At first, it was important to find out how many participants were working in a company that established its own private online social network, so that participants were asked to answer the following question;

Q1: Does your workplace have a private online social network site that connects you and your colleagues to each other?

In total, 232 out of 797 participants (29.1%) reported they connect up to their colleagues through a private online social network and the remainder did not answer the question or selected “No”. The following question sought to identify how employees were using their companies’ online social networks when they were at home.

Q2: If “Yes” to question one,

Do you use the company online social network site for work related purposes when you are at home?

Only 527 out of 797 (76.6%) participants answered this question and the result showed that 134 employees (25.4%) were using companies’ social networking websites for work related purposes at home. Participants were also asked about their favourite public social website and their accessibility to public social networking websites at the workplace via the following questions:

Q3: Do you have access to public online social networking sites like Facebook in your workplace?

Q4: What is your favourite public social networking site? (e.g. Facebook, Twitter, QQ etc.)

As discussed in the previous chapter, filtering the social networking websites is a popular strategy followed by companies, especially in the U.S to decrease their negative effect on productivity (Webb 2012). In the present study, analysis revealed 493 out of 797 (61.9%) participants accessed online social networking websites at the workplace. Among those who engaged in social networking websites, Facebook was, by far, the most popular social website (n=549), followed by LinkedIn (n=39), Twitter (n=33), Instagram (n=11), Google+ (n=3), Tumblr (n=1), Couchsurfing (n=1), and Tagged (n=1). A few participants reported forums or social applications, which are not technically social networking websites such as YouTube (n=6), WeChat (n=3), Skype (n=4), and Dpreview.com (n=1). In addition, 138 participants declared they were not interested in any social networking websites. Participants also reported their main reasons for not participating in online social networking in response to question five, and a ranking of these responses is presented in Table 4.2

Q5: If you are NOT participating in public online social networking website, what is the main reason?

Table 4.2. Main reasons to avoid online social networking websites

Options		Frequency	Percent	Valid Percent
Valid	I don't have enough time	75	9.4	20.2
	It is not interesting for me	102	12.8	27.4
	I do not want any publicity	31	3.9	8.3
	It is against my religion	2	.3	.5
	I think it is not safe	26	3.3	7.0
	I prefer offline communication (Face-to-face) to online communication	123	15.4	33.1
	I used to use online social networking websites, but I left them because of bad experience	13	1.6	3.5
	Total	372	46.7	100.0
Missing		425	53.3	
Total		797	100.0	

The main reason for not using social networking websites was the preference for offline or face-to-face communication (33.1%), followed by a lack of interest (27.4%), and lack of time (20.2%). The findings also showed 7 percent of those who answered this question (n=372)

thought online social networking websites were not safe and around 2 percent reported they no longer use social networking websites because of bad experiences. The independent t-test between these two groups found no meaningful relationship between gender and the reasons for ignoring online social networking websites. For example, of those who thought social networking websites were not safe (n=26) 46 percent were males and 54 percent were females. However, the findings did suggest there was a meaningful relationship between age and the reasons for avoiding online social networking, as illustrated in Table 4.3.

Table 4.3. Age and why participants avoid online social networking

Options	Age groups						Total
	<25	25-34	35-44	45-54	55-64	65 ≤	
I don't have enough time	5	28	24	9	6	3	75
It is not interesting for me	7	21	24	31	12	7	102
I do not want any publicity	2	5	9	6	8	1	31
It is against my religion	0	0	0	1	1	0	2
I think it is not safe	3	8	7	6	2	0	26
I prefer offline communication (Face-to-face) to online communication	8	16	20	35	33	11	123
I used to use online social networking websites, but I left them because of bad experience	2	6	2	2	1	0	13
Total	27	84	86	90	63	22	372

While lack of time and not being interested were the reasons given by young participants between 25-44 years of age for shunning online social networking, the priority of face to face communication was the major reason why elder participants (+45 years of age) ignored social networking websites. A Spearman test also provided extra evidence for a significant relationship between age and the reasons some participants avoided social networking websites ($p = .000, \alpha = 0.01$). In contrast, another question sought to identify why participants were using online social networking websites. This study drew on six previously identified motivators that encourage individuals to engage in online social networking (Young 2009; Australian Psychological Society 2010), and participants were asked to rate them from one to seven as presented below:

Q6: Please rate from 1= less often to 7=more often, how often do you use social networking services to:

- Find information
- Get an opinion
- Entertain
- Enable me to contact with others

- *Follow what is happening in the lives of others*
- *Share your experience*

The results indicated that the most prevalent motivation for accessing online social website was as a communication technology to contact with others ($\mu= 4.30$). This was closely followed by ‘following what is happening in the other lives ($\mu=4.09$), sharing the experiences with others ($\mu=3.30$) and entertainment ($\mu=3.62$); whereas, getting opinions from others ($\mu=2.69$) and finding information ($\mu=2.96$) were the least motivating reasons for using social network. To identify whether there is a relationship between the purposes of participating in online social networking and gender, a series of independent t-tests was conducted suggesting similar motivations for males and females as displayed in Table 4.4.

Table 4.4. Gender and the reasons why individuals use social networking websites

Options	Mean	
	Female	Male
Finding information	3.04	2.58
Getting an opinion	2.79	2.60
Entertaining	3.90	3.35
Contacting with others	4.56	4.03
Following what is happening in the lives of others	4.44	3.74
Sharing experience	3.57	3.02

Independent t-tests across age groups also showed preferences were slightly different between age groups. Participants who were less than 25 years preferred to use social networking websites for contacting others ($\mu=5.04$) and entertainment($\mu=4.90$), whereas groups over 25 years of age used social networking websites to contact others and find out what is going on with others’ lives (Table 4.5).

Table 4.5. Age groups and the reasons why individuals use social networking websites

Options	Age groups						797
	<25	25-34	35-44	45-54	55-64	65 ≤	
Finding information	3.85	3.75	2.81	2.43	2.03	2.19	
Getting an opinion	3.66	3.37	2.68	2.13	1.90	1.89	
Entertaining	4.90	4.74	3.74	2.79	2.26	1.97	
Contacting with others	5.04	5.23	4.40	3.59	3.38	2.75	
Following what is happening in the lives of others	4.85	4.77	4.38	3.44	3.25	2.75	
Sharing experience	3.99	4.19	3.27	2.60	2.57	2.08	
N	68	226	182	167	118	36	

The last questions in the descriptive section asked participants whether online social networking was generally stressful. Responses were collected using a 7-point Likert scale from 1= strongly disagree to 7=strongly agree. Although 129 of 797 participants (16.16%) agreed that online social networking is a stressful activity, independent t-tests showed that

both males (n=399, $\mu=2.89$) and females (n=398, $\mu=2.98$) generally believed engaging in online social networking was not stressful. Mean comparative tests among the age groups revealed all age groups generally believed online social networking is not stressful as presented in Table 4.6.

Table 4.6. Age distribution and the attitude toward if social networking websites are stressful

Age groups	percentage	N
Less than 25	3.22	68
25-34	2.84	226
35-44	2.80	182
45-54	2.62	167
55-64	3.50	118
65 and over	3.39	36
Total	2.94	797

The second part of web-based survey was composed of twelve scales that formed a survey instrument, and these scales were used to examine the research hypotheses.

4.3. Data screening

Before conducting any analysis or tests, two reverse coded items were transformed (TF4 and OF1). The data was then screened to test normal distribution assumptions via SPSS (22). Both the Shapiro-Wilks test and Kolmogorov-Smirnov test suggested the data had non-normal distribution. The analysis also revealed the skewness and kurtosis trends were within the limits advised by West and colleagues (1995), who suggest skewness > 2 and kurtosis > 7 are problematic. The detrended normal Q-Q plot demonstrated the data had a low deviation from normal distribution (skewness < 2 and kurtosis < 7), so robust analysis of the data was carried out (Coakes et al. 2008). Muthén and Muthén (1998-2012) recommend that maximum likelihood estimation is the most appropriate strategy when Mplus software is used for analysing continuous data that is normally distributed. If the normality assumption is violated and the data is categorical (ordinal and/or nominal), MLSMV estimator is suggested, as MLSMV uses a full weight matrix to provide robust estimation of standard errors, means, variance and adjusted chi-square test of model fit (Muthén & Muthén 1998-2012).

4.3.1. Common method bias

Four different techniques were adopted to investigate or mitigate the possibility of common method bias. Firstly, as mentioned in the previous chapter, data triangulation was adopted to reduce the possibility of common method bias. Data triangulation refers to collecting the same data from different sources (Denzin 2009). If a single factor accounts for the majority of the covariance among the variables, or factor analysis results in a single factor, common method bias is apparent (Podsakoff et al. 2003; Steensma et al. 2005). Thus, an exploratory factor analysis using principal axis factoring with Geomin rotation was conducted on sixty-two items. Geomin rotation was selected because the factor correlation matrix (Table 4.7) showed factor correlation among the matching-domain variables was driven by the data (Muthén & Muthén 1998-2012).

Tabachnick and Fidell (2012) suggested an oblique rotation is more suitable than an orthogonal rotation when the correlation among factor exceeds .32 and above. The factor correlations above .32 declare the variance among factors overlaps around 10 percent or more (Tabachnick & Fidell 2012). Adopting orthogonal rotations in social and behavioural science raises some doubts, as firstly, most constructs seem to relate to the other factors to some extent. Secondly, even if some constructs are not correlated naturally, researcher interventions to force the constructs to be uncorrelated may change the model results. Thirdly, the logic behind using orthogonal rotations is to decrease the sampling errors, so that collecting a large sample can make this logic pointless (Pett et al. 2003, Matsunaga 2010).

Table 4.7. Variables' Correlation Matrix

Factor	WSAT	FI	FWC	WPR	TF	WI	FSAT	FS	OSN	OF	RA	WFC
WSAT	1.000											
FI	.186	1.000										
FWC	-.215	-.272	1.000									
WPR	-.176	-.043	.321	1.000								
TF	.261	-.041	-.047	-.277	1.000							
WI	.418	-.025	.185	.272	.094	1.000						
FSAT	.287	.572	-.309	.008	.021	-.035	1.000					
FS	-.152	-.220	.496	.369	-.131	.134	-.324	1.000				
OSN	-.102	-.162	.370	.197	.114	.294	-.152	.136	1.000			
OF	.442	.152	-.159	-.072	.521	.208	.239	-.229	-.029	1.000		
RA	-.280	-.167	.404	.296	.015	.091	-.101	.297	.225	-.165	1.000	
WFC	-.392	-.045	.458	.573	-.313	.197	-.191	.419	.189	-.229	.286	1.000

WSAT= Work satisfaction, FI= Family involvement, FWC=Family-work conflict, WPR=Work pressure, TF= Temporal flexibility, WI=Work involvement, FSAT=Family satisfaction, FS= Family stress, OSN=Online social networking, OF= Operational flexibility, RA= Role ambiguity, WFC= Work-family conflict.

NB significant correlations are highlighted in bold P<.05

Twelve factors with eigenvalues greater than “1” emerged and these explained 59.95 percent of the variance. The first factor accounted for 17.9 percent of the total variance, so no single factor was dominant. To double-check this finding a one-factor principle component analysis was also performed. If a one-factor principle component analysis reports acceptable fit indices this indicates common method bias influences among the variables (Mossholder et al. 1998). As the one-factor model was a poor fit to the data (RMSEA=0.159, CFI=0.502, TLI=0.485, WRMR=6.997), both results suggest common method variance was not a problem in the present study.

4.4. Factor Analysis (EFA/CFA) - validation of the measurement model

To purify the measurement model and check the fit indices exploratory factor analysis and confirmatory factor analysis were examined.

4.4.1 Exploratory factor analysis:

As online social networking was measured with a self-administrated measure, an exploratory factor analysis was to compare the fit indices of the twelve-factor model with eleven other models as shown in Table 4.8. As displayed in the table above, only models with 11 and 12 factors reported acceptable model fit indices, which means the data reflected at least 11 constructs and the results indicated the twelve-factor model was the best fit and fitted the data very well.

Table 4.8. Exploratory factor analysis

Models	Fit indices						
	Chi-square value*	RMSEA	Probability ≤ .05	RMSEA	CFI	TFL	SRMR
1 Factor	15439.841	0.146	0.000		0.547	0.531	0.185
2 Factors	11544.039	0.126	0.000		0.673	0.650	0.145
3 Factors	8364.384	0.106	0.000		0.776	0.752	0.100
4 Factors	7214.07	0.099	0.000		0.813	0.784	0.083
5 Factors	5892.886	0.089	0.000		0.854	0.826	0.068
6 Factors	5100.994	0.083	0.000		0.879	0.849	0.059
7 Factors	4064.321	0.072	0.000		0.911	0.885	0.049
8 Factors	3476.586	0.066	0.000		0.929	0.904	0.041
9 Factors	2878.401	0.058	0.000		0.947	0.926	0.035
10 Factors	N/A	N/A	N/A		N/A	N/A	N/A
11 Factors	2171.243	0.048	0.884		0.967	0.950	0.027
12 Factors	1870.295	0.042	1.000		0.975	0.961	0.023

*The chi-square value for WLSMV cannot be used for chi-square difference testing in the regular way.

4.4.2. Confirmatory factor analysis

A sub-sample was extruded from the data set to enhance the harmony between research purpose and the analysis. The study’s aim was to find whether online social networking affected work-family balance across domains. Thus, the 379 participants who used social networking websites at the workplace for both family demands and the work-demands, or who used companies’ private social networking websites or public social networking websites for both work and family demands at home were included in the analysis. The data set was split using SPSS (22). The data was examined to test assumptions of normality and this showed the sub-set of the divided data set was slightly non-normally distributed.

Confirmatory factor analysis was conducted to examine whether constructs in the model were independent from each other. Initially all sixty-two items were entered into a measurement model composed of twelve constructs. The recommended levels of the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy should be greater than .5, and Bartlett’s test of sphericity should be significant for the data to be accepted as appropriate for component factor analysis (Tabachnick & Fidell 2012). In the present study, KMO of the unrotated principle components factor analysis was .879 and Bartlett’s test chi-square was significant.

To choose the appropriate estimator for the analysis, data distribution and sample size should be taken into account. Comery and Lee (1992) recommend rating the appropriateness of the

sample size in factor analysis along a scale where 100=poor, 200=fair, 300=good, 500=very good and over 1000= excellent. However, Cattell (1978) advocates the ratio of the sample size to the number of variables (N: p) should be between three and six in factor analysis. For the present study, the N: p ratio was 6.31, which supports the sample size as appropriate for factor analysis. Estimators are categorised into two categories: Bayesian and Frequentist inference (Muthén & Muthén 1998-2012). Bayesian employs Markov chain Monte Carlo (MCMC) algorithms, while Frequentist analysis utilises maximum likelihood or weighted least squares estimators (Muthén & Muthén 1998-2012). The major assumptions of Bayesian and Frequentist analysis differ from each other. Although Frequentist analysis assumes data are repeatable, randomly selected and parameters are fixed and constant during a repeat sampling process, Bayesian analysis supposes data are fixed, gathered from a realised sample, and parameters are explained probabilistically (Lee and Song 2012).

Frequentist analysis with robust estimator (WLSMV) was utilised for confirmatory factor analysis. Initial analysis of the 60 items identified twelve constructs explained 68.31 percent of the total variance, but the fit of the null model was poor ($\chi^2 = 3488.663$, $df = 1586$, $p = .000$). In general, an insignificant threshold result ($p > 0.05$) demonstrates a model fits well (Barrett 2007). The model Chi-square is sensitive to sample size; thereby, the probability of model rejection increases when sample size is large (Hooper et al. 2008). Wheaton et al (1977) introduced a relative Chi-square index to adjust the effect of sample size through dividing the amount of model Chi-square by the number of degrees of freedom (χ^2/df). The acceptable ratio of relative Chi-square ranges from 5:1 to 2:1 (Hooper et al. 2008). The calculation revealed the relative Chi-square for this study is approximately 2.2:1, which meets guidelines for an acceptable benchmark level of model fit as recommended by Kline (2011).

$$\text{Relative Chi-square} = \frac{3488.663}{1586} = 2.19$$

Although the Chi-square statistic is the traditional measure for evaluating overall model fit, Bentler (1995) and Tucker and Lewis (1973) suggest the Comparative Fit Index (CFI) and Tucker Lewis Index (TLI) are the most appropriate fit indices when a model is complicated, the sample is small, and/or the normality assumption is violated. The CFI and TLI compare the fit between a hypothesised model and a baseline model where all variables are uncorrelated. The CFI and TLI range from 0 to 1 and values above 0.9 indicate an acceptable fit, while greater than .95 imply the model fits well (Hu & Bentler 1999). The standardised root mean square residual (SRMR) is another model fit index that is explained as “*the*

standardised difference between the observed correlation and the predicted correlation” (Kenny 2014), where a value less than 0.08 represents a good-fitting model (Kenny 2014). The fit of the measurement model failed to reach the good fit range as the CFI=.937, TLI=.932, but was still acceptable, whereas the SRMR was in the good fit range of 0.068.

The root mean square error of approximation (RMSEA) is another fit index, which is one of the most popular fit indices reported in SEM studies. The RMSEA shows “*how well the model would fit the populations’ covariance matrix*” (Hopper et al. 2008, p.54) and it is sensitive to the number of parameters in the model and favours models with lower numbers of parameters (Hopper et al 2008). The general consensus among researchers is that an upper limit of .07 demonstrates a good fit (Steiger, 2007), but a cut-off value close to .06 is strongly recommended (Hu & Bentler 1999). The reported RMSEA fit within the recommended value for good fit (RMSEA = .056, 90 percent C.I. of RMSEA =0.054 - 0.059). A good fitting model has a lower value of 90 percent confidence interval for the RMSEA, while the lower value should not be greater than 0.05 and the upper value should not be larger than .08 (Kenny 2014).

To improve the model fit, a number of model modifications were repeated as some items loaded across two variables. Two items in the study were found to have significant cross-loadings on other factors. Matsunaga (2010) suggested if the difference between the primary and secondary factor loadings is larger than .4, the item is retained in the analysis. In the case of the current study, one item from the operational flexibility construct (“I can choose what I do at work”) and one item from the work pressure construct (“At my workplace I have too little help or equipment to get the job done”) were removed because the difference between the primary and secondary factor loadings was less than .35. It was unclear why the two items cross-loaded significantly on other secondary factors. One possible reason could be differences in the cultural settings in which the scales were used. For instance, most of the scales used were from US based studies, while the study for this thesis was conducted in Australia. Subsequent to this, the fit indices improved as displayed in Table 4.9.

Table 4.9. Fit indices of confirmatory factor analysis (58 items against 60 items)

Models	Model χ^2		Relative χ^2	CFI	TLI	RMSEA	
	Value	DF				Estimate	Probability RMSEA $\leq .05$
58 Items	Value	3040.721•	2.06	0.948	0.943	Estimate	0.053
	DF	1473				Probability RMSEA $\leq .05$	0.033
		Model χ^2	Relative χ^2	CFI	TLI	RMSEA	
60 items	Value	3488.663	2.19	.937	.932	Estimate	.056
	DF	1586				Probability RMSEA $\leq .05$	0.000

In addition, the modification indices revealed the model included some correlated factors. Ignoring the correlation among factors is inconsistent with real data (Bentler & Chou 1987; Byrne, 2012) and furthermore, correlation among factors is an assumption of reflective scales. Thus, the residuals covariance was added to the model. Once the covariance residuals were added to the model the fit indices adjusted for the addition of more complexity, while they remained within a good fit range.

Table 4.10. Fit indices of re-specification measurement model (58 items)

Model χ^2		Relative χ^2	CFI	TLI	SRMR	RMSEA	
Value	DF					Estimate	Probability RMSEA $\leq .05$
Value	2673.792•	1.85	0.957	0.955	0.06	Estimate	0.048
DF	1444					Probability RMSEA $\leq .05$	0.923

The 58 remaining factors loaded on twelve constructs as presented in Table 4.11.

Table 4.11. Standardised factor loadings and mean

Latent constructs	Factors	Mean	Factor loadings	Standard deviation	P-value
Temporal flexibility	TF1	4.39	0.741	0.033	0.000
	TF2	4.44	0.793	0.032	0.000
	TF3	4.56	0.665	0.035	0.000
	TF4	4.80	0.900	0.055	0.000
	TF5	3.65	0.779	0.035	0.000
Operational flexibility	OF1	4.01	0.586	0.041	0.000
	OF3	4.93	0.773	0.031	0.000
	OF4	5.37	0.798	0.027	0.000
	OF5	5.10	0.808	0.026	0.000
Role ambiguity	RA1	2.71	0.684	0.036	0.000
	RA2	2.72	0.847	0.046	0.000
	RA3	2.31	0.946	0.040	0.000

Work Pressure	WPR1	4.24	0.799	0.023	0.000
	WPR2	3.82	0.822	0.026	0.000
	WPR3	4.65	0.434	0.049	0.000
	WPR4	4.05	0.503	0.042	0.000
	WPR6	3.92	0.655	0.039	0.000
	WPR7	3.80	0.712	0.035	0.000
	Work Involvement	WI1	3.81	0.689	0.033	0.000
WI2		4.69	0.808	0.023	0.000
WI3		3.72	0.787	0.024	0.000
WI4		4.33	0.820	0.023	0.000
WI5		4.90	0.699	0.033	0.000
Family involvement	FI1	5.67	0.824	0.022	0.000
	FI2	6.05	0.914	0.018	0.000
	FI3	6.05	0.928	0.017	0.000
	FI4	6.01	0.911	0.014	0.000
	FI5	5.58	0.837	0.020	0.000
	FI6	5.15	0.662	0.037	0.000
Family stress	FS1	4.01	0.672	0.029	0.000
	FS2	3.89	0.830	0.021	0.000
	FS3	3.09	0.888	0.018	0.000
	FS4	3.26	0.860	0.021	0.000
Family-to-work conflict	FWC1	2.22	0.888	0.013	0.000
	FWC2	2.98	0.939	0.008	0.000
	FWC3	3.02	0.919	0.009	0.000
	FWC4	3.05	0.925	0.009	0.000
	FWC5	3.12	0.776	0.020	0.000
Work-to-family conflict	WFC1	3.68	0.796	0.030	0.000
	WFC2	3.94	0.850	0.020	0.000
	WFC3	3.95	0.887	0.022	0.000
	WFC4	4.21	0.784	0.024	0.000
Work satisfaction	WSAT1	4.80	0.873	0.017	0.000
	WSAT2	4.69	0.841	0.018	0.000
	WSAT3	4.45	0.705	0.026	0.000
	WSAT4	3.84	0.700	0.029	0.000
	WSAT5	4.75	0.889	0.016	0.000
	WSAT6	4.78	0.907	0.013	0.000
Family satisfaction	FSAT1	5.23	0.891	0.022	0.000
	FSAT2	4.99	0.748	0.025	0.000
	FSAT3	4.89	0.522	0.033	0.000
	FSAT4	5.46	0.938	0.010	0.000
	FSAT5	5.33	0.951	0.013	0.000

Online social networking	OSN3	2.24	0.607	0.048	0.000
	OSN8	2.45	0.686	0.046	0.000
	OSN15	2.28	0.788	0.048	0.000
	OSN16	2.44	0.711	0.044	0.000
	OSN17	2.14	0.833	0.045	0.000

As Table 4.11 shows, all fifty-eight items had a factor loading greater than .4 and all were statistically significant. A cut-off of .4 is recommended as the lowest acceptable threshold for factor analysis. This means all items could be retained in the model and used for structural modelling (Matsunaga 2010).

4.5. Hypotheses Testing

Structural equation modelling was used to test the research hypotheses. Two structural models were extracted from the conceptual framework (Figure 2.6) for two main reasons: firstly, this study seeks to investigate the effects of online social networking along with other independent variables across both family domain and work domain. Secondly, it was important to examine whether the effects of online social networking on work-family balance is transferrable from one domain to the other domain.

4.5.1. Family domain model

Before testing the hypothesised model, the items related to the family domain-variables were entered into a confirmatory factor analysis to examine whether the data fit the measurement model. The fit indices and factor loadings revealed the measurement model fitted very well as illustrated in Figure 4.3 and Table 4.12.

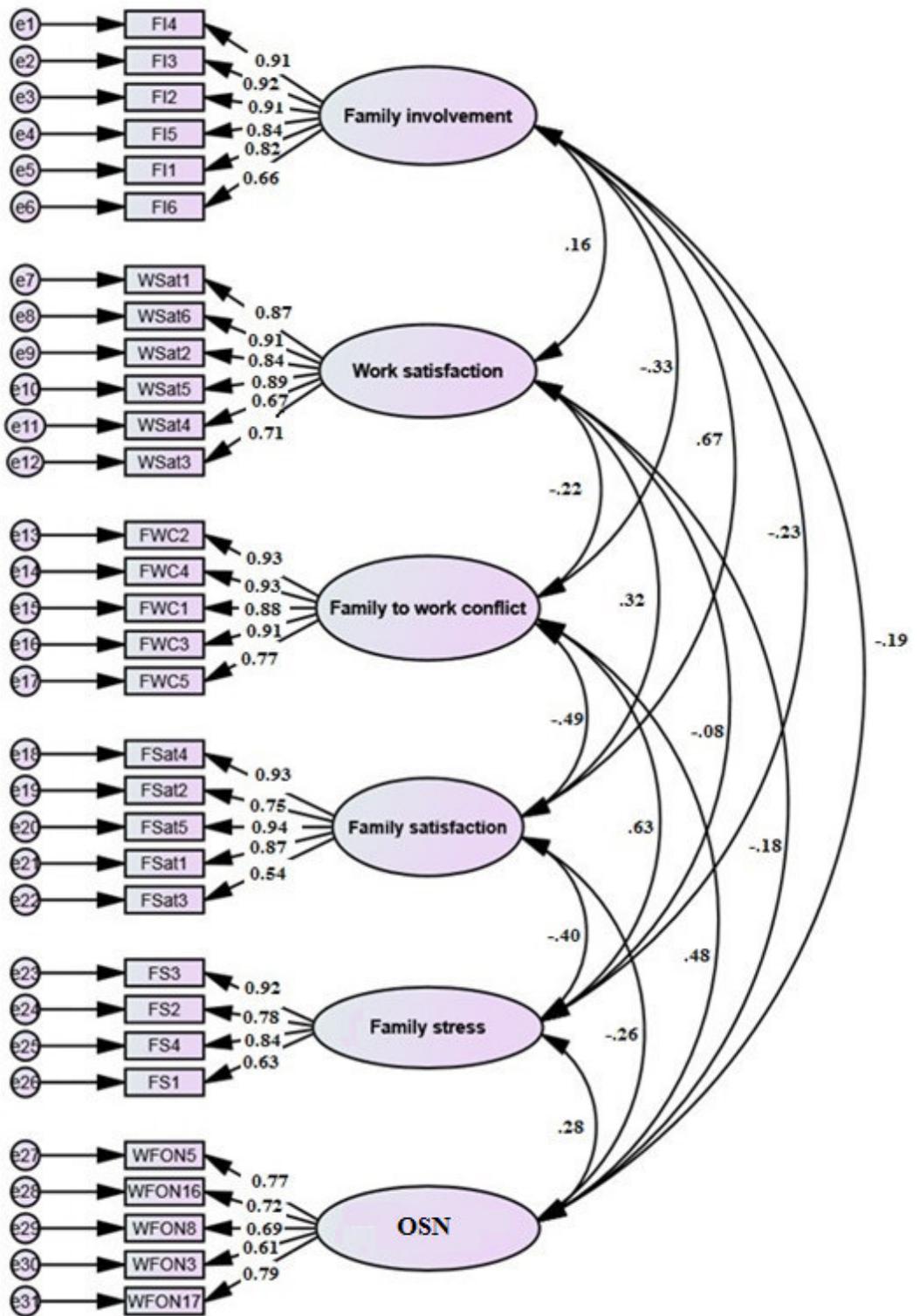


Figure 4.3. Family-domain standardised Measurement model

Table 4.12. The Fit indices of Measurement model – Family Domain

Model χ^2		Relative χ^2	CFI	TLI	SRMR	RMSEA	
Value	693.308•	1.73	0.988	0.986	0.045	Estimate	0.044
DF	401					Probability $\leq .05$	0.969

The measurement model fitted well; nonetheless, the factor loadings of the measurement model are not sufficient criteria to decide whether the constructs are appropriately established. If discriminant validity is not investigated, measures may provide incorrect findings regarding correlations among constructs (Farrell & Rudd 2009).

Discriminant validity is the degree to which unrelated items that are supposed to be unrelated can be identified within a factor-loading matrix (John & Benet-Martínez 2000). Conversely, convergent validity assesses the items that are theoretically designed to be captured within a construct. Discriminant validity and convergent validity are parts of construct validity and it is important to examine both (Farrell 2010). The discriminant validity is supported when the average variance extracted (AVE) of each construct is greater than its shared variance with any other construct in the model (Farrell & Rudd 2009) as is explained below.

The AVE estimate of a construct is the average amount of variance in the items that are explained by a construct. If the AVE estimate is greater than 0.5 the convergent validity is supported (Fornell & Larcker 1981). Alternatively, the shared variance is the amount of variance shared with other variables in the model (Farrell & Rudd 2009). The logic behind shared variance is that the independent variables in a model are correlated, so that some of predictive power transfers from the independent variables to dependent variables (Hair et al., 2006). Shared variance is estimated through the square root of the correlation between variables (Farrell and Rudd 2009). To investigate whether the constructs extracted from the measurement model were valid, convergent validity (AVE estimate) was computed through SEM-Stats (1.3) as recommend by Kurchia (2010). Table (4.12) displays results showing all constructs reported AVE estimates greater than .5, so convergent validity for all constructs in the family-domain model were accepted.

To compute the discriminant validity, the shared variance of each construct with other constructs in the model was estimated and compared with its AVE estimate. As shown in Table 4.12, the AVE estimates of all constructs were greater than their shared variance with the other constructs; thus, confirming discriminant validity of all constructs Aligned with the

construct validity, construct reliability (CR) was examined. Although Cronbach's alpha is the most popular estimate to examine internal consistency, testing construct reliability is highly recommended within structural modelling research (Bentler 2009, Schweizer 2011). This is because the Cronbach's alpha assumes all factor loadings and error variances are equal and might devalue the reliability of constructs (Hair et al. 2006). Jöreskog's rho was calculated by SEM-Stats (1.3) to examine the construct reliability. The minimum acceptable Jöreskog's rho value is .7 (McDonald 1999).

Table 4.13. Construct validity and reliability- Family Domain

Construct	AVE	Shared variance						CR (Jöreskog's rho)
		FI	FS	OSN	FWC	FSAT	WSAT	
FI	0.719	-	0.02	0.02	0.05	.20	0.02	0.938
FS	0.639	0.02	-	0.03	0.19	0.05	0.00	0.874
OSN	0.517	0.02	0.03	-	0.11	0.02	0.02	0.841
FWC	0.785	0.05	0.19	0.11	-	0.08	0.02	0.948
WSAT	0.673	0.02	0.00	0.02	0.02	0.03	-	0.924
FSAT	0.672	0.02	0.05	0.02	0.08	-	0.03	0.908

OSN=Online social networking, FWC=Family-to-work conflict, FSAT=Family satisfaction, WSAT= Work satisfaction, FI=Family involvement, FS= Family Satisfaction

The findings supported construct validity and reliability (Table 4.12) for the measurement model, so next, the structural model was developed to demonstrate the effect of online social networking on work-family balance through family-to-work conflict at family domain level, as displayed in Figure 4.4.

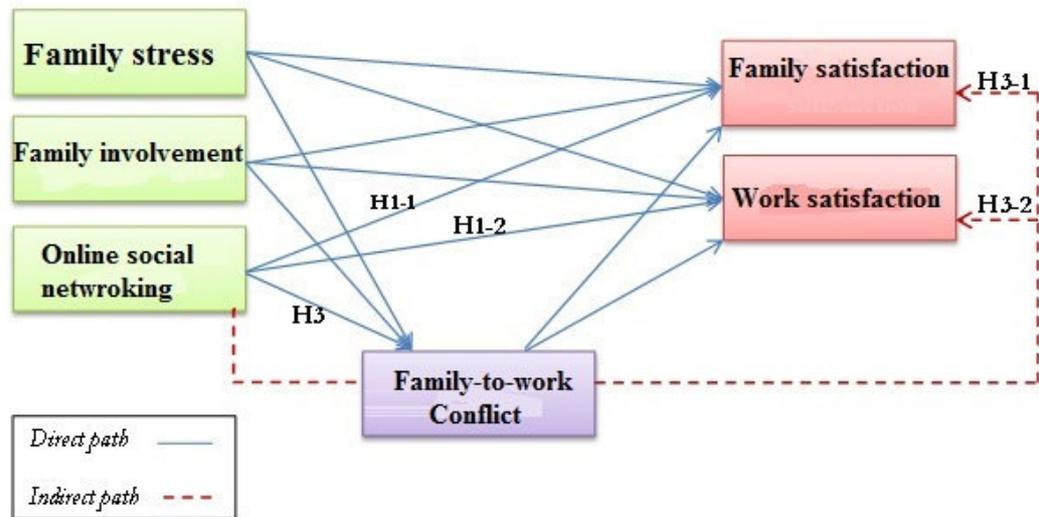


Figure 4.4. Family domain structural model

The Mplus (7.2) program was used to model the data and investigate hypotheses (H1-1), (H1-2), (H3), (H3-1), and (H3-2), and the correlations between online social networking with family stress and family involvement, as illustrated in Figure (4.5). The results did not offer any significant evidence to support hypotheses (1-1) and (1-2), as no significant direct relationship was found between online social networking and both work satisfaction and family satisfaction at the family domain.

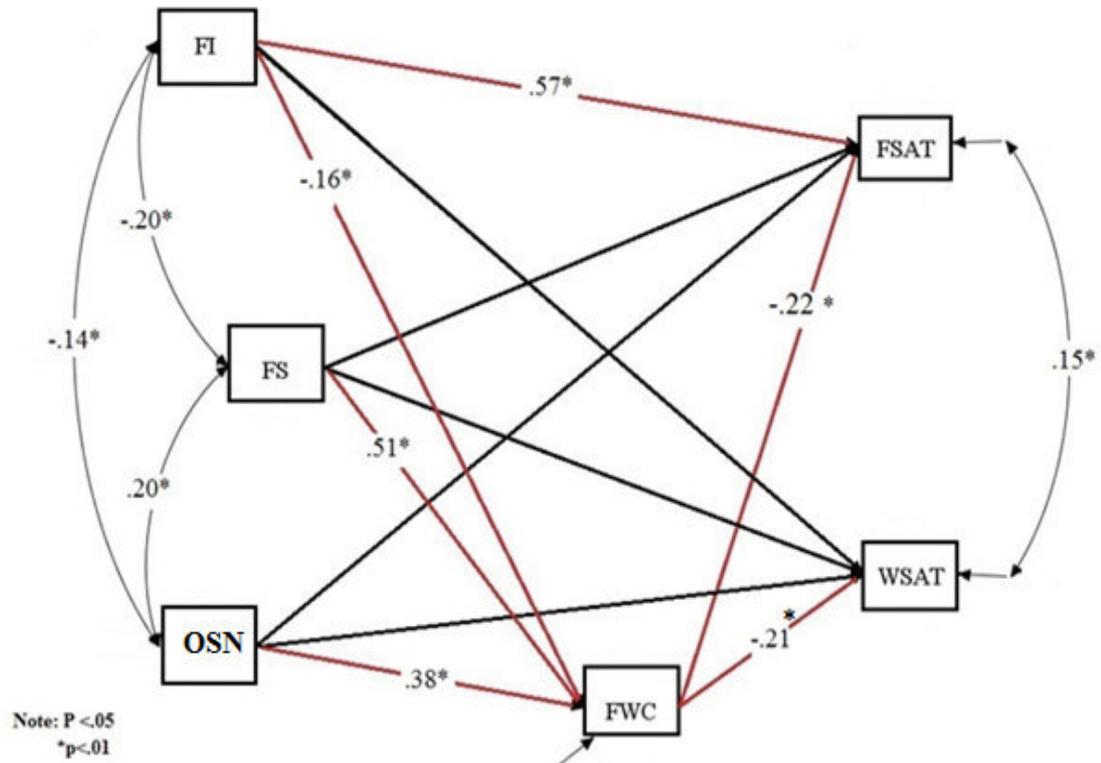


Figure 4.5. Structural equation diagram of hypothesised family model

The structural model was found to be a good fit (RSMEA: .044, Probability RMSEA \leq .05=0.964, CFI: .988, TLI: .986, WRMR: .876).

Table 4.14. Descriptive data of constructs-Family domain

Constructs	Mean	Variance	Residual variance	Standard error
Family involvement	5.75	0.856	-	0.035
Family stress	3.56	0.851	-	0.043
Online social networking	2.31	0.630	-	0.076
Family-to-work conflict	3.03	-	0.421	0.046
Family satisfaction	5.18	-	0.418	0.049
Work satisfaction	4.44	-	0.787	0.041

Investigation of hypothesis (3) identified that online social networking was significantly and positively related to family-to-work conflict ($p = 0.000, r = .38$); hence, **H3** was supported, suggesting that the more an individual participates in online social networking, the more

conflict they experience within the family domain. Family-to-work conflict negatively affected both work satisfaction ($p = .02, r = -.21$) and family satisfaction ($p = 0.00, r = -.22$). Since online social networking had a significant positive relationship with family-to-work conflict, it was expected that online social networking indirectly affected work-family balance. A bias-corrected (BC) bootstrap confidence interval method was adopted to investigate the mediating effects of family-to-work conflict, as this method is highly recommended in SEM literature (MacKinnon et al., 2004; Lau and Cheung 2010). Bootstrapping (Bootstrap=1000) was also used to reduce the effect of errors on the results (Lau & Cheung, 2010), presented in Table 4.15 and discussed below. .

As shown in Table 4.15, the specific indirect effects from online social networking to family satisfaction via family-to-work conflict with a 99 percent BC confidence, are significantly different from zero (Lower .5% = -0.208 , upper .5% = -0.018). Therefore, hypothesis (3-2) was supported, which means family-to-work conflict mediated the negative relationship between online social networking and family satisfaction. To investigate whether the effects of online social networking might transfer from the family domain to the work domain, the specific indirect effects from online social networking to work satisfaction via family-to-work conflict were also investigated.

Table 4.15. Specific indirect effects of OSN via family-to-work conflict

Mediating path	Lower .5%	Lower 2.5%	Lower 5%	Estimate	Upper 5%	Upper 2.5%	Upper .5%
H3-1) From OSN to FSAT via FWC	-0.208	-0.171	-0.150	-0.082	-0.031	-0.025	-0.018
H3-2) From OSN to WSAT via FWC	-0.223	-0.171	-0.159	-0.079	-0.028	-0.020	-0.008

As Table 4.15 presents, the results suggest family-to-work conflict mediates the relationship between online social networking and work satisfaction with a 99 percent BC confidence (Lower .5% = -0.223 , upper .5% = -0.008), a result that was expected. Therefore, **H3-1** is statistically supported. Table 4.16 presents the indirect effects of the other family-domain variables to work satisfaction and family satisfaction through family-to-work conflict. The indirect effects from family involvement to family satisfaction and work satisfaction were insignificant, while family-to-work conflict mediated the negative relation between family stress and family satisfaction and negative relation between family stress and work satisfaction.

Table 4.16. The indirect effect of family-domain variables via family-to-work conflict

Specific indirect effect	Estimate	Standard Error	P-value
From FI to FSAT	0.03	0.01	0.11
From FS to FSAT	-0.11	0.04	0.005
From FI to WSAT	0.03	0.02	0.13
From FS to WSAT	-0.11	0.05	0.02

4.5.2. Work domain model

To investigate the hypotheses related to the effect of online social networking within the workplace, items related to the work domain-variables (22 items), work satisfaction (6 items), family satisfaction (5 items), and online social networking (5 items) were entered into a confirmatory factor analysis, using the WLSMV estimator to examine whether the work model data was suitable to perform structural equation analysis. The fit indices revealed the measurement model fitted very well as presented in Table 4.17.

Table 4.17. The Fit indices of Measurement model – Work Domain (38 items)

Model χ^2		Relative χ^2	CFI	TLI	SRMR	RMSEA	
Value	1663.403•	2.1	0.956	0.952	0.06	Estimate	0.054
DF	789					Probability $\leq .05$	0.033

Although the work-domain measurement model fitted well, the construct validity and reliability were also assessed to explore whether the work-domain measurement model was suitable for structural modelling. The AVE estimates showed that all constructs had acceptable convergent validity, except for work pressure as is shown in the execution of the formula below.

$$AVE_{work\ pressure} = \frac{(.522)^2 + (.78)^2 + (.78)^2 + (.851)^2 + (.521)^2 + (.701)^2}{6} = .496 < .5$$

Based on these findings, the item that had the lowest factor loading (“At my workplace I feel that I have a lot of responsibility for the work of others”) was removed from the construct to improve convergent validity and obtain an acceptable construct validity. Next, the convergent validity, discriminant validity, and construct reliability were estimated and the results are displayed in Table 4.18. Findings identified that both construct validity and reliability were suitable for further testing.

Table 4.18. Construct validity and reliability- Work Domain

Construct	AVE	Shared variance									CR (Jöreskog's rho)
		TF	OF	RA	WPR	WI	OSN	WFC	WSAT	FSAT	
TF	0.552	-	.40	.02	.07	.02	.00	.13	.11	.01	0.859
OF	0.557	.40	-	.15	.00	.09	.00	.07	.20	.07	0.832
RA	0.630	.02	.15	-	.12	.00	.06	.18	.21	.07	0.834
WPR	0.544	.07	.00	.12	-	.08	.08	.38	.04	.00	0.854
WI	0.518	.02	.09	.00	.08	-	.1	.03	.28	.00	0.841
OSN	0.519	.00	.00	.06	.08	.1	-		.03	.08	0.842
WFC	0.714	.13	.07	.18	.38	.03	.09	-	.21	.07	0.909
WSAT	0.688	.11	.20	.21	.04	.28	.03	.21	-	.12	0.929
FSAT	0.587	.01	.07	.07	.00	.00	.08	.07	.12	-	0.870

Confirmatory factor analysis was repeated to check the fit indices of the measurement model. The results suggested the fit indices of the measurement model with 37 items were very good, and these are presented in Table 4.19.

Table 4.19. The Fit indices of Measurement model – Work Domain (37 items)

Model χ^2		Relative χ^2	CFI	TLI	SRMR	RMSEA	
Value	1588.798•	2.1	0.960	0.954	0.06	Estimate	0.054
DF	748					Probability $\leq .05$	0.025

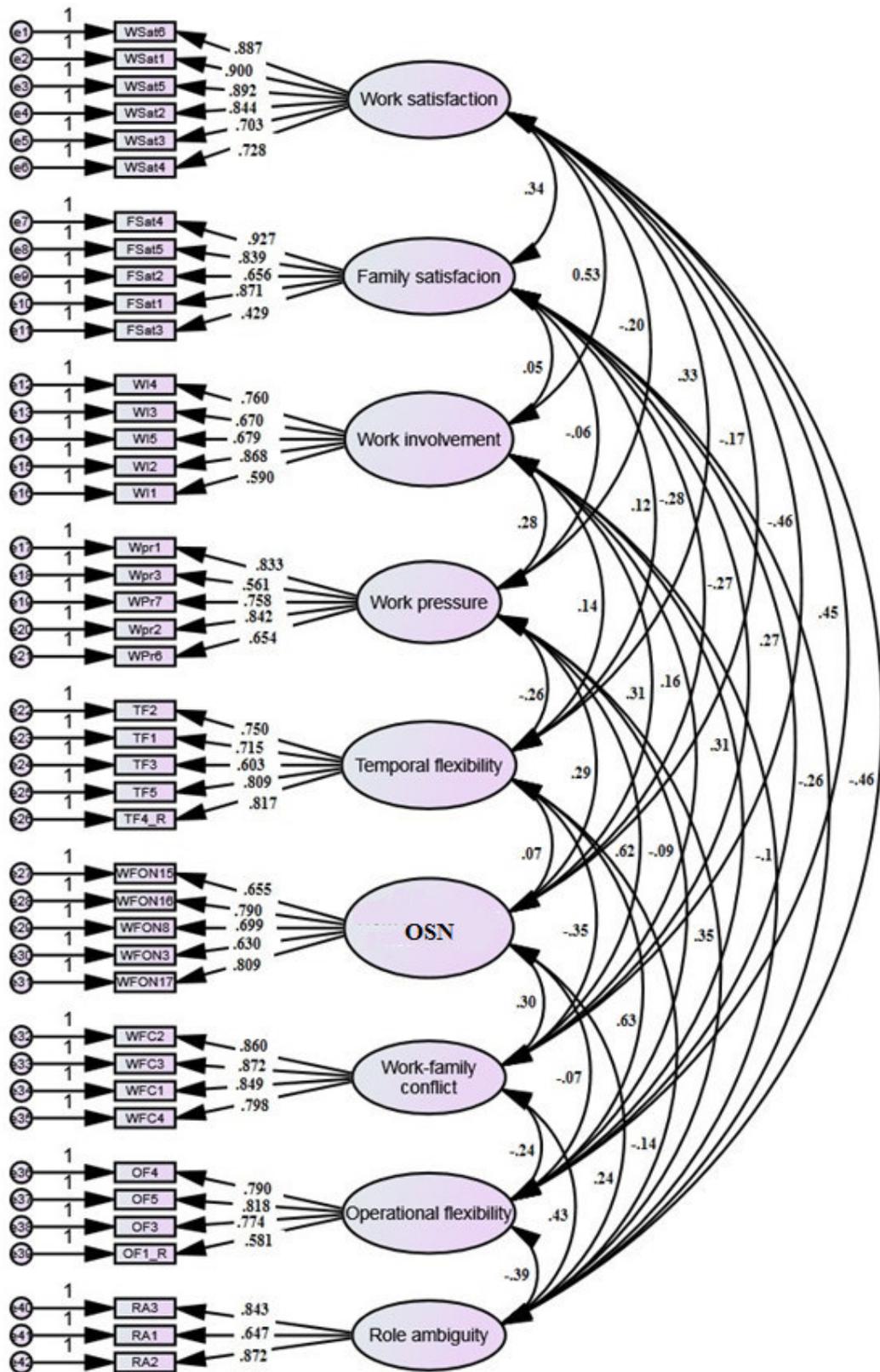


Figure 4.6. Work domain standardised Measurement model (37 items)

As all constructs showed acceptable reliability and validity, and all items loaded into an acceptable range, the structural model of the work domain was examined to verify different hypotheses (H1-3), (H1-4), (H2), (H2-1) and (H2-1) as illustrated in Figure 4.7.

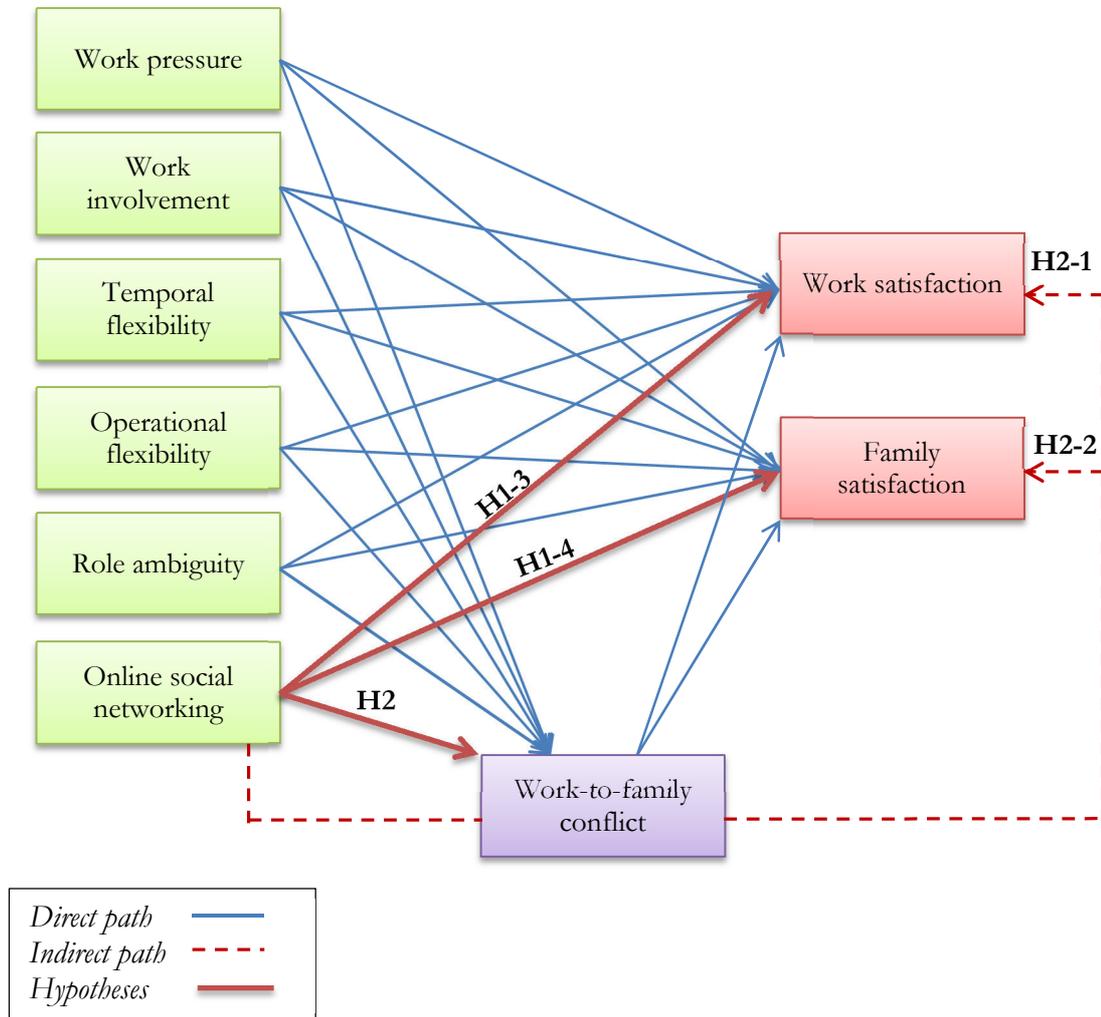
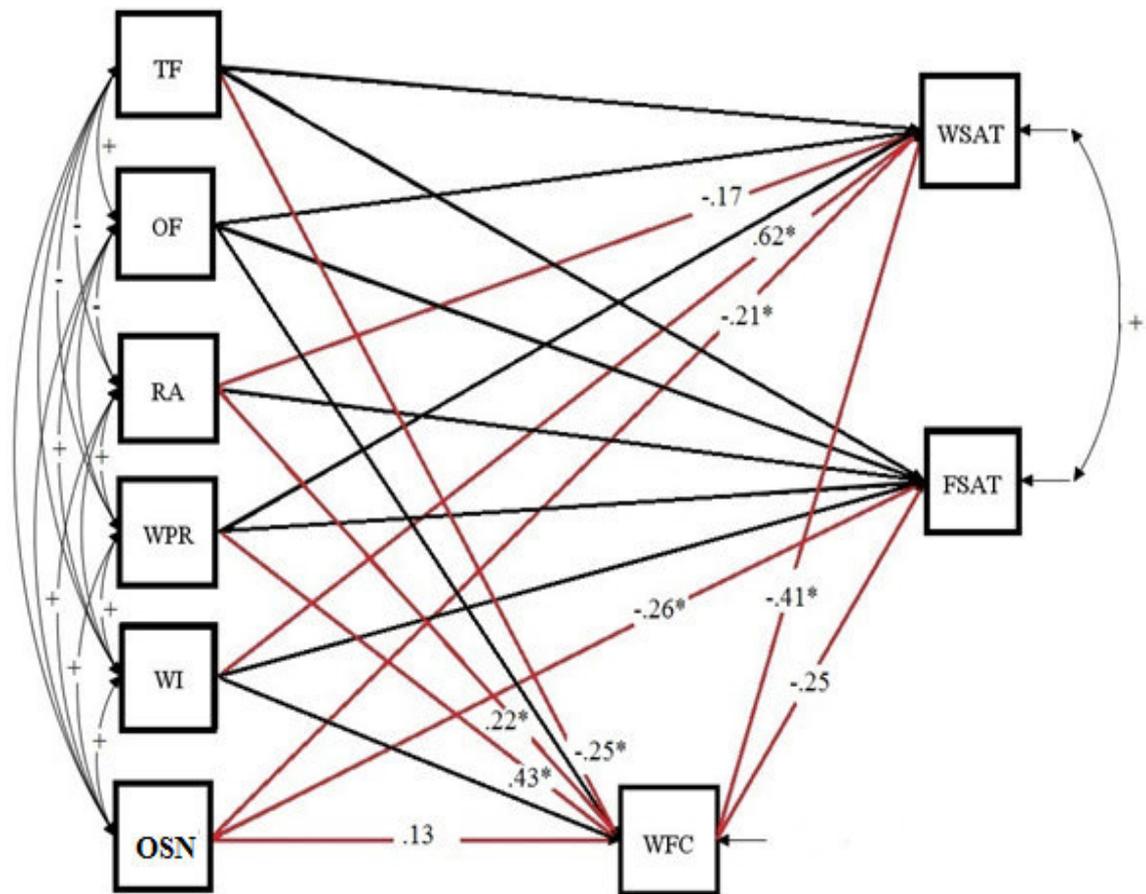


Figure 4.7. Work domain structural model

The data was coded in accordance to the structural model, and both the direct and indirect effects of online social networking on work-family balance through work-to-family conflict were investigated. At first, the model was run without bootstrapping to obtain the fit indices. The fit indices showed the structural model fitted well to the data set (CFI=.959, TLI=0.953, RMSEA=0.055, WRMR=1). Next, the model was bootstrapped to examine relations purported in the hypotheses. As demonstrated in Figure 4.8, the findings indicated a significant positive relationship between online social networking and work-to-family conflict ($p = 0.05, r = .15$), so that H2 was supported. This means higher participation in social networking

websites at the workplace leads to higher levels of conflict between the work and family domains. Further, online social networking directly and significantly related to both work satisfaction ($p = 0.000, r = -.21$) and family satisfaction ($p = 0.000, r = -.26$). These findings support **H1-3** and **H 1-4**.



Note: $P < .05$
* $p < .01$

Statistically significant ——— (red line)
Statistically insignificant ——— (black line)

Abbreviation: TF=Time Flexibility, OF=Operational Flexibility, RA=Role Ambiguity, WPR=Work Pressure, WI= Work Involvement, OSN= Online Social Networking, WFC=WORK-to-Family Conflict, FSAT= work satisfaction, FSAT= Family satisfaction

Figure 4.8. Hypothesised Structural paths- Work Domain

The descriptive statistics of the construct presented in Table 4.20 below.

Table 4.20. Descriptive data of constructs- Work Domain

Constructs	Mean	Variance	Residual variance	Standard error
Work involvement	4.29	0.680	-	0.055
Work pressure	4.01	0.753	-	0.057
Role ambiguity	2.58	0.762	-	0.064
Operational flexibility	4.42	0.671	-	0.051
Temporal flexibility	4.37	0.671	-	0.121
Online social networking	2.31	0.653	-	0.074
Work-to-family conflict	3.95	-	0.392	0.048
Family satisfaction	5.18	-	0.698	0.055
Work satisfaction	4.44	-	0.302	0.037

Although the results clearly suggested that online social networking at the workplace had negative impacts on work-family balance, the indirect effect of online social networking through work-to-family conflict was also investigated. Both bias-corrected bootstrap confidence interval and bootstrapping (bootstrap=1000) were used to reduce the effect of errors in the results (Lau and Cheung, 2010).

As presented in Table 4.21, the analysis showed the specific indirect effect from online social networking to work satisfaction, via work-to-family conflict, was different from zero with a 95 percent BC confidence (Lower 2.5% = -0.184, upper 2.5% = -0.008). Therefore, there was sufficient evidence to support hypothesis **H2-1**. Nonetheless, this was a partial mediating effect, as the direct effect between online social networking and work satisfaction was also significant. Similarly, the findings supported hypothesis **H2-2**, as work-to-family conflict partially mediated the relationship between online social networking and family satisfaction with a 95 percent BC (Lower 2.5% = -0.136, upper 2.5% = -0.001)

Table 4.21. Specific indirect paths via work-to-family conflict

Mediating path	Lower .5%	Lower 2.5%	Lower 5%	Estimate	Upper 5%	Upper 2.5%	Upper .5%
H2-1) From OSN to WSAT via WFC	-0.183	-0.122	-0.102	-0.054	-0.017	-0.005	0.008
H2-2) From OSN to FSAT via WFC	-0.136	-0.097	-0.093	-0.034	-0.011	-0.005	0.001

The indirect effects of the other work-domain variables on work satisfaction and family satisfaction were also analysed as displayed in Table 4.22.

Table 4.22. The indirect effects from work-domain variables via work-to-family conflict

Specific indirect effect	Estimate	Standard Error	P-value
From TF to WSAT	0.10	0.04	0.01
From OF to WSAT	-0.01	0.03	0.68
From WI to WSAT	-0.02	0.02	0.46
From WPR to WSAT	-0.18	0.05	0.00
From RA to WSAT	0.09	0.04	0.01
From TF to FSAT	0.06	0.03	0.06
From OF to FSAT	0.00	0.02	0.70
From WI to FSAT	-0.01	0.01	0.40
From WPR to FSAT	-0.11	0.05	0.02
From RA to FSAT	-0.05	0.03	0.06

As Table 4.22 shows work-to-family conflict mediated the negative relationships between temporal flexibility, work pressure, and role ambiguity with work satisfaction.

4.6. Conclusion

This chapter presented the data analysis for the quantitative components of the study, including the descriptive analysis, confirmatory factor analysis, and structural equation modelling. In total, three of the 60 items were removed from the dataset to obtain appropriate validity and reliability for performing the structural equation modelling. Two of the removed items were from the work pressure measure and one item was removed from operational flexibility. The data was tested through two models, the family-domain model and the work-domain model, to investigate whether online social networking in one domain influenced satisfaction in the other domain. The findings suggested online social networking has significant direct influences on both work-to-family conflict and family-to-work conflict. This confirmed the more participation in social networking websites, the greater the conflict that arises between work and family domains. The mediating analysis also demonstrated that work related online social networking at home has the potential to decrease both family satisfaction and work satisfaction through its positive effect on family-to-work conflict. Whereas, using social networking websites for family purposes at the workplace directly reduces both work satisfaction and family satisfaction.

Furthermore, the results suggested online social networking for work related purposes at home has a positive correlation with family stress and a negative correlation with family involvement. From a practical point of view, it means teleworking from home may reinforce negative issues such as stress at home. In contrast, online social networking at the workplace is more complex as it has a positive correlation with work involvement, work pressure, and role ambiguity simultaneously. Although structural modelling was applied to examine the

hypotheses, the effect of demographic features of participants was not involved in the modelling analysis, as the dataset was not large enough to test demographic classifications. To address this limitation, Fuzzy-set qualitative comparative analysis (Fs/QCA) was utilised to examine various combinations of demographic features of participants that may affect work-family balance, and this analysis is explained in the next chapter.

Chapter 5
Data analysis (part two)
Fuzzy-set Qualitative Comparative Analysis
(Fs/QCA)

5. Chapter Overview

This chapter explores whether the demographic features of participants, alongside the level of their participation in online social networking, affected work-family balance in the present study. The demographic data of the social website users was analysed through fuzzy-set qualitative comparative analysis (Fs/QCA). The chapter begins with a brief review of Qualitative Comparative Analysis (QCA) and Fs/QCA, which is followed by the description of the analysis process; finally, the results are reported.

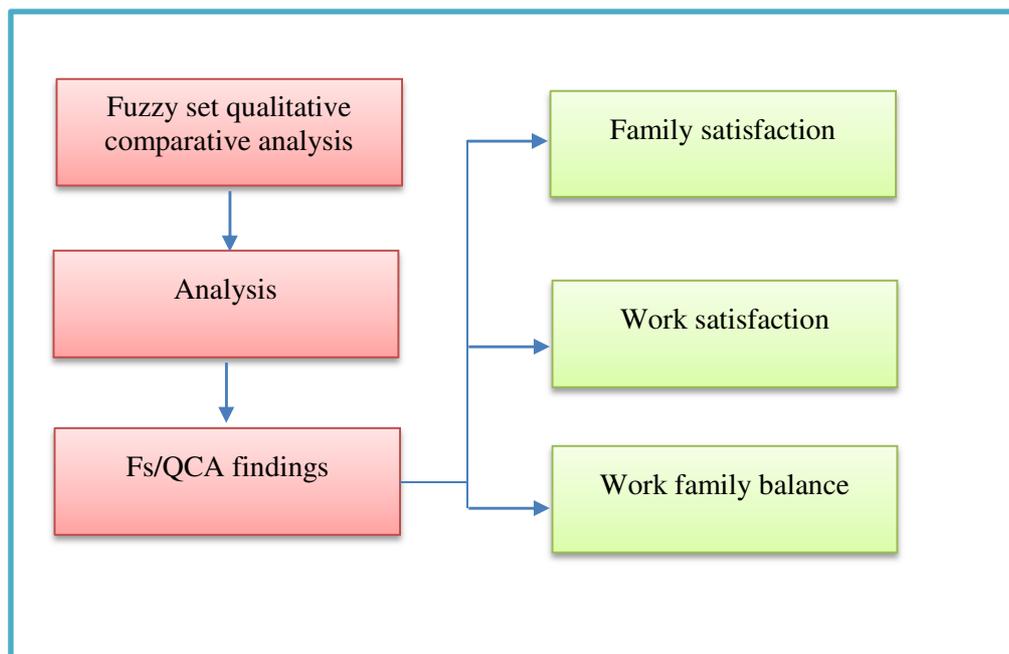


Figure 5.1. Chapter framework

5.1. Fuzzy-set Qualitative Comparative Analysis (Fs/QCA)

Fuzzy-set qualitative comparative analysis (Fs/QCA) is a configurational technique. Configurational techniques espouse configuration theory and the core idea is that there are unlimited numbers of possible configurations among interdependent relevant elements, but a few of these are practical in reality (Fiss et al. 2013). Configurational methods rely on the

equifinality concept. Equifinality refers to the possibility that several different combinations of initial conditions may reach the same outcome (Katz and Kahn 1978). Recently, organisational researchers have increasingly adopted equifinality approaches because an equifinality mindset provides a variety of design choices that are compatible with management studies and organisation theories (Fiss 2011). Based on the configurational approach for analysing a phenomenon, it is necessary to break down the phenomenon into its elements and investigate how the elements work or fit, and how they are connected together to shape the underlying phenomenon (Fiss et al. 2013). Therefore, configurational thinking utilises a two-step process (Fiss et al. 2013) as described below.

Fuzzy-set qualitative comparative analysis (Fs/QCA) emerged from qualitative comparative analysis (QCA) (Ragin 2005). Qualitative comparative analysis (QCA) lies between case-based (qualitative) methods and variable-based (quantitative) methods (Fiss et al. 2013). QCA was initially launched to analyse configurations of crisp set memberships (Ragin 2005), where in a crisp set of variables, each variable could gain two possible scores, as to whether it is, or is not a member in the set: 1 refers to membership in the set or 0 signifies non-membership in the set (Ragin 2005). For example, participation in online social networking is equal to 1 and nonparticipation in online social networking is equal to 0. Consequently, the QCA technique simply quantifies phenomena that are qualitative in nature. In addition, QCA examines and interprets theoretic relationships among causal conditions and a clearly defined outcome in terms of necessity and/or sufficiency of conditions (Wagemann and Schneider 2010b).

A sufficient condition refers to a sub-set of an outcome and the condition is always present when the outcome is present. A necessary condition is a super-set of the outcome, which means the outcome exists only if the condition is present (Ragin 2000). The case-effect relationship shifts from causal symmetry to asymmetric causality if a condition is defined and understood as a necessary or sufficient condition (Fiss 2011). Asymmetric causality assumes the set of causal conditions leading to an outcome may be different from the set of conditions that lead to the absence of the outcome (Fiss 2011). Asymmetrical relations seem compatible with reality, because more than one combination of conditions usually results in high values in an outcome (Woodside 2013).

Symmetric relationships suggest high values of an independent variable are both necessary and sufficient for high values of a dependent variable (Eng and Woodside 2012). Similarly, the low values of the independent variable lead to the low values of the dependent variable (Woodside 2013). In contrast, asymmetric relationships imply high values of an independent

variable is sufficient for high values of a dependent variable to occur, but it is not necessary (Woodside 2013). In other words, high values of the dependent variable might occur when the value of an independent variable is low if another independent variable enters into the equation (Woodside 2013). A high correlation above .8 is the sign of a symmetric relationship between two variables, while significant correlations ranging from .3 to .7 show an asymmetric relationship (Woodside 2013). As the correlation between two single variables is usually lower than .7 in social sciences, asymmetric relations are more appropriate when compared with symmetric relations (Woodside 2013).

Although qualitative comparative analysis is a binary analytical technique, Fs/QCA allows membership in the model to be defined as the interval between 0 and 1; thus, partial membership is also possible (Cooper & Glaesser 2011). Fuzzy sets expand the scope of crisp sets through permitting variables to take scores between 0 and 1 (Ragin 2005). Fs/QCA allows researchers to figure out which configurations of causal factors play an active role in the outcome (Mendel & Korjani 2013). Fs/QCA is a methodology associated with cases (Mendel & Korjani 2013). Fs/QCA proposes some important advantages. First, Fs/QCA addresses the limitation of large sample size, as Fs/QCA does not assume linear causality (Cárdenas 2012). Second, Fs/QCA simplifies the phenomena as it applies fuzzy logic and calibrates the variables from 0 to 1. Once the scales from 0 to 1 are created, researchers can investigate the effect of existing or non-existing phenomena, as scores close to 1 represent the existence of a causal condition and scores close to 0 shows the absence of a causal condition (Cárdenas 2012). Third, another advantage of Fs/QCA is that it allows researchers to investigate the interaction between several combinations of causal conditions (Cárdenas 2012). Finally, Fs/QCA explores how multiple paths lead to the same desired outcome (Cárdenas 2012).

Fs/QCA reports coverage and consistency values (Ragin 2006). The coverage value indicates the percentage of cases that are incorporated in the path that leads to the higher level of the outcome (Rauch et al. 2015). The coverage value is classified into three categories: “solution coverage”, “raw coverage”, and “unique coverage” (Ragin 2006). Solution coverage shows which percentage of the desired outcome is covered by a specific configuration of conditions, whereas the raw coverage value specifies which share of an outcome is indicated by an alternative solution. Finally, the unique coverage value indicates which portion of the outcome is exclusively related to a certain alternative solution (Ragin 2006). The consistency value reports what percentage of the observed data is consistent with the solution’s pattern (Ragin 2006). Both consistency and coverage values employ Boolean algebra (Ragin 2000).

Boolean algebra has seven specific features that are applied in the Fs/QCA algorithm. First, Boolean algebra defines the values of the variables as truth-values, with scores of 1 = *truth* and 0 = *false*; thus, the variables must be binary (Givant & Halmos 2009). Second, in Boolean logic, negation shifts the value of the variables (Ragin 2008b). For example, if the Boolean score of gender is defined as *male* = 1 and *female* = 0, the Boolean negation score of gender is $\sim male = 0$ and $\sim female = 1$ (Ragin 2008b). Third, Boolean algebra uses truth tables to present the data (Ragin 2008b). Truth tables sort the data into different logical combinations of independent variables as a score of 1 indicates the presence of the variable leading to the dependent variable, while 0 shows the independent variable does not lead to the dependent variable (Ragin 2008b). Each logical combination creates a row of the truth table. Fourth, Boolean algebra also allows researchers to calculate the number of possible groupings, in combination with the same number of independent variables (Ragin 2008b) as presented in the following formulae. The groupings formula is $3^k - 1$, where K is the number of independent variables (Ragin 2008b). For example, an equation with three independent variables has $3^3 - 1 = 26$ logical groupings: 8 combinations of three variables, 12 combinations of two variables, and 6 combinations¹² of one variable (Ragin 2008b).

Fifth, Boolean algebra is additive by nature that means $C = 1$ if $A = 1, B = 1$, and $A + B = C$. Here, the score 1 represents the presence of the independent variables and $A+B=C$ shows the presence of A or B is sufficient to reach C (Ragin 2008b). Sixth, in Boolean logic, multiplication (\bullet) differs from normal multiplication, as it is not arithmetic (Anheier & Katz, 2006). For example, if $A = 1, B = 1, \sim A = 0$, and $\sim B = 0$, the following equation $A \bullet \sim B = C$ does not mean that the value of $C = 0$, as the value of A (1) is multiplied by the value of $\sim B$ (0). Actually, this expression shows the presence of A and the absence of B produce the outcome (C). Finally, Boolean algebra is combinatorial, which means if the absence of a variable has the same logical status as its presence, the variable is immaterial to the presence of the outcome (Anheier & Katz 2006). For example, a truth table suggests the following paths lead to an outcome (E):

$$A(\text{high income}) \bullet B(\text{equity}) + \sim C(\text{male}) \bullet D(\text{high support}) = E(\text{satisfaction})$$

$$A(\text{high income}) \bullet B(\text{equity}) + C(\text{female}) \bullet D(\text{high support}) = E(\text{satisfaction})$$

¹² Six combinations with one variable = $A, B, C, \sim A, \sim B, \sim C$

Two equations can be combined and simply interpreted. Therefore, the presence or the absence of C (*gender*) is unimportant to the presence of the outcome, which means there is no relationship between gender and satisfaction.

As Fs/QCA algorithms adopt Boolean algebra, the analysis begins with choosing an outcome and then the selection of desired cases (Mendel & Korjani 2013). Each case is a configuration of desired causal conditions (antecedents) and the desired outcome (dependent variable) based on a calibration between 0 and 1, where 0 = *absence* and 1 = *presence* of the causal conditions (Ragin 2008a). In the next step, the desired outcome and the causal conditions should be treated as fuzzy sets (Mendel and Korjani 2013). Therefore, the Likert-scaled variables need to be rescaled ranging from 0 to 1, to accommodate the fuzzy-set logic recognition of variables as between 0 and 1 (Ragin 2009). Fs/QCA algorithms calculate the possible combinations of conditions that lead to the outcome. The general formula for the number of combinations, or rows in the truth table, is 2^K , where K represents the number of potential conditions (Ragin 2009). For example, in a model with three independent variables (conditions) the number of potential combinations is equal to $2^3=8$. In reality, some of the possible combinations always remain without empirical cases that are termed “logical remainders” (Wagemann & Schneider 2010b).

Fs/QCA provides three different approaches to dealing with logical remainders as the “intermediate solution”, “parsimonious solution” and “complex solution” (Ragin 2009). An intermediate solution only suggests the most plausible conditional paths to the desired outcome; thus, Ragin (2008a) encourages the use of this solution. In other words, intermediate solutions imply the necessity of different configurations that reach the outcome (Rauch et al. 2015), whereas the parsimonious solution makes all counterfactual assumptions to simplify the paths without evaluating if those paths are conceivable and reasonable (Fiss et al., 2013). Finally, the complex solution does not use any remainders in the final solution, as it considers all the logical remainders are false (Fiss et al. 2013).

As the dataset was not large enough to test demographic classifications through SEM and cluster analysis, this study adopted Fs/QCA technique to examine which demographic features were involved in higher levels of work-family balance. In addition, Fs/QCA allowed combining the demographic features with each other and producing configurational variables. For example, age, gender, and marital status were combined in the present study which will be discussed in the following sections.

5.2. Analysis

The present study included the calibrated data of 379 OSN users as Table 5.1 displays. Fs/QCA 2.0 software calibrated the data according to the demographic distribution. Log-odds estimates were used to calculate the values of fuzzy-set scores based on the three qualitative breakpoints that structured the threshold of fuzzy-set scores as full membership (fuzzy score= 0.95), full non-membership (fuzzy score= 0.05), and crossover point (fuzzy score= 0.5) (Ragin 2008b). In addition, all items relating to work satisfaction, family satisfaction, and online social networking were calibrated and the average of these items represents the fuzzy-set values. Fuzzy set analysis also defined three desired outcomes, including high work satisfaction, high family satisfaction, and work-family balance (WFB). Work-family balance is equal to work satisfaction • family satisfaction and was computed through the “*fuzzyand (x,..)*” command in Fs/QCA 2.0 software. In addition, the study calibrated marital status as a binary variable; married participants/participants with a partner composed the first category and the other groups formed the second category.

Table 5.1. Calibration of outcome and antecedent variables

Conditions	Variables	Original score	Fuzzy Set Score
Outcomes	Work satisfaction	1=Strongly disagree 2=Disagree 3=Somewhat disagree 4=Neither agree nor disagree 5=Somewhat agree 6= Agree 7=Strongly agree	0.05 0.15 0.35 0.50 0.65 0.85 0.95
	Family satisfaction	1=Strongly disagree 2=Disagree 3=Somewhat disagree 4=Neither agree nor disagree 5=Somewhat agree 6= Agree 7=Strongly agree	0.05 0.15 0.35 0.50 0.65 0.85 0.95
	Work-family balance	N/A	Work satisfaction• Family satisfaction
Antecedent variables	Gender	1= Male 0= Female	0.95 0.05
	Age	1= Less than 18 2=Less than 25 3= 25-34 4=35-44 5=45-54 6=55-64 7= 65 and over	- 0.05 0.20 0.40 0.60 0.80 0.95

Marital status	1= Married	0.95
	2=Living with a partner	0.95
	3=Widowed	0.05
	4=Divorced	0.05
	5=Separated	0.05
Job status	6=Neither Married nor live with someone	0.05
	1= Retired	0.05
	2=Causal	0.05
	3=Part-time	0.05
Parenthood status	4=Fulltime	0.95
	1= Yes	0.95
The number of children	2= No	0.05
	1= None	0.05
	2= One	0.20
	3= Two	0.50
	4= Three	0.80
Online social networking	5= More than three	0.95
	1=Strongly disagree	0.05
	2=Disagree	0.15
	3=Somewhat disagree	0.35
	4=Neither agree nor disagree	0.50
	5=Somewhat agree	0.65
	6= Agree	0.85
7=Strongly agree	0.95	

The Fs/QCA analysis involved two steps. In the first step, all logically possible combinations of independent variables and desired outcomes (family satisfaction, work satisfaction, high work satisfaction-high family satisfaction) were listed through a truth table algorithm. To obtain a truth table algorithm, a two-stage analytical procedure needed to be performed; developing a truth table and revising the truth table (Ragin 2008b). As Table 5.2 shows a truth table composed of 2^k rows was generated, where K represents the number of causal variables, which are gender, participation in OSN, parenthood, job status, number of children, age, and marital status in the present study. Then, the truth table was revised based on the acceptable threshold of consistency and the number of cases belonging to each combination. In general, combinations with 1 or 2 cases and/or a consistency score less than 0.75 need to be omitted as scores less than .75 present substantial inconsistency (Ragin 2008b). The second step of the Fs/QCA analysis produces the three solutions that lead to the outcomes, including the intermediate, parsimonious, and complex solutions (Ragin 2008b). The acceptable threshold of the outcomes is .8 (Ragin 2008b).

The present study defined the following mathematical models to generate the three intermediate, complex, and parsimonious solutions that lead to the outcomes.

- 1) Family satisfaction $\geq f$ (OSN, gender, parenthood, job status, number of children, age, marital status)
- 2) Work satisfaction $\geq f$ (OSN, gender, parenthood, job status, number of children, age, marital status)
- 3) Work family balance \geq Family satisfaction • Work satisfaction $\geq f$ (OSN, gender, parenthood, job status, number of children, age, marital status).

5.3. Fs/QCA Findings

This study used Fs/QCA 2.0 software to calibrate and analyse the data as explained in the following section.

5.3.1. Family satisfaction

The first desired outcome was family satisfaction. In this section, the truth table defined which demographic features were more related to higher levels of family satisfaction. In particular, fuzzy-set truth tables identify if a propositional expression is true for input values (Ragin 2005). The truth table of family satisfaction suggested ten possible combinations of independent variables with consistency values greater than the acceptable threshold (0.8). In each row, the 0 score demonstrated that the absence of a condition reached a high level of family satisfaction, while the value of 1 suggests the presence of the condition will lead to higher levels of family satisfaction (Ragin 2008b).

As shown in Table 5.2, the presence of job status seems to be one of the most important demographic features that relates to higher levels of family satisfaction, the value of job status (1) repeats in all the configurations. In contrast, the negation or the absence of the two variables, online social networking and the number of children (as indicated by the value of 0), seem to relate to higher levels of family satisfaction. This means participants with fulltime jobs, no children and/or a lesser number of children, with lower levels of participation in online social networking websites reported higher levels of family satisfaction. This is consistent with the structural modelling results presented in the previous chapter, where SEM suggested cross-domain participation in online social networking negatively related to family satisfaction.

Table 5.2. Truth Table of Family satisfaction

gender	Parenthood	Job status	Nchildren	Age	Marital status	OSN	Number	Family satisfaction	Raw consist.
1	0	1	0	0	0	0	48	1	.940469
0	0	1	0	0	1	0	36	1	.940748
0	0	1	0	0	0	0	29	1	.928932
1	0	1	0	0	1	0	27	1	.936268
0	1	1	0	0	1	0	25	1	.970085
1	1	1	0	0	1	0	21	1	.966483
1	0	1	0	1	0	0	13	1	.972889
1	1	1	0	1	1	0	12	1	.969774
0	0	1	0	1	1	0	11	1	.970616
0	1	1	0	1	1	0	11	1	.968053

To realise how a configurational path affects family satisfaction, an XY-plot was produced. As Table 5.2 suggests, the combination of gender (male), job status (full-time jobs), and age (mature) presents the highest raw consistency with family satisfaction (.972889). Therefore, a new variable composed of these three demographic features was computed and the XY-plot was re-investigated. XY-plots are graphical tools that straightforwardly illustrate different paths or configurations towards the outcome (Schneider & Grofman 2006). In addition, XY-plots show the quality of Fs/QCA findings (Schneider & Grofman 2006). XY-plots simply display where single cases prevail on the configurational conditions and the outcome (Schneider & Grofman 2006). In addition, XY-plots demonstrate paths' coefficient of consistency, as the acceptable threshold is .8. However, conditions with consistency over .9 are preferred (Ragin 2008b).

As demonstrated in Figure 5.2, XY-plots consist of two triangular plots. The upper triangular plot represents the configurational condition being sufficient, while the lower triangular plot visualises if a configurational condition is necessary (Wagemann & Schneider 2010). Figure 5.2 implies the configurational variable consisting of age, gender and job status mainly accounts for 24.6 percent of full membership in the higher levels of family satisfaction with 92.4 percent consistency. This means although descriptive analysis showed there was no difference in the level of family satisfaction between male and female participants in Chapter 4, participants who were mature aged males with fulltime jobs reported higher levels of family satisfaction.

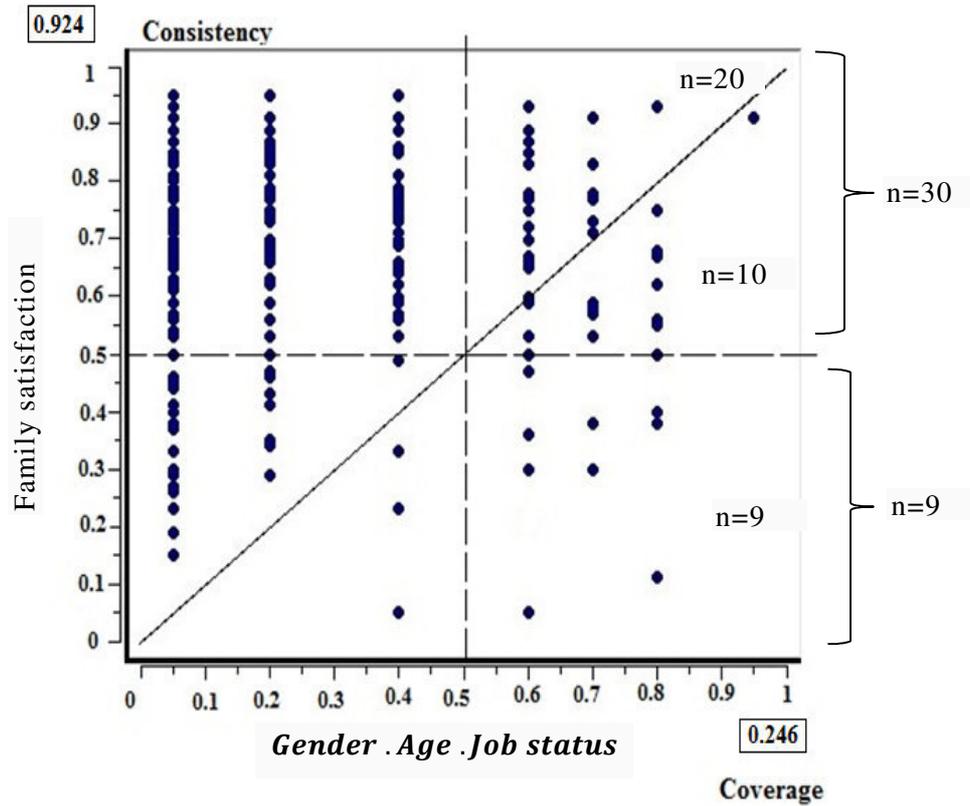


Figure 5.2. Composite variable and Family satisfaction

As the number of cases with family satisfaction greater than the cross-over point (0.5) is three times more than the number with family satisfaction lower than the cross-over point (0.5), the quality of Fs/QCA findings is acceptable. Finally, fuzzy analysis estimated an intermediate solution for family satisfaction from the truth (Table 5.2). The intermediate solution presented four possible configurations of demographic features that relate to high levels of family satisfaction as displayed in the following table.

Table 5.3. Intermediate solution for Family satisfaction

Conditional configuration	Raw coverage	Unique coverage	Consist
<i>~age • ~nchild • job status • ~parenthood • ~OSN</i>	.428150	.131540	.908229
<i>~marital status • ~nchild • job status • ~gender • ~OSN</i>	.312606	.018221	.908573
<i>marital status • ~nchild • job status • parenthood • ~OSN</i>	.252413	.149493	.942152
<i>marital status • ~nchild • job status • ~parenthood • gender • ~OSN</i>	.220346	.025203	.895261

Symbol explanation: “~” indicates negation; “•” indicates multiplication ‘AND’, which means the combined conditions or conjunction.

The intermediate solutions for family satisfaction outcomes reflected a consistency equal to .89 and a solution coverage equal to .74, which indicates that the overall intermediate solutions adequately explained the outcome. The intermediate solution with the highest consistency score (.942152) suggested a configuration of marital status, number of children, job status, parenthood, and online social networking was related to higher levels of family satisfaction. More specifically, married participants and/or those who lived with a partner, had one child, had fulltime jobs, and reported lower levels of participating in online social networking were confirmed as more satisfied with their family life, as displayed in Figure 5.3 (The top left quadrant).

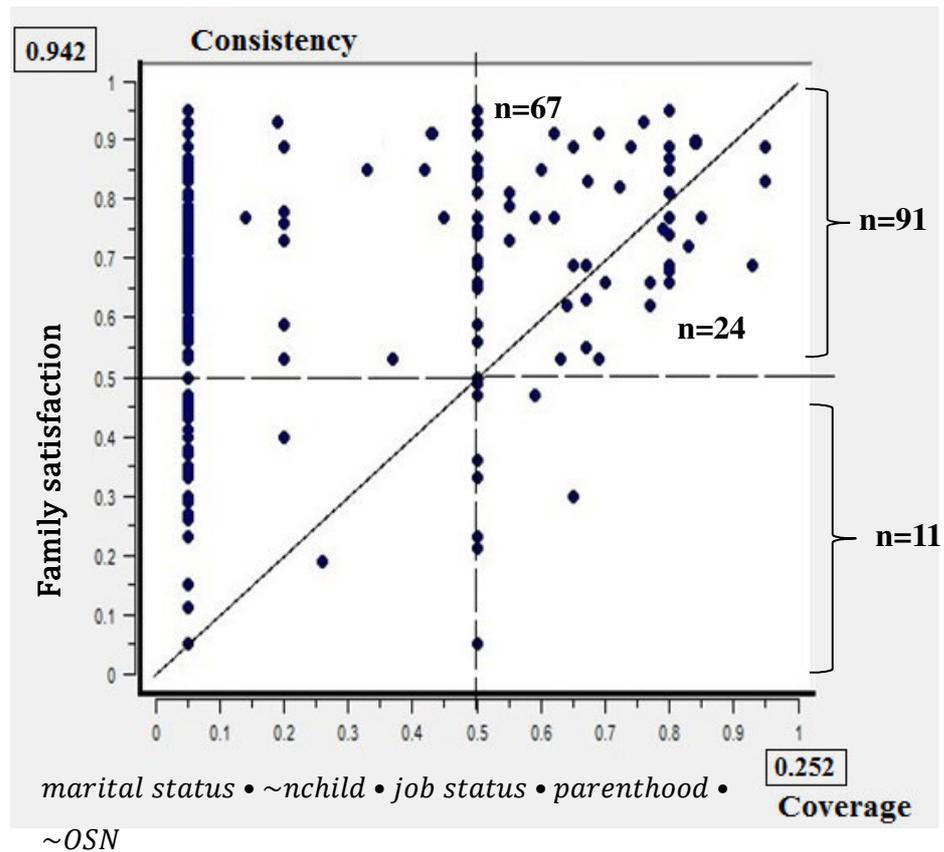


Figure 5.3. The intermediate path to family satisfaction

As Figure 5.3 shows the number of cases reporting family satisfaction greater than the cross-point (0.5) is much more than the number of cases with family satisfaction lower than the cross-point (0.5); thus, the quality of Fs/QCA findings is acceptable.

5.3.2. Work satisfaction

According to the Quine-McCluskey algorithm, the truth table of work satisfaction outcomes suggested ten possible combinations of demographic features that are highly consistent with a high level of work satisfaction. The Quine-McCluskey algorithm is a method that minimises Boolean functions and simplifies a truth table, and provides the smallest Boolean formula for calculating the truth table (Quine 1955; McCluskey 1956). Fs/QCA 2.0 uses the Quine-McCluskey algorithm to produce truth tables.

Table 5.4. Truth Table for Work satisfaction outcome

Gender	Parenthood	Job status	Nchildren	Age	Marital status	OSN	Number	Work satisfaction	Raw consist.
1	0	1	0	0	0	0	48	1	.870031
0	0	1	0	0	1	0	36	1	.866112
0	0	1	0	0	0	0	29	1	.887502
1	0	1	0	0	1	0	27	1	.915204
0	1	1	0	0	1	0	25	1	.904634
1	1	1	0	0	1	0	21	1	.944598
1	0	1	0	1	0	0	13	1	.958768
1	1	1	0	1	1	0	12	1	.935292
0	0	1	0	1	1	0	11	1	.970616
0	1	1	0	1	1	0	11	1	.937722

As shown above in Table 5.4, a combination of job status, age and marital status (raw 9) seems to have the highest consistency with high levels of work satisfaction (.970616). Therefore, a new variable composed of these three conditions was computed and the XY plot was estimated to see if the higher level of the new variable was consistent with higher levels of work satisfaction.

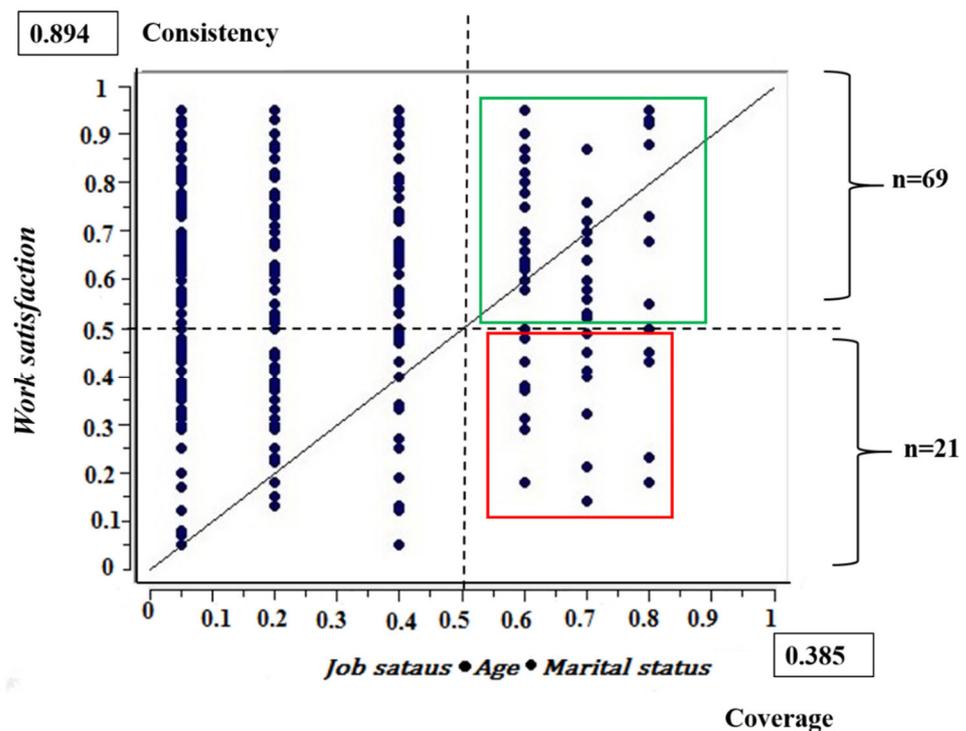


Figure 5.4. Composite variable and Work satisfaction

The XY-plot suggested the combination of fulltime job, mature aged, and being married accounted for 38 percent of the sum of membership in high levels of work satisfaction. In addition, cross-domain usage of online social networking, being a parent, and having children, resulted in lower levels of work satisfaction. As Figure 5.4 shows the number of cases with work satisfaction greater than the cross-point (0.5) was three times more than the number of cases with work satisfaction lower than the cross-point (0.5); thus, the quality of Fs/QCA findings was acceptable.

Table 5.5. Intermediate solution for Work satisfaction

Conditional configuration	Raw coverage	Unique coverage	Consist
<i>~age • ~nchildren • job status • ~parenthood • ~OSN</i>	.442209	.138393	.828156
<i>~marital status • ~nchildren • job status • ~gender • ~OSN</i>	.320240	.021552	.821718
<i>marital status • ~nchildren • job status • parenthood • ~OSN</i>	.265002	.155644	.876016
<i>marital status • ~nchildren • job status • ~parenthood • gender • ~OSN</i>	.227991	.023507	.817799

The intermediate solution for work satisfaction outcome yielded a consistency equal to .80 and a solution coverage equal to .76, which shows the overall intermediate solutions sufficiently explain a high level of work satisfaction. As Table 5.5 shows, the Fs/QCA intermediate solution suggested that participants with full-time jobs who were married, but did not have children or had one child, and who had lower levels of engaging in online social networking reported higher levels of work satisfaction as compared with the rest of the participants. Figure 5.5 illustrates the configurational path of demographic features with the highest level of consistency (.87) that led to higher levels of work satisfaction. As Figure 5.5 shows, the number of cases with work satisfaction greater than the cross-point (0.5) was almost three times more than the number of cases with work satisfaction lower than the cross-point (0.5); thus, the quality of Fs/QCA findings was acceptable.

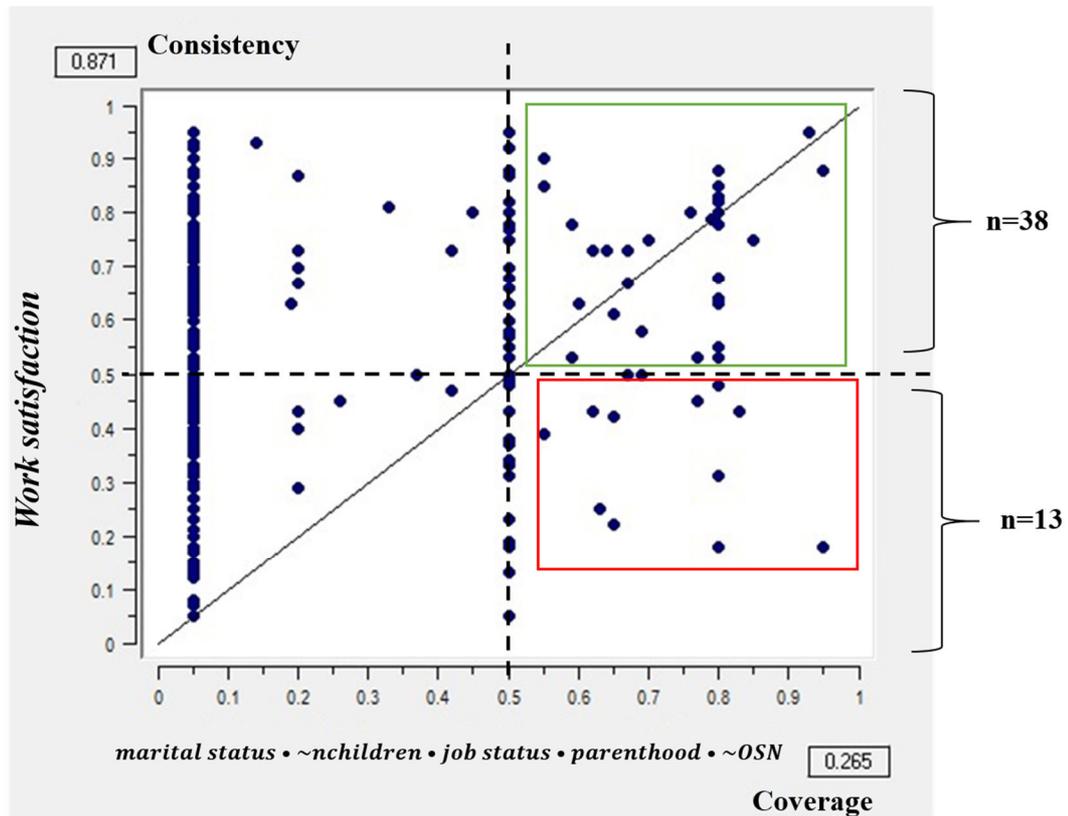


Figure 5.5. The intermediate path to work satisfaction

Finally, the Fs/QCA analysis was repeated for higher levels of work-family balance as the desired outcome.

5.3.3. Work- family balance

To investigate which demographic variables had the most effect on both high levels of work satisfaction and high levels of family satisfaction (*Family satisfaction* • *Work satisfaction*), the truth table of work-family balance presented in Table 5.6 was examined.

Table 5.6. Truth Table of Work-Family Balance

Gender	Parenthood	Job status	NChildren	Age	Marital status	OSN	Number	WFB	Raw consist.
1	0	1	0	0	0	0	48	1	.941059
0	0	1	0	0	1	0	36	1	.950568
1	0	1	0	0	1	0	29	1	.939086
1	1	1	0	0	1	0	27	1	.964211
0	0	1	0	0	0	0	25	1	.952104
1	0	0	0	0	0	0	21	1	.961889
0	0	0	0	0	0	0	13	1	.926374
0	1	1	0	0	1	0	12	1	.977203
0	1	0	0	0	1	0	11	1	.970550
1	0	1	0	1	0	0	11	1	.980130
0	0	0	0	0	1	0	8	1	.942678
0	1	0	0	1	1	0	7	1	.977553

As shown above, a combination of job status, age, and gender presents the highest level of consistency with a high level of work-family balance (0.980130). Thus, a new variable was computed from the three demographical conditions and the following figure demonstrates the XY-plot obtained.

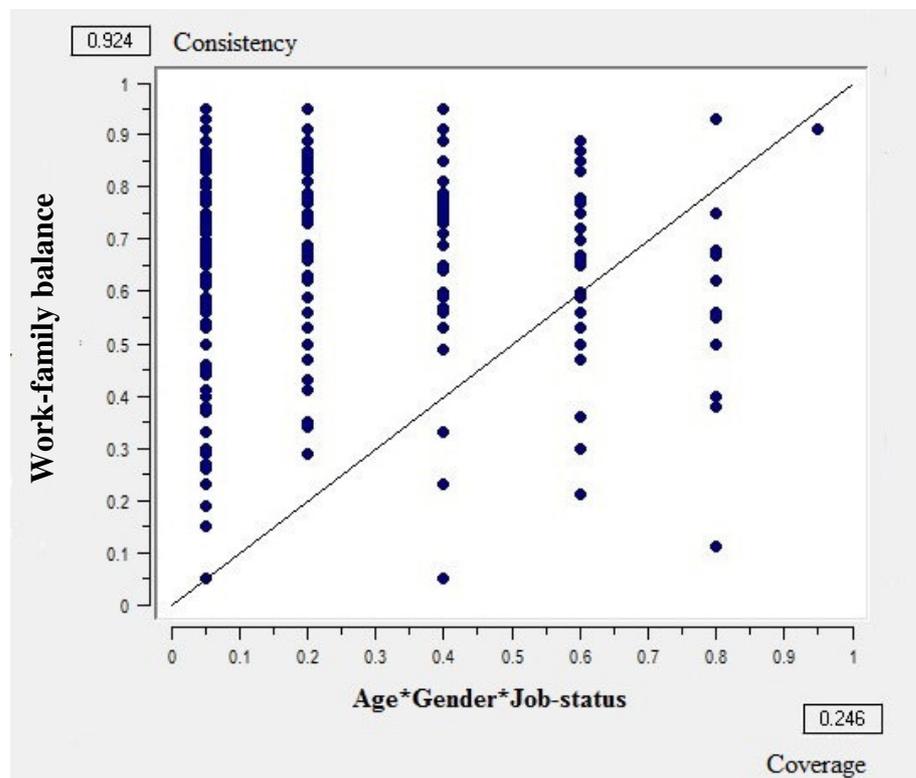


Figure 5.6. Composite variable (Age• Gender• Job status) and Work-family balance

The intermediate solution presented six possible combinations of demographic features that related to work-family balance, and these are presented in the following table.

Table 5.7. Intermediate solution for Work-family balance

Conditional configuration	Raw coverage	Consistency
$\sim\text{marital status} \bullet \text{age} \bullet \sim\text{nchild} \bullet \sim\text{parenthood} \bullet \sim\text{OSN}$	.266705	.904438
$\text{marital status} \bullet \sim\text{age} \bullet \sim\text{nchild} \bullet \text{job status} \bullet \sim\text{OSN}$	.354217	.933757
$\text{marital status} \bullet \sim\text{nchild} \bullet \sim\text{job status} \bullet \text{parenthood} \bullet \sim\text{gender} \bullet \sim\text{OSN}$	.137616	.928339
$\sim\text{marital status} \bullet \sim\text{nchild} \bullet \text{job status} \bullet \sim\text{parenthood} \bullet \text{gender} \bullet \sim\text{OSN}$	.183285	.891535
$\sim\text{age} \bullet \sim\text{nchild} \bullet \sim\text{parenthood} \bullet \sim\text{gender} \bullet \sim\text{OSN}$	.245132	.899287
$\text{marital status} \bullet \sim\text{age} \bullet \sim\text{nchild} \bullet \sim\text{gender} \bullet \sim\text{OSN}$	.266896	.931890

As Table 5.7 shows, the Fs/QCA proposed a high level of work-family balance was consistent with being married and young, having lesser numbers of children, having a fulltime job status, and being a non-user of social networking websites. The intermediate solution for work-family balance presented a consistency equal to .89 and a solution coverage equal to .655. In fuzzy-set qualitative comparative analysis, it is acceptable to choose one or two configurations with high raw coverage and consistency scores as the final solution to the desired outcome (Eng and Woodside 2012). Therefore, the one final intermediate solution is $\text{marital status} \bullet \sim\text{age} \bullet \sim\text{nchildren} \bullet \text{job status} \bullet \sim\text{OSN}$ and the results for this are presented in Figure 5.6. The path suggests younger participants who had full-time jobs, were married or lived with a partner, but had no children, and had low cross-domain participation in online social networking, reported a higher level of work-family balance.

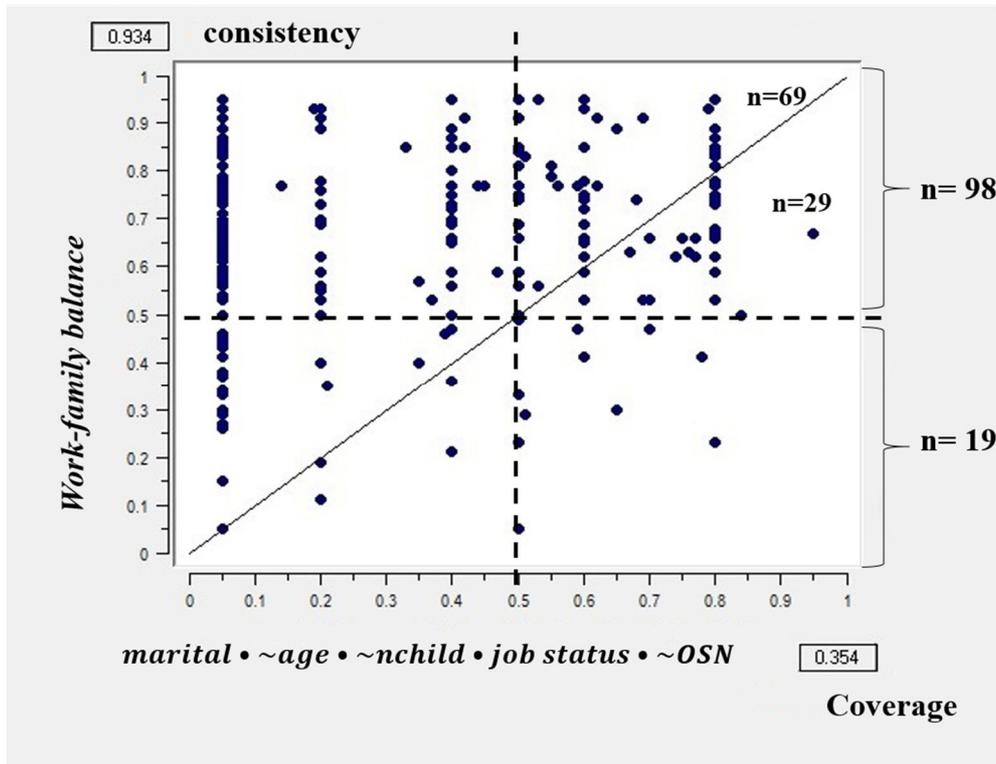


Figure 5.7. XY-plot: Path to work-family balance

As Figure 5.6 displays the number of cases with work-family balance scores greater than the cross-point (0.5) was five times more than the number of cases with work-family balance scores less than the cross-point (0.5); thus, the quality of Fs/QCA finding was acceptable. In addition, the XY-plot suggested the specific configuration of these five demographic features covered 35 percent of high levels of work-family balance.

5.4. Conclusion

This chapter explored how the demographic features of job and marital status, gender, age, and number of children among participants in the present study relate to high levels of work-family balance. In addition, cross-domain participation in social networking websites was also considered as an independent variable along with the demographic features. The data collected from 377 participants was analysed through fuzzy-set qualitative comparative analysis. Fs/QCA 2.0 software modelled the demographic features as independent conditions to test their relationships with the desired outcomes of high levels of work satisfaction, family satisfaction, and work-family balance. The similarity across the intermediate solutions for the models tested was that the participants with a lower level of participation in social networking

websites reported higher levels of work satisfaction, family satisfaction, and/or work-family balance.

Similarly, the intermediate solutions for the three models that were tested suggest the number of children, in combination with some other variables, negatively influences work-family balance, family satisfaction, and work satisfaction. This means participant with more number of children reported lower levels of family satisfaction, work satisfaction, and work-family balance. In addition, the combination of lower age, full-time job status, and marital status (being married) seems to be highly consistent with work satisfaction and work-family balance, while a combination of gender (male), age (high), and job status (full-time jobs) is associated with family satisfaction. The findings also suggest mature aged males with fulltime jobs report higher levels of family satisfaction than the other groups of participants; whereas, there appears to be no gender implications in relation to work satisfaction and work-family balance. In addition, a combination of being married or living with a partner, being mature aged, and working fulltime lead to higher levels of work satisfaction and work-family balance. In light of the knowledge established by prior studies, and the results of the structural equation modelling and the fuzzy set logic discussed in this chapter, the next chapter covers the discussion on the findings.

Chapter 6

Discussion, Implications and Conclusion

6. Chapter Overview

This chapter discusses the results of the two different analyses conducted for this study and explains how the findings support the research hypotheses and objectives. To commence the process, this chapter briefly explores the research objectives and highlights a review of the underlying theoretic assumptions of the study. This is followed by findings from this research as aligned to the hypothesised research framework and interpreted within the context of the research setting and objectives. Outcomes from this process are then compared with findings from previous studies reported in contemporary literature, and the research implications applicable to academic researchers and practitioners will be drawn. Finally, the chapter discusses the limitations associated with this research, and makes recommendations for future research based on the findings. Figure 6.1 depicts the chapter outline flowchart.

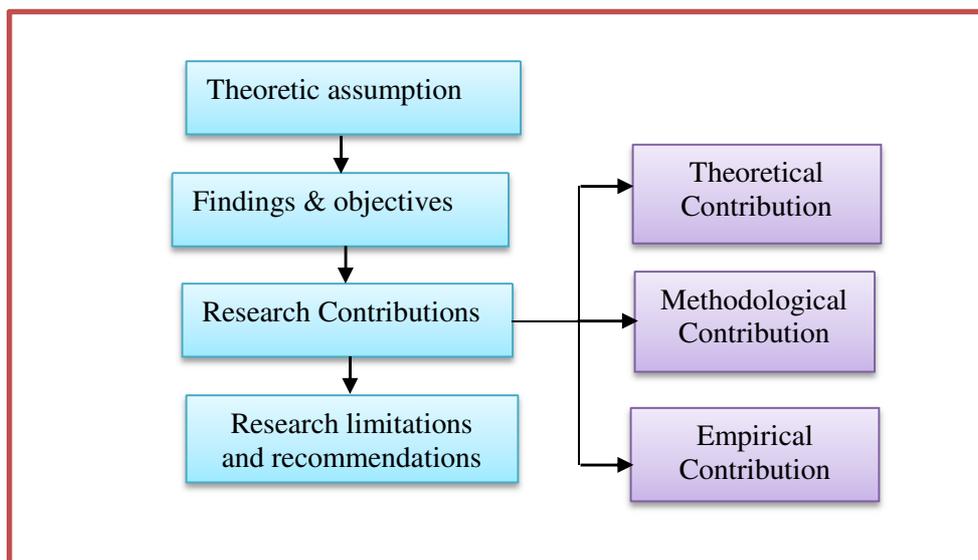


Figure 6.1. Chapter outline

6.1. Theoretic assumptions

The present study analyses an Australian sample with a view to discover how online social networking (OSN) affects employees' work-family balance (WFB). Work-family balance refers to a combination of high work satisfaction and high family satisfaction (Clark 2000). The primary focus was to examine the effect of online social networking on work-family

balance and to investigate whether the effects of online social networking were transportable from one domain to the other domain. As a result, investigation of cross-domain effects formed part of the research. Although previous studies have reported a wide range of negative effects of online social networking on both the work and family domains, the transaction between the family domain and work domain has been ignored. In response, the dominant approach in this study has been assessing the effect on work-family balance, in recognition that conflict generally arises between individuals' work responsibilities and family responsibilities due to the limited amount of available time and energy and online social networking has the potential to blur the boundaries between the two domains.

The present study defines cross-domain usage as a combination of cyberslacking, enterprise online networking, and negative online experiences associated with participation in social networking sites. The cyberslacking component focuses on both the amount of time employees spent on public social networking websites to deliver family demands when they were in the workplace, and how often employees logged into their online social profiles. Thus, this component of online social networking covers both the frequency and duration of interference from the family domain into the work domain. Enterprise online networking, on the other hand, captured how much and how often employees engaged in internal and private networking websites to fulfil work related responsibilities when they were at home, so that work responsibilities interfered with family responsibilities. Internal social network refers to the private sites developed for companies that allow employees to create and maintain online profiles to promote communication with other members across organisations (Leftheriotis & Giannakos 2014).

Finally, the third factor was negative online experiences from participating in online social networking activities (e.g. receiving sexual or unwanted messages, cyberstalking, and cyberbullying). One question that arises here is why this study only focused on negative online experiences, rather than the more general experience of online social networking activities. The answer lies in the need to understand work-family conflict. The literature review suggested there is a wide range of approaches toward defining work-family balance, but there is not a solid definition for this phenomenon, as has been discussed in Chapter 2. The dominant, and most cited, defines work-family balance as the absence of conflict between work and family roles and responsibilities (Frone 2000). Thus, this study focused on the conflict approach to investigate whether online social networking mitigates or exacerbates the conflict between work and family responsibilities. This study assumed that negative online experiences resulting from online social networking might be a driver of work-family conflict,

while positive experiences might be a predictor of work-family enrichment. Therefore, only negative online experience was deemed most relevant to the present study.

As Figure 6.2 shows, the present study utilises work-family border theory (Clark 2000) to suggest online social networking has the potential to convert into a cross-domain activity that blurs the boundary between the work and family spheres. Therefore, work-to-family conflict arises from an imbalance between work and family demands. The review of previous studies (Chapter 2), suggests variables, which blur the border between work and family responsibilities, have the potential to enhance or to jeopardise both work satisfaction and family satisfaction through cross-domain and matching-domain effects. Matching-domain effects refer to the degree variables from one domain influence satisfaction in the same domain, whereas cross-domain effect focuses on how variables from one domain alter the level of satisfaction in the other domain (Ford et al. 2007).

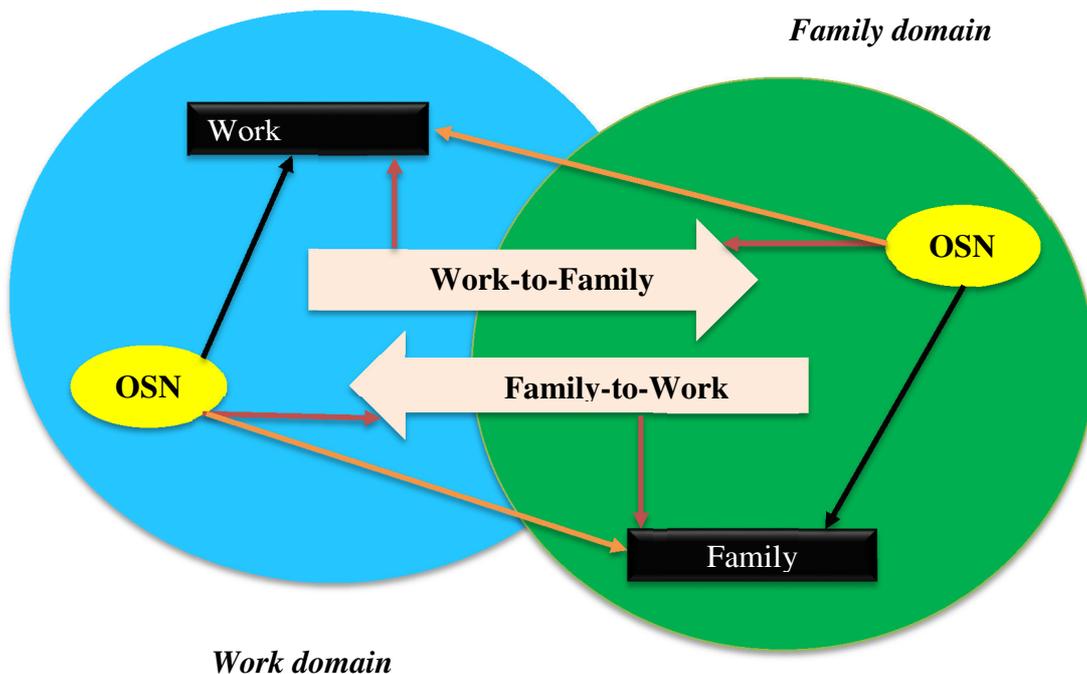


Figure 6.2. Research theoretic assumptions

In Figure 6.2, the black arrows show the matched-domain direct effect of online social networking on work satisfaction or family satisfaction, while the orange arrows reflect the direct cross-domain effect of online social networking on both domains. In contrast, the red arrow illustrates the indirect cross-domain effect of online social networking on work-family balance through work-family conflict. The literature suggests some variables from both the

work domain and the family domain might be correlated with online social networking; thus, these variables were added to the model because of their potential to affect work-family balance. Therefore, the theoretical framework developed for this research resulted in two structural models (see Figures 6.3 and 6.4), one each for both the family and work domains. The expected relationships lead to the series of hypotheses presented after each model.

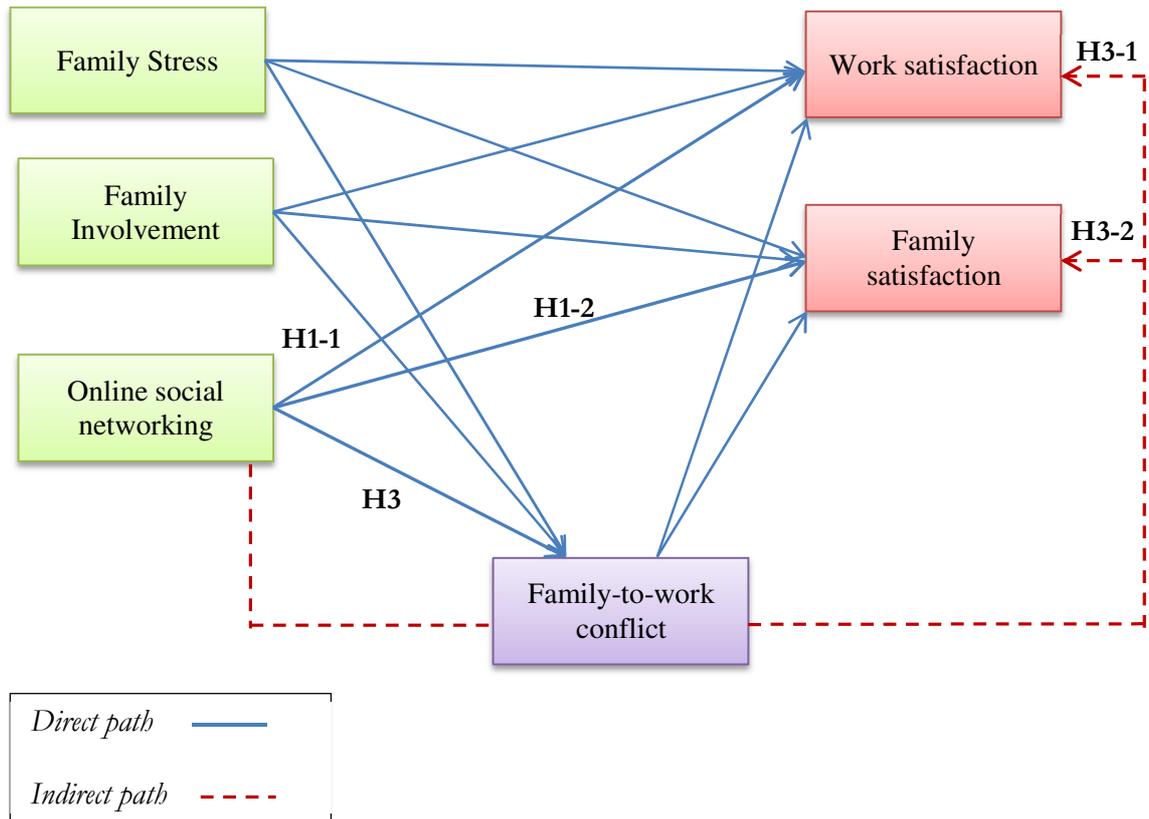


Figure 6.3. Family domain hypotheses

H1-1: Online social networking activities in the home negatively affect family satisfaction.

H1-2: Online social networking activities in the home negatively affect work satisfaction.

H3: Higher levels of online social networking activities relate to higher levels of family-to-work conflict.

H3-1: Family-to-work conflict mediates the negative relationship between online social networking and family satisfaction. (Matching-domain mediating effect)

H3-2: Family-to-work conflict mediates the negative relationship between online social networking and work satisfaction. (Cross-domain mediating effect)

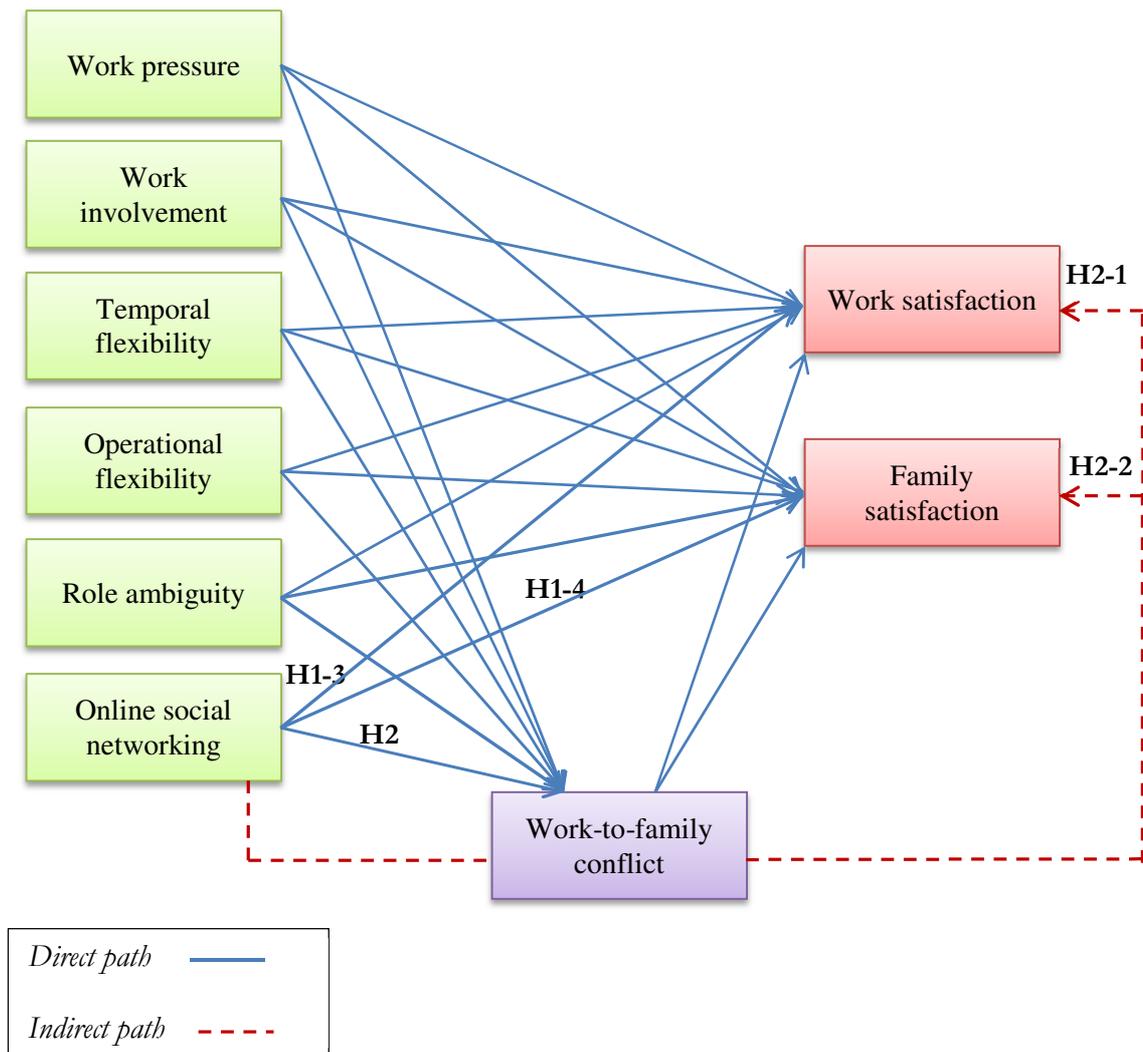


Figure 6.4. Work domain hypotheses

H1-3: Online social networking in the workplace negatively influences work satisfaction.

H1-4: Online social networking in the workplace negatively influences family satisfaction.

H2: Higher levels of online social networking relate to higher levels of work-to-family conflict.

H2-1: Work-to-family conflict mediates the relationship between online social networking and work satisfaction. (Matching-domain mediating effect)

H2-2: Work-to-family conflict mediates the relationship between online social networking and family satisfaction. (Cross-domain mediating effect)

6.2. Findings and objectives

This section summarises the research findings and discusses these within the context of research questions, and shows how these relate to the research objectives.

6.2.1. Objective one

The first objective was to investigate how online social networking affects work-family conflict. Therefore, the following question was investigated:

ROI: To investigate how online social networking influences work-family conflict

RQ1: What is the influence of online social networking on work-family conflict?

The review of the contemporary literature suggests online social networking might have a positive direct relation to work-family conflict. Work-family conflict is a bidirectional phenomenon characterised by two components: work-to-family conflict, and family-to-work conflict. Work-to-family conflict shows that the conflict arises in the workplace negatively influences the satisfaction in the family domain, while family-to-work conflict suggests that the conflict from the family domain negatively affects the satisfaction in the workplace. Therefore, online social networking is assumed a predictor of both directions of work-family conflict. The two models depicted in Figure 6.3 and Figure 6.4 were used to examine the relationships between online social networking, work-family conflict alongside other predictors of work-family conflict. The core assumption that online social networking is a predictor of work-family conflict is conceptualised as a unidimensional, but bidirectional construct that focused on three results of social media activities: cyberslacking, enterprise online networking, and negative online experiences from participating in social websites.

As was expected, the structural equation modelling suggested online social networking has a direct and positive relation with both work-to-family conflict ($r = 0.13, p < 0.05$) (*the relationship was significant and therefore H2 was supported*) and family-to-work conflict ($r = 0.38, p = 0.00$) (*a significant relationship which supported H3*). In other words, higher levels of engagement and cross-domain participation in online social networking lead to higher levels of conflict between work and family responsibilities across both domains. In addition, the effect of online social networking has a stronger effect on the family domain than on work. This suggests that cross-domain usage of online social networking has a more harmful effect on the work domain than it does in the family domain. In other words, the higher levels of family-to-work conflict increase the cross-domain impact of online social networking from the family domain into the work domain.

Regarding other antecedents of work-family conflict, structural modelling analysis revealed online social networking was positively correlated with family stress ($r = 0.20, p = 0.000$), work ambiguity ($r = 0.24, p = 0.001$), and work pressure ($r = .29, p = 0.000$). This means

users who engaged at higher levels of online social networking are more likely to report higher levels of stress at work and at home. This is similar to Mark and colleagues' (2008) argument about how digital distraction can be a source of time pressure and stress. Mark et al's (2008) study of 48 students suggested participants who experienced media-type disruptions performed faster to compensate for the amount of time lost by being interrupted and thus, suffered from time pressure and work stress. Ayaggari and colleagues (2011) also found that communication through social networking websites is associated with higher levels of role ambiguity and work pressure, which matches findings in the present study. When employees use online social media for work related communication, tracking the main topic is difficult because the conversation platforms frequently change and this causes, or adds to stress (Ayaggari et al. 2011).

Techno-stress might also explain the positive correlation between online social networking and stress across both domains in the research sample. To use new communication technologies for work related communication, employees need to learn new ICT skills, which can be a source of stress and work pressure (Alleyne 2012). In fact, one estimate is that technostress costs U.S organisations over \$300 billion in lost revenues over a year because of ill-effects from job dissatisfaction (Alleyne 2012). Using ICTs for communication at the workplace has both positive and negative effects due to the "dual nature" of communication technologies (Tarafdar et al. 2007). Employees can feel they are continuously accessible and "on call", which adds to workplace anxiety and stress (Tarafdar et al. 2007). In addition, communication technology usage increases the probability and possibility of information overload, as employees often receive information from different resources, but there is insufficient time to process all the information (Tarafdar et al. 2007).

Online social networking was negatively correlated with family involvement ($r = -0.14, p = 0.000$), but positively correlated with work involvement ($r = 0.20, p = 0.000$). This shows that less participation in online social networking meant employees maintained higher levels of family involvement. In contrast, the positive correlation between work involvement and online social networking suggests employees with higher levels of work involvement tended to participate more in cross-domain usage of online social networking. Furthermore, the SEM analysis showed there was no correlation between operational and temporal flexibilities and online social networking. This means participants did not view online social networking as a source of flexibility.

6.2.2. Objective two

The second objective was to explore how online social networking affects family satisfaction; thus, the following research question was examined.

RO2: To explore how online social networking influences family satisfaction

RQ2: What is the influence of online social networking on family satisfaction?

To investigate the effect of online social networking on work-family balance, a particular interest of this research was to explore how online social networking affected family satisfaction, both in the family domain (matching-domain effect) and in the workplace (cross-domain effect). SEM analysis revealed there was no direct significant relationship between participating in online social networking at home and family satisfaction (*H1-1 was not supported*), while online social networking at the workplace significantly and negatively related to family satisfaction ($r = -.26, p = 0.000$) (*H1-4 was supported*). This suggests employees' family satisfaction is likely to decrease when they use online social networking for family demands in the workplace. The rationale behind the negative relationship between online social networking for family purposes in the workplace and family satisfaction draws on appraisal theory (Lazarus 1991), which suggests people usually accuse the source of conflict when pressure and conflict arise. As online social networking for family purposes is a source of office distraction and work pressure, it is not farfetched to expect employees would be unsatisfied with the family domain if family demands keep them away from work responsibilities when they are supposed to be working.

Although the direct relationship between online social networking and family demands in the family domain was insignificant, the indirect effect analysis showed family-to-work conflict played a full-mediating role in this relationship. This means the negative effect of online social networking at home has a reinforcing negative affect on family satisfaction through family-to-work conflict with 99% of significance (*H3-1 was supported*). Consequently, this finding suggests employees with higher levels of online social networking cross-domain usage in both domains reported lower levels of family satisfaction.

6.2.3. Objective three

The third objective was to examine how online social networking affects work satisfaction and the following research question was studied.

RO3: To examine how online social networking influences work satisfaction

RQ3: What is the influence of online social networking on work satisfaction?

Work satisfaction is the second component of work-family balance (Clark 2002). SEM analysis indicated online social networking cross-domain usage negatively and directly influenced work satisfaction in the work domain ($r = -0.21, p = 0.000$) (*H1-3 was supported*), whereas there was no significant relation between online social networking and work satisfaction in the family domain (*H1-2 was not supported*). As per the foregoing discussion, online social networking has the potential to lead to information overload and work anxiety, which may be the rationale behind the negative relationship between online social networking and work satisfaction. This negative relationship may well be further substantiated through the negative components of online social networking, such as cyberslacking, enterprise online networking, and negative online experiences. The findings suggest a combination of these items contribute to work dissatisfaction as discussed below.

Previous studies suggest cyberslacking leads to work overload, stress, and work frustration (Mark et al. 2008), which could justify this negative relationship. In addition, enterprise online networking, which is about the employees' access to the workplace through the private social networking websites when they are at home, could lead to work dissatisfaction. As appraisal theory (Lazarus 1991) explains, individuals tend to put the blame on the source of conflict between family and work responsibilities, thus it makes sense that this decreases work satisfaction. For example, if an employee cannot fulfil his work responsibilities because of the stress caused by family commitments, the employee will put the blame on the source of the problem; thus, the employees' family satisfaction will decrease. Finally, negative online experiences (e.g. cyberbullying, unwanted messages, etc.) have the ability to reinforce negative relations between online social networking and workplace satisfaction. In addition, the mediation analysis identified work-to-family conflict mediated the relationship between online social networking and work satisfaction with a 95 percent level of confidence (*accordingly H2-1 was supported*). However, the indirect effect is a partial mediation because there is a significant direct relationship between online social networking and work satisfaction in the work domain model ($r = -.21, p = 000$).

6.2.4. Objective four

One of the main reasons for this study was to discover if the effect of online social networking in one domain was transportable to the other domain through inter-role conflict between the two domains.

RO4: To study whether the effect of online social networking is transportable from one domain to the other domain through the mediating role of work-family conflict

Therefore, the following research questions were developed and investigated.

RQ4: Does family-to-work conflict mediate the relationship between online social networking and work satisfaction?

RQ5: Does work-to-family conflict mediate the relationship between online social networking and family satisfaction?

The SEM analysis revealed a significant and negative indirect relationship from online social networking in the family domain to work satisfaction via family-to-work conflict, with a 99 percent confidence level (estimate = $-0.08, p < 0.001$); thus, *H3-2* was supported. Similarly, the negative indirect effect of online social networking on family satisfaction through work-to-family conflict was supported at a 95 percent level of confidence (estimate = $-0.03, p < 0.05$); thus, *H2-2* was supported. Although the indirect cross-domains relations were statistically significant, the estimates proposed the indirect relations were weak across domains, suggesting that online social networking could not strongly affect either the level of family satisfaction through its impact on work-to-family conflict, or the level of work satisfaction via its relationship with family-to-work conflict.

6.2.5. Objective five

The last objective was to examine whether demographic characteristics of cross-domain users of social networking websites related to higher levels of work-family balance.

RO5: To identify which demographic characteristics of social website users might be involved in higher levels of work-family balance

RQ_B: Which demographic features of OSN users do relate to higher levels of work-family balance?

Fuzzy-set qualitative comparative analysis (Fs/QCA) was performed to explore whether some demographic features had the potential to cause higher levels of work-family balance. Once the data was calibrated based on fuzzy logic, the cause and effect relations between demographic features and work satisfaction and family satisfaction were separately

investigated. This study adopted the Fs/QCA techniques because it was assumed that different configurations of variables could have differing effects on work-family balance, as compared to the sole effect of each variable. For example, the effect of being male or being young differs from the impact of being a young male. The truth tables suggested gender, age, and job status caused a higher level of family satisfaction. More specifically, young males with a full time job reported higher levels of family satisfaction as compared to the other demographic configurations. On the other hand, the findings also revealed age, marital status, and job status were more related to higher levels of work satisfaction; young married participants with fulltime jobs reported the highest level of work satisfaction.

Work-family balance was calculated as a new variable composed of high levels of work satisfaction and high levels of family satisfaction (work satisfaction • family satisfaction). The findings showed marital status, age, number of children, job status and the level of cross-domain online social networking usage were significantly related to high levels of work-family balance. Similar to the findings on work satisfaction, young married participants with no children and with fulltime jobs, who reported lower levels of participation in online social networking reported higher levels of work-family balance. This is consistent with Amasted et al's (2011) meta-analysis findings, where Fs/QCA could not find support for the effect of parenthood on the level of work-family balance. In terms of marital status, the present study found no support that marital status was significantly related to the level of work-family balance, which is in contrast to a recent Romanian study of 132 employees that found unmarried and married participants reported similar levels of work-family balance (Panisoara & Serban's 2013).

Although a wide range of previous studies have suggested that females suffer from higher levels of conflict between work and family responsibilities (Ngo and Lui 1999; Keene and Quadagno 2004), intermediate solutions did not support there being a gender difference. Female users and male users did not have significantly different levels of work-family balance in the present study. The idea behind gender difference is that females are traditionally involved in household and caring responsibilities, whereas males are the breadwinners (Keene & Quadagno 2004). This inconsistency with the literature might be explained through the different analytic technique, as this study used the Fs/QCA technique to analyse the relationships. Neither of the previous studies investigated the cause and effect relationships of the demographic features on work-family balance. In other words, previous studies generally examined the demographic features, especially gender, as control variables to cluster data, whereas others have examined gender as a moderating variable (Aryee et al. 2005). In contrast,

Fs/QCA logic goes beyond regression and correlational analyses and can delve into combined features that are contributing conditions to cause higher levels of work-family balance.

Table 6.1. Summary of the hypotheses results

Hypothesis	r	p	Confirmation
H1-1: Online social networking in the home negatively affects family satisfaction.	-	-	Not supported
H1-2: Online social networking in the home negatively affects work satisfaction.	-	-	Not supported
H1-3: Online social networking in the workplace negatively influences work satisfaction.	-0.21	.000	Supported
H1-4: Online social networking in the workplace negatively influences family satisfaction.	-0.26	.000	Supported
H2: Higher levels of online social networking relate to higher levels of work-to-family conflict	.13	<.05	Supported
H2-1: Work-to-family conflict mediates the negative relationship between online social networking and work satisfaction.	-0.054	<.05	Supported/ weak
H2-2: Work-to-family conflict mediates the negative relationship between online social networking and family satisfaction	-.03	<.05	Supported/ weak
H3: Higher levels of online social networking relate to higher levels of family-to-work conflict	0.38	.000	Supported
H3-1: Family-to-work conflict mediates the negative relationship between online social networking and family satisfaction	-0.150	.000	Supported
H3.2: Family-to-work conflict mediates the negative relationship between online social networking and work satisfaction.	-.08	.000	Supported/ weak

6.3. Research contribution

This study makes three main contributions to the established literature around online social networking, and these are presented sequentially below.

6.3.1 Conceptual/Theoretical contribution

There is no certain definition of what exactly constitutes a theoretical contribution and/or what consensual basis is essential to claim a theoretical contribution (Corley and Gioia 2011). The initial vision of a theoretical contribution is moving the thinking of a research area forward through providing new connections among previously established concepts and constructs, and presenting the practical consequences of new connections (Corley and Gioia 2011). A theoretical contribution needs to provide “*original insight*” into a research area and highlight some utility of the original insight in practice (Corley and Gioia 2011). The originality dimension of a theoretical contribution stands on a continuum from a small level to a high level and the utility dimension refers to both being scientifically useful and/or practically

useful; thus, there are four different types of theoretical contribution, as displayed in Figure 6.4 (Corley and Gioia 2011) that are incorporated into the discussion below.

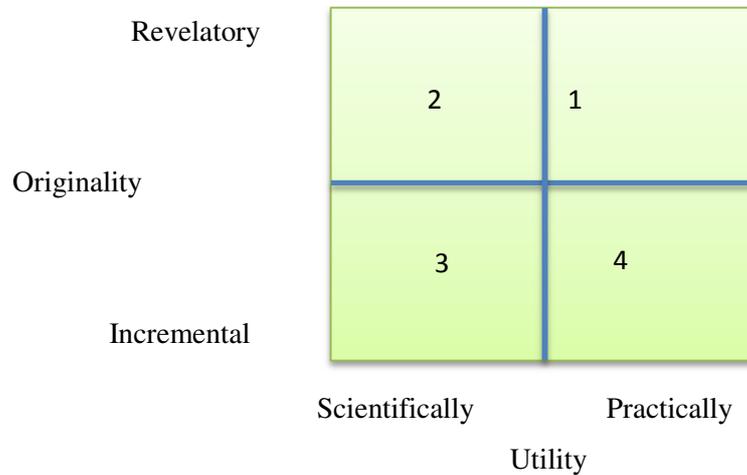


Figure 6.5. Theoretical contribution categories

Resource: Adapted from Corley and Gioia (2011, p. 15)

This present multi-disciplinary study draws on management, social sciences and the behavioural computer science disciplines and the level of theoretical contribution varies across these disciplines. The focus is the implications for human resource management from a management perspective, the theoretical contribution is incremental and practical for the following reasons: firstly, the study utilised work-family border theory and boundary theories to examine a new construct (online social networking). The findings revealed that online social networking can be an antecedent to, and both positively relate to both work-to-family conflict and family-to-work conflict. In addition, the new construct has both indirect and direct relationships with work-family balance through work-family conflict. To date, these connections are new areas of study for the management field, and thus make a substantial theoretical contribution.

Secondly, adopting social media is a top priority for many companies, as it provides a new communication method with employees or with customers (Leftheriotis and Giannakos 2014). McCorkindale (2010) reported 69 percent of the 2000 Fortune companies use social networking sites to promote their public relations. Likewise, the data gathered from a longitudinal study between 2006 and 2014, with an average of 504 participants per year,

suggested 77 percent of participants believed using social networking sites such as Facebook and LinkedIn in organisations were important (Wright and Hinson 2014). These studies show companies are increasingly getting involved in online social networking. This study found online social networking, through both private and public social networking sites, can negatively affect employees' work-family balance, so the results should improve HR practitioners and strategic managers understanding regarding employing online networks across organisations, which can be a practical utility.

From the behavioural computer science perspective, the theoretical contribution of the present study might be both revelatory and practical. First, this study connects boundary theory and work-family border theory from the management field to the behavioural computer science area. This provides a new theoretical insight into how online social networking is a cross-domain activity that can facilitate the transaction of responsibilities from the family domain into the work domain, thus affecting work satisfaction and family satisfaction, both directly and indirectly. This is a relatively immature area of study in behavioural computer science. In addition, this study conceptualised online social networking as a bidirectional phenomenon composed of three components, including cyberslacking, online enterprise networking, and negative online experience, which will add to the scholarly literature on online social networking.

6.3.2. Methodological contribution

The research methodology discusses the systematic process researchers choose to answer the research questions and carry out the research (Greener 2008) and the theoretical analysis of the methods applied to collect and analyse the data (Dhawan 2010). Therefore, the methodological contribution refers to the methodological innovations that researchers introduce to collect and analyse the data. These include an innovative data-gathering procedure, a new instrument to collect data, a new technique to analyse data, and a new software for analysing data (Thomas 2003). The methodological contribution of this study is developing and validating a self-administrated construct to examine the level of cross-domain usage of networking social websites to fulfil personal and work-related demands.

Online social networking is a bidirectional reflective construct that includes three features of online social networking activities including cyberslacking, enterprise online networking, and negative online experience. This construct covers the duration and frequency of online social networking activities in order to satisfy family demands through public social networking websites when employees are in the workplace, as well as the duration and frequency of

logging into internal private social networking websites to fulfil work purposes when employees are at home. In addition, the online social networking construct encompasses negative online experience gained from participating in social networking websites. Furthermore, the five items of the online social networking construct were found to be a parsimonious reliable and valid measure (Cronbach's $\alpha=.8$, AVE=0.517, CR\ Jöreskog's rho =0.841). An added benefit of this is that parsimonious scales with relatively few items contribute to less wordy and complex questionnaires, which assists reducing respondent fatigue and produces a more reliable overall response (Bocarnea et al. 2013).

Another methodological contribution of the present study is the use of Fs/QCA techniques to investigate the cause-effect relations between demographic features and work-family balance. This study is one of the first studies to calibrate work-family balance based on a fuzzy-set logic.

6.3.4. Practical contribution to policy and practice

A number of empirical contributions are derived from this study. The first practical contribution is to increase the level of HR experts' understanding of online social networking. From a managerial and HR perspective, online social networking has been considered as a source of information for recruiting (Ollington et al. 2013), a source of cyberslacking, and a source of work related communication. The relations among online social networking, work-family conflict, work pressure, role ambiguity, work involvement, and work satisfaction have important implications that this study tried to cover. The literature review identified that one of the popular organisational reactions towards public social networking websites is to ban them. However, companies are developing private social networking websites to profit from the new communication technology. This study aims to ask managers to think about the negative impacts of internal private social networking websites on the business as well.

Second, some researchers argue that the use of communication technologies outside of the workplace to fulfil work-related demands is also associated with work-family conflict and work stress, which should concern managers (Kossek et al. 2006; Kelly et al. 2011; Wright et al. 2014). Nonetheless, there are no specific studies whether the effect of personal online social networking outside the workplace is transferrable to the workplace. The findings presented the effect of personal online social networking outside the workplace might affect the workplace through its negative impact on family satisfaction and work satisfaction. This suggests banning employee access to public social networking websites might not be an effective strategy to deal with negative impacts of online social networking on businesses.

Third, previous controversies about whether organisations should ban employee access to social networking websites have followed two particular concerns. The first concern is that filtering the employee access might be considered an intrusion into employees' privacy. For example, in the United States, the National Labor Relations Act (NLRA), Employees' Section 7 on Rights gives employees the right to create and participate in labour organisations; thus, employee communications through online social networking sites that are relevant to labour organisations and mutual protection may be assumed a part of section 7 activity (Lewis 2012). Another concern is about employees' ability to use their personal internet networks to connect to the social networking sites. For example, statistics from 2014 revealed that 71 percent of Australians logged into social networking sites through their smartphone (De Meyer 2014). Therefore, filtering social networking websites through the organisational internet network may not be an effective strategy to prevent employees from logging in at work. From a practical point of view, the present study suggests managers need to find stronger solutions for cyberslacking, which could be through policies related to other organisational factors such as role ambiguity, work pressures, measuring achievement of key performance indicators and work involvement.

Fourth, this study suggests the cross-domain usage of online social networking might negatively affect work satisfaction and family satisfaction. In other words, managers need to consider if providing employees with teleworking options through private social websites is a family friendly policy. In actuality, the outcome might go into the reverse and negatively influence work satisfaction and family satisfaction. This study suggests HR practitioners and managers need to consider both directions of online social networking. Thus, workplaces may need to develop communication policies and guidelines for both inside and outside of the workplace.

6.4. Research limitations and suggestions for future studies

The present study has some limitations that might affect the results, and therefore these need to be acknowledged. The most important limitation relates to the research sample, which is collected from one country. This thesis used a self-administered measure to investigate the level of online social networking, and focused specifically on the bidirectional nature of a composite made up of cyberslacking, enterprise online networking and negative online experience. However, the cross-cultural validity of this measure could not be examined because only white-collar employees in Australia participated in the present study. While the reliability estimates suggest this is a good fit for this sample it may not translate so effectively

into other cultural groups. Therefore, further studies with multi-national data or more varied sample sets seems essential to investigate the cross-cultural validity of the online social networking measure. Another limitation is the sample size; although 797 participants responded to the study, only 379 participants provided cross-domain usage of online social networking and could be included in the study. This reduction in the sample limited the opportunity for comparative study between organisations that banned employee access to social networking websites and companies that allowed employees to log into social networking websites in the workplace. Therefore, it would be useful to make this comparison in future studies. In addition, the nature of the data is self-report. In future studies, a comparison between employees' self-report information and managers' reports will be valuable.

Furthermore, although the study focused on white-collar employees in Australian companies, the type of industry and size of the companies was not entered into the analysis. As the organisational culture and policies toward the use of communication technologies differ across workplaces and from industry to industry, it seems further studies need to investigate whether the type of industry affects the findings. The literature review did suggest the participation of online social networking differs across small, medium and large companies in Australia. Therefore, future studies could focus on how the findings of this thesis might change if the size of companies is entered into the analysis. Another option would be to use a qualitative approach to gather in-depth data related to the effect of online social networking on the family domain and the work domain.

In terms of recommendation for future studies, the unexpected findings of structural equation modelling provide an opportunity for future research. The SEM analysis provided some side results that were not a part of the main focus or interest of the present study. The first of these is that although a review of previous meta-analysis research strongly implicated work involvement as an antecedent of work-family conflict (Byron 2005, Ford et al. 2007), the present study found no significant relationship between work involvement and work-to-family conflict. Second, this study did not find a statistically significant relationship between operational flexibility and work-to-family conflict. As discussed in the literature review in chapter two, previous studies have reported inconsistent results about the relations between flexibility and work-family conflict; some of them reported work flexibility negatively related to work-family conflict, whereas others reported a positive relationship between work flexibility and work-family conflict. More recently, Prowse and Prowse (2015) suggested the effect of flexible working conditions and work-family balance may well depend on the

context. For example, their investigation of job status in the midwifery profession identified that fulltime midwives were disadvantaged in comparison to part-time midwives who received more benefits from flexible working conditions. Therefore, further studies are needed to interrogate the unexpected results obtained in this study.

6.6. Conclusion

This study has added to the literature concerning online social networking by quantifying online social networking as a bidirectional construct and presenting a deeper understanding of how online social networking has the potential to affect work-family balance in Australia. Two separate models were used here to investigate the effects of online social networking on work-family balance in the family domain and the work domain. This also included whether the effect of online social networking is transportable from one domain to the other domain without affecting the predictors of the other domain. The SEM findings suggest cross-domain online social networking activities negatively affect work satisfaction and family satisfaction. In addition, the indirect relations suggested the result of cross-domain usage of online social networking is transportable from one domain to the other domain. Furthermore, the Fs/QCA findings revealed some of the demographic features of social networking site users were connected to higher levels of work-family balance, including marital status, job status, age, number of children and being a social networking website user. In addition, Fs/QCA findings supported the results of SEM, as higher levels of involvement in online social networking negatively relates to work-family balance.

The implications of these findings suggest banning social networking websites in the workplace might be an overreaction, as the negative effect of online social networking could still be transportable from the family domain into the work domain. Organisations need to have in place policies, procedures and structures to focus more on job outcomes rather than focusing on banning social networking websites. Organisations need to increase trust and commitment; thus, employees may continue to participate in online social networking but they will put the organisations' wants and needs ahead of cross-domain online social networking. In addition, organisations need to develop new policies and standards before focusing on enterprise online networking, as enterprise online networking may increase the conflict between the work domain and the family domain.

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APENDEX A
RESEARCH INSTRUMENT

Dear Participant,

I am a graduate student at Curtin University. For my doctoral project, I am examining the relationship between online social networking (interacting with others through web based services such as Facebook and Twitter), and work and family balance. If you are over 18 years of age, I am inviting you to participate in this research study by completing the questionnaire below. This invitation is solely based on your membership of an online social networking site.

This will require approximately 15 minutes of your time. By default, the survey is set to Save and Continue your progress. If you close the survey without finishing, the next time you click on the link, you will be taken to where you left off previously.

There is no compensation for responding nor is there any known risk. In order to ensure confidentiality, please *do not* include your name. If you choose to participate in this project, please answer all questions as honestly as possible. Your answers will help me to determine the effect of online social networking on job satisfaction and family satisfaction. Your answers will play an important role in identifying positive and negative effects of online social networking for both family life and the workplace. The results of this survey will be published as a thesis and academic articles and information will be aggregated so no individual can be identified.

If you require additional information or have questions, or if you change your mind and want to withdraw your data from the survey at any time, please contact Associate Professor Brenda Scott-Ladd at B.Scott-Ladd@curtin.edu.au or +61 8 9266 9150. This project has been reviewed based on the National Statement on Ethical Conduct in Human Research 2007 and approved by the Curtin University Research Ethics Committee (Approval Number SOM-14-13). The committee is comprised of members of the public, academic, lawyers, doctors, and pastoral carers. If needed, verification of approval can be obtained either by writing to the Curtin University Human Research Ethics Committee, c/office of Research and Development, Curtin University, GPO Box U1987, Perth, 6845 or by telephoning 92662784 or by emailing hrec@curtin.edu.au.

I appreciate your assistance and look forward to receiving your response.

Sincerely,
Farveh Farivar

farveh.farivar@postgrad.curtin.edu.au

Indicate if you agree or disagree with the following statement using the 1-7 scale below; by clicking on the appropriate number. “Work” and “job” refer to all work-related activities that are part of your paid employment. “Family” refers to family roles, including being a parent, being a partner/ spouse, son/daughter, friend, housemates and your overall home life.

Strongly disagree	Disagree	Slightly disagree	Neither agree nor disagree	Slightly agree	Agree	Strongly agree
1	2	3	4	5	6	7

- **This set of questions is related to flexibility of work**

1	I am able to arrive and depart for work when I want
2	I am free to work the hours that are best for my schedule
3	I would easily take a day off or work, if I wanted to
4	There is no flexibility in my schedule
5	Others direct my activities at work
6	It is OK with my employer if I work at home
7	I can choose what I do at work
8	I have a say in what goes on at work
9	I am in charge of my activities at work
10	I determine where I place my time and energies at work

- **This set of questions is about the stress at the workplace**

At my workplace:

11	I am unsure about what people expect of me
12	I have too much work to do
13	I do not have enough time to get everything done on my job
14	I have to work very hard-either physically or mentally
15	There is not clear goals and objectives for my job
16	I feel that I have a lot of responsibility for the work of others
17	I am confused about what exactly I am supposed to do
18	I have too little help or equipment to get the job done
19	I am under pressure to keep up with new ways of doing my tasks
20	I work too many hours

- **This set of questions is related to the conflict you experience between your work and family responsibilities**

In the past 3 months,

21	I have not had enough time for my family or other important people in my life
22	I have not had enough energy to do things with my family members or friends
23	I was not in a good mood as I would like to be at home
24	I have not been able to get everything done at home each day

In the past 3 months, my family and my personal life have

25	kept me from completing work responsibilities on time
26	kept me from being as good as I could be at work
27	drained me of the energy that I needed to do my job
28	kept me from concentrating on my job duties
29	kept me from taking on extra work at my job

- **These sets of questions are related to the importance of your job and your family**

30	The most important things that happen to me involve my present job
31	I am <u>very much</u> personally involved with my job
32	<u>Most</u> of my interests are centred around my job
33	To me, my job is a <u>very large</u> part of <u>who</u> I am
34	My job is a very important part of my life.
35	<u>The most</u> important thing that happens in life involves the family
36	It is important to be involved with the family
37	Being involved with family life makes life more worthwhile
38	The family should be a <u>large part</u> of life
39	The family should be considered as the <u>centre</u> of life
40	An individual's life goals should be <u>mainly</u> family oriented

- **These questions relate to your overall satisfaction**

41	I find real enjoyment in <u>my job</u>
42	I like <u>my job</u> better than the average person
43	I am seldom bored with <u>my job</u>
44	I would not consider taking another kind of <u>job</u>
45	I Feel Fairly well satisfied with <u>my job</u>
46	Most days I am enthusiastic about <u>my job</u>
47	I feel fairly well satisfied with my <u>family life</u>
48	I like <u>my family life</u> better than the average person does
49	I am often bored with <u>my family life</u>
50	I find real enjoyment in <u>my family life</u>
51	Most days I am enthusiastic about <u>my family life</u>

- **This set of questions is about the stress at home**

This describes me:

52	There is a <u>great deal</u> of nervous strain in <u>juggling</u> family demands
53	Coping with daily home duties is trying and stressful
54	I am usually tense or nervous at home because of my responsibilities at home
55	At the end of the day, I am completely exhausted by my family responsibilities.

- **Online social networking behaviour**

56. How often do you usually log on your profile on a social network website?

Rarely	Once a month	Less than once a week	Once a week	Once in a few days	Several times a day	I am constantly logging on
1	2	3	4	5	6	7

57. Does your workplace have a private online social network that connects you and your colleagues to each other?

Yes

No

If you HAVE a private social networking site at the workplace, please answer to the three following questions:

58. Do you use the site for work-related purposes when you are at home?

Yes

No

59. How long (On average) do you spend on the public social networking sites per session at work?

Less than 15 minutes
30 minutes to 1 hour
1.5 hours to 2 hours
More than 3 hours

Less than 30 minutes
1 hour to 1.5 hours
2 hours to 2.5 hours

60. How long (On average) do you spend on private social networking sites at home?

Less than 15 minutes
30 minutes to 1 hour
1.5 hours to 2 hours
More than 3 hours

Less than 30 minutes
1 hour to 1.5 hours
2 hours to 2.5 hours

61. How often do you use online social networking for personal demands at your workplace?

Never 0%	Rarely, in less than 10%	Occasionally, in about 30%	Sometimes, in about 50%	Frequently, in about 70%	Usually, in about 90%	Every time 100%
1	2	3	4	5	6	7

62. How often do you use online social networking for work demands at home?

Never 0%	Rarely, in less than 10%	Occasionally, in about 30%	Sometimes, in about 50%	Frequently, in about 70%	Usually, in about 90%	Every time 100%
1	2	3	4	5	6	7

63. What is your favourite public social networking site? (eg. Facebook, Twitter, QQ, Bebo, etc)

64. If you NOT participating with any public online social networking website, what is the main reason?

I do not have enough time
It is not interesting for me
I do not want any publicity
It is against my religion

I think it is not safe

I prefer offline communication (Face-to-face) to online communication

I used to use online social websites, but I left them because of bad experience

65. Do you have access to public online social networking websites like Facebook in your workplace?

Yes

No

66. Please rate from 1 to 7, how often do you use social networking services to:

Find information	1...2...3...4...5...6...7
Get an opinion	1...2...3...4...5...6...7
Entertain	1...2...3...4...5...6...7
Enable me to contact with others	1...2...3...4...5...6...7
Follow what is happening in the lives of others	1...2...3...4...5...6...7
Share your experience	1...2...3...4...5...6...7
Let me entertain my friends	1...2...3...4...5...6...7

67. Have you ever experienced any type of bad experience when you were using online social networking website? (e.g, abusive messages, unwanted messages, harassment)

Never 0%	Rarely, in less than 10%	Occasionally, in about 30%	Sometimes, in about 50%	Frequently, in about 70%	Usually, in about 90%	Every time 100%
1	2	3	4	5	6	7

68. Using online social networking sites is stressful

Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
1	2	3	4	5	6	7

➤ Demographic Questionnaire

1. What is your age?

Less than 18	
Less than 25 years	
25-34	
35-44	
45-54	
55-64	
+65	

2. Which of the following describes you?

Male

Female

3. What is your marital status?

Married	
Living with a partner/de facto	
Widowed	
Divorced	
Separated	
Never married	

4. Are you currently in paid employment?

Yes, Full-time	
Yes, Part time	
Yes, Casual	
No	
No, I have retired	

5. Do you have children? Yes No

6. How many children do you have at home?

one	
One child	
Two children	
Three children	
More than three children	

7. Please, specify the age of your children as

Under 2 years of age	
Between 2-5	
Between 6-15	
Between 16-18	
Above 18	

8. Which of the following describes your family status?

Dual-career couples Single-career couples

9. Which state do you work in?

WA	
VIC	
SA	
NT	
NSW	
Queensland	
Tasmania	
ACT	

APPENDIX B
MPLUS SYNTAX

1. *Work domain model Syntax*

VARIABLE:

NAMES ARE TF1 TF2 TF3 TF4 TF5
OF1 OF2 OF3 OF4 OF5 RA1 RA2 RA3
Wpr1 Wpr2 Wpr3 Wpr4 WPr5 WPr6 WPr7
WFC1 WFC2 WFC3 WFC4 FWC1 FWC2 FWC3 FWC4 FWC5
WI1 WI2 WI3 WI4 WI5 FI1 FI2 FI3 FI4 FI5 FI6
WSat1 WSat2 WSat3 WSat4 WSat5 WSat6
FSat1 FSat2 FSat3 FSat4 FSat5
FS1 FS2 FS3 FS4 OSN3 OSN8 OSN15 OSN16 OSN17;

USEVARIABLES ARE TF1 TF2 TF3 TF4 TF5
OF1 OF3 OF4 OF5 RA1 RA2 RA3
Wpr1 Wpr2 Wpr3 WPr6 WPr7
WFC1 WFC2 WFC3 WFC4
WI1 WI2 WI3 WI4 WI5
WSat1 WSat2 WSat3 WSat4 WSat5 WSat6
FSat1 FSat2 FSat3 FSat4 FSat5
OSN3 OSN8 OSN15 OSN16 OSN17;

CATEGORICAL ARE TF1 TF2 TF3 TF4 TF5
OF1 OF3 OF4 OF5 RA1 RA2 RA3
Wpr1 Wpr2 Wpr3 WPr6 WPr7
WFC1 WFC2 WFC3 WFC4
WI1 WI2 WI3 WI4 WI5
WSat1 WSat2 WSat3 WSat4 WSat5 WSat6
FSat1 FSat2 FSat3 FSat4 FSat5
OSN3 OSN8 OSN15 OSN16 OSN17;

ANALYSIS:

ESTIMATOR=WLSMV;
Processors=4;
Bootstrap=1000;

MODEL:

TF BY TF1* TF2 TF3 TF4@1 TF5;
OF BY OF1* OF3 OF4 OF5@1;
RA BY RA1* RA2@1 RA3;
WPR BY Wpr1* Wpr2@1 Wpr3 WPr6 WPr7;
WFC BY WFC1* WFC2 WFC3@1 WFC4;
WI BY WI1* WI2@1 WI3 WI4 WI5;
WSAT BY WSat1 WSat2 WSat3 WSat4 WSat5 WSat6;
FSAT BY FSat1* FSat2 FSat3 FSat4@1 FSat5;
OSN BY OSN3* OSN8 OSN15 OSN16 OSN17@1;
WSAT ON WFC TF OF RA WPR WI OSN;
FSAT ON WFC TF OF RA WPR WI OSN;
WFC ON TF OF RA WPR WI OSN;
FSAT WITH WSAT;

MODEL INDIRECT

WSAT VIA WFC TF;
WSAT VIA WFC OF;

WSAT VIA WFC WI;
WSAT VIA WFC OSN;
WSAT VIA WFC WPR;
WSAT VIA WFC RA;
FSAT VIA WFC TF;
FSAT VIA WFC OF;
FSAT VIA WFC WI;
FSAT VIA WFC OSN;
FSAT VIA WFC WPR;
FSAT VIA WFC RA;

OUTPUT:

STANDARDIZED CINTERVAL (BCBOOTSTRAP);

2. Family domain model Syntax

VARIABLE:

NAMES ARE TF1 TF2 TF3 TF4 TF5
OF1 OF2 OF3 OF4 OF5 RA1 RA2 RA3
Wpr1 Wpr2 Wpr3 Wpr4 WPr5 WPr6 WPr7
WFC1 WFC2 WFC3 WFC4 FWC1 FWC2 FWC3 FWC4 FWC5
WI1 WI2 WI3 WI4 WI5 FI1 FI2 FI3 FI4 FI5 FI6
WSat1 WSat2 WSat3 WSat4 WSat5 WSat6
FSat1 FSat2 FSat3 FSat4 FSat5
FS1 FS2 FS3 FS4 OSN3 OSN8 OSN15 OSN16 OSN17;
USEVARIABLES ARE
FI1 FI2 FI3 FI4 FI5 FI6
FS1 FS2 FS3 FS4
FWC1 FWC2 FWC3 FWC4 FWC5
WSat1 WSat2 WSat3 WSat4 WSat5 WSat6
FSat1 FSat2 FSat3 FSat4 FSAT5
OSN3 OSN8 OSN15 OSN16 OSN17;

CATEGORICAL ARE

FI1 FI2 FI3 FI4 FI5 FI6
FS1 FS2 FS3 FS4
FWC1 FWC2 FWC3 FWC4 FWC5
WSat1 WSat2 WSat3 WSat4 WSat5 WSat6
FSat1 FSat2 FSat3 FSat4 FSAT5 OSN3 OSN8 OSN15 OSN16 OSN17;

ANALYSIS:

ESTIMATOR=WLSMV;
Processors=4;
Bootstrap=1000;

MODEL:

FI BY FI1* FI2 FI3@1 FI4 FI5 FI6;
FS BY FS1* FS2 FS3@1 FS4;
OSN BY OSN3* OSN8 OSN15@1 OSN16 OSN17;
FWC BY FWC1* FWC2@1 FWC3 FWC4 FWC5;
FSAT BY FSat1* FSat2 FSat3 FSat4@1 FSAT5;
WSAT BY WSat1* WSat2 WSat3 WSat4 WSat5 WSat6@1;

FSAT ON FWC FI FS OSN;
WSAT ON FWC FI FS OSN;
FWC ON FI FS OSN;
FSAT WITH WSAT;

MODEL INDIRECT

FSAT VIA FWC FS;
FSAT VIA FWC FI;
FSAT VIA FWC OSN;
WSAT VIA FWC FS;
WSAT VIA FWC FI;
WSAT VIA FWC OSN;

OUTPUT:

STANDARDIZED CINTERVAL (BCBOOTSTRAP);