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Balancing multiple roles: A pilot study exploring the complexity of role balance in working mothers with primary school aged children

Katherine Prince
Edith Cowan University

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Running head: ROLE BALANCE AMONGST WORKING MOTHERS

Balancing Multiple Roles: A Pilot Study Exploring the Complexity of Role
Balance in Working Mothers with Primary School Aged Children

Katherine Prince

A report submitted in partial fulfilment of the requirements for the award of

Bachelor of Science (Occupational Therapy) (Honours)

Faculty of Computing Health and Science,

Edith Cowan University

Submitted, 18 September 2009

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Acknowledgements Page

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INDIVIDUAL COPING STRATEGIES FOR ROLE BALANCE AMONGST WORKING MOTHERS: A LITERATURE REVIEW

Katherine Prince

Katherine Prince is an honours student within the occupational therapy program at Edith Cowan University. She was the principle researcher for the pilot study on which this literature review is based, where she examined the individual coping strategies utilised by working mothers to maintain role balance. This research project formed part of the pilot study for a larger doctoral study on *Role Balance for Working Women with Multigenerational Caring Responsibilities*, being conducted by her honours supervisor, Kiah Evans (also of Edith Cowan University).

Address for correspondence:

Katherine Prince

Occupational Therapy Program

Edith Cowan University

270 Joondalup Drive

JOONDALUP WA AUSTRALIA 6027

Phone: 08 6304 5523

Email: kprince@student.ecu.edu.au

INDIVIDUAL COPING STRATEGIES FOR ROLE BALANCE AMONGST WORKING MOTHERS: A LITERATURE REVIEW

Abstract

For working mothers, maintaining a balance between work and parenting roles is a challenge. Each role presents its own set of physical, mental and temporal demands which frequently compete for the limited personal and environmental resources available to the mother. These competing demands can create conflict and stress, which prompts a coping response. The coping response initiated is a physiological reaction to the mother's appraisal of her situational conflict, and follows a process of appraisal. Firstly the working mother appraises the conflict itself. This is followed by the appraisal of the personal and environmental resources, constraints and demands. Finally, a coping strategy is chosen and implemented. Three commonly utilised coping strategies are discussed: increased role behaviour, role redefinition and accessing support. This literature review demonstrates that the Ecology of Human Performance Framework can be used to explore the coping process for working mothers, by considering the personal, contextual, task and performance factors that impact on their ability to achieve role balance.

Key Words: Mothers, working women, work-life balance, work-life conflict

Author: Katherine Prince

Supervisor: Kiah Evans

Supervisor: Dr Sonya Girdler

September 2009

Introduction

In the last 40 years, the number of mothers entering the Australian workforce has risen from 23 to 44 percent (Australian Bureau of Statistics, 2006b). With this increase, working mothers have become a major focus of research, resulting in their lives being depicted as an act of juggling inequitable childcare, domestic activities and paid employment (Pocock, 2000; Squire & Tilly, 2007). Interestingly, research also shows that despite juggling the demands of many roles, a large number of mothers still manage to gain a sense of balance (Headey & Warren, 2008). In light of these contrasting portraits, interest into how mothers manage to balance both their parenting and worker roles is growing (Craig, 2005; Gudmondsson, 2004; Houle, Chiocchio, & Favreau, 2009).

Within the work-family literature, research has explored role balance in terms of role conflict (Greenhaus & Beutell, 1985), role enhancement (Greenhaus & Powell, 2006), role accumulation (Sieber, 1974) and the impact of multiple roles on health and wellbeing (Rothbard, 2001). Role balance occurs when an individual has arranged their life to allow adequate balance between their work and family roles (Backman, 2004; Christiansen & Matuska, 2006). That is role balance can be achieved when an individual is able to minimise the conflict that occurs when the demands of one role make performance in another role difficult (Greenhaus & Beutell, 1985). A major component of role balance therefore, is the management of role conflict through the process of coping (Frone, 2002).

Although role balance has been extensively explored, very little research has been conducted on the individual coping strategies used by working mothers to cope with the conflicting demands of their work and family roles (Eby, Casper, Lockwood, Bordeaux, & Brinley, 2005; Rothbard, 2001). Similarly, research has not adequately explored the complexity of the process involved in selecting the type of

coping strategy to restore balance (Thompson, Poelmans, Allen, & Andreeassi, 2007). This paper aims to fill these gaps in the literature by presenting a theoretical framework that addresses individual and contextual factors impacting on the perception of work-life balance, and the process of selecting and implementing coping strategies to restore work-life balance.

Method

Two related questions guided the literature search for this review. How do working mothers cope with the demands of work and family? And what personal coping strategies do they use? Meditext, Medline, ISI Web of Science and Metaquest were used to search for articles related to these questions using the terms; maternal employment, working mothers, dual income earners, coping, adaptation, psychological, problem solving, avoidance, emotion focused, problem focused, stress, role balance, work-life balance, role conflict work-life conflict and role overload. Due to the limited literature on this topic a manual search of the reference lists of articles found was used to identify further relevant studies. The literature was reviewed and coded to identify common themes. These common themes were then used as key words to gain further information on common strategies and factors impacting on working mothers' coping ability.

Theoretical Framework

Work-life balance is a complex and dynamic concept, and is experienced differently by each individual (Crozier-Durham, 2007). As such, a theoretical framework has been selected that considers the individual nature of coping, the type of coping strategies chosen and their relationship to work-life balance.

Coping describes the cognitive and behavioural patterns, utilised by an individual, to manage a situation appraised as stressful or threatening (Lazarus & Folkman, 1984). According to Lazarus and Folkman's (1984) Stress and Coping Model, coping occurs in a number of stages. Firstly when role conflict occurs, the individual must appraise the degree of threat presented by the situation. If the situation is appraised as threatening, the person must then appraise the context in regards to the resources available and the demands of the task or situation. Finally, a choice must be made on the personal coping strategy to be used to resolve the problem or deal with the resulting emotion.

Recent literature on coping has suggested that the stress and coping process does not occur independently. Rather, it is a complex phenomenon that is intertwined with the person, the context, the demands and resources of the environment and the dynamic relationship between them (Folkman & Moskowitz, 2004). The impact that personal and contextual factors have on an individual's coping process, and ability to maintain work-life balance, can be explored using the Ecology of Human Performance Framework (Dunn, Gilbert, & Parker, 1996).

Within the occupational therapy literature, the Ecology of Human Performance Framework (EHP) is an example of an approach to assist individuals to cope with occupational performance issues in relation to personal and contextual factors. The EHP Framework is useful for exploring the dynamic relationship

between the four major constructs of person, context, task and performance (Dunn et al., 1996; Kramer, Hinojosa, & Royeen, 2003).

The construct of person within the EHP Framework refers to intrinsic factors such as values, personality, skills, abilities, and experiences that make up the complex human being (Dunn et al., 1996; Kramer et al., 2003). All of these interrelated factors work to allow the individual to navigate the work-family interface. Although it is acknowledged that all of these factors are important, due to the complexity of these factors and the scope of this paper, only values and personality traits responsible for self evaluation will be explored.

Context within the EHP Framework refers to the inter-related components of temporal, physical, social and cultural context. These components allow exploration of the resources and constraints within the work and home environment that impact on a working mother's ability to balance her work and parenting roles (Dunn et al., 1996; Kramer et al., 2003).

Tasks within the EHP framework are units of performance specific to the role being performed. Performance within the EHP Framework then relates to a person's ability to perform the tasks associated with a given context. Within the processes of performance, an individual uses their skills and abilities to determine which tasks they want or need to do. Their ability to carry out these tasks successfully is dependent on the skills and abilities of the person and the supports and constraints of the context in which the tasks are performed (Dunn et al., 1996; Kramer et al., 2003).

As illustrated in Figure 1, there is a strong alignment between Lazarus and Folkman's (1994) Stress and Coping Model and the Ecology of Human Performance Framework (Dunn et al., 1996). This allows a comprehensive exploration of the multiple factors influencing the ability of working mothers to cope with multiple roles and ultimately achieve work-life balance.

Literature Review

Person - Appraisal of Conflict

The coping process begins when a conflict occurs which is appraised by the individual as stressful or threatening (Lazarus & Folkman, 1984). The intensity of this threat, and the resulting coping strategy, is influenced by the value ascribed to the conflict and the individual's core self evaluation in relation to their environment (Bolger & Zuckerman, 1995; Fride & Ryan, 2005). Locus of control, self esteem, self efficacy and emotional affect are all components of personality that are involved in core self evaluation (Judge, Locke, Durham, & Kluger, 1998). Each one of these person factors has a unique impact on how role conflict is perceived, how it is managed and ultimately how balance is restored (Kammeyer-Mueller, Judge, & Scott, 2009). As such each will be discussed individually.

The roles of mother and worker are performed to achieve a specific goal and therefore have value, importance and meaning to the performer (Kielhofner, 2008; Kramer et al., 2003). Greenhaus and Beutell (1985) propose that when either the mother or worker role is more valuable in an individual's life, role conflict is intensified. This is because individuals will spend more time and effort on tasks within a role that is more important, leaving less time or energy for the tasks of other roles. For many women the role of motherhood is valued more than any other role, including that of wife (Arendel, 2000; Medina & Magnuson, 2009). For these women, stressors relating to family will be experienced with greater intensity than those women who ascribe greater importance to the worker role. For women whose worker role is more salient, stressors related to work will be greater (Luchetta, 1995).

The level of control a person believes they have over situations involving conflict is termed their locus of control. This sense of control is linked with the level and intensity of role conflict they experience (Fride & Ryan, 2005) and the type of coping strategy they choose (Ingledew, Hardy, &

Cooper, 1997). For example, individuals with an internal locus of control believe that outcomes occur as a result of their own actions. These people have a greater understanding of the connection between action and consequence, and therefore experience a higher sense of personal control over their environment (Rotter, 1966). In addition, they are more likely to using active coping strategies, such as seeking help, organising, scheduling and goal setting (Parkes, 1984; Spector, 1982). Working mothers who have an internal locus of control are therefore less likely to experience role conflict, as they perceive stressors as more manageable and work proactively to control undesirable aspects of their external environment (Noor, 2002). In contrast, individuals with an external locus of control believe that outcomes occur as a result of luck, fate or the influence of others (Rotter, 1966). Consequently, they feel they have little control over what happens, feel greater anxiety, choose suppression or avoidance coping strategies more often (Gianakos, 2002; Sheppard & Crocker, 2008) and experience greater role conflict (Bolger & Zuckerman, 1995; Spector, 1986). As suppression and avoidance strategies have been related to increased negative life experiences, working mothers ascribing control to external sources are more likely to experience conflict and struggle to balance their important life roles (Bowman & Stern, 1995).

The level of self efficacy, or confidence, a working mother has in performing her role related tasks has a strong relationship with her coping ability and role balance (Erdwins, Buffardi, Casper, & Alison, 2001; Kammeyer-Mueller et al., 2009; Stajkovic & Luthans, 1998). Self efficacy determines if and what coping strategy will be used, the amount of effort required and how long effort must be sustained (Stajkovic & Luthans, 1998). For example, working mothers who feel capable of handling the demands of work and family tend to be more task focused, choose active coping strategies and perform successfully (Bandura, 1982; Kammeyer-Mueller et al., 2009). As a result, these mothers experience less conflict and are more likely to maintain a sense of work-life balance (Erdwins et al., 2001). Conversely, a working mother with low self efficacy may decide to avoid activities or roles that she perceives to be

beyond her coping abilities. She may focus more on her deficiencies than on the task, resulting in a longer duration of effort being required and as a result experience poorer performance (Bandura, 1982; Beauregard, 2006).

Described as “the overall affective evaluation of one’s own worth, value, or importance” (Blascovich & Tomaka, 1991, p. 115), the level of self esteem a person has may impact on the level of conflict they feel when the demands of both work and family are great (Beauregard, 2006). This occurs because individuals with low self esteem experience greater distress upon failing a task and tend to generalise that failure to other roles. The result is the perception of a higher level of conflict than actually exists (Brown & Dutton, 1995; Dutton & Brown, 1997). On the contrary, those with high self esteem may be somewhat buffered from distress due to their self worth remaining high even after failure. This may be due to their ability to compensate by drawing feelings of self worth from other domains in their life (Dutton & Brown, 1997). In light of this, self esteem is an important factor to consider when exploring how working mothers cope with and balance multiple role demands (Brown & Dutton, 1995; Dutton & Brown, 1997; Fride & Ryan, 2005).

Positive and negative affect, like all of the other personality dispositions already explored, have the potential to influence coping ability. Research has shown that individuals with higher levels of positive affect have a more positive view of themselves, others and events, and are more optimistic, motivated and energetic (Fride & Ryan, 2005; Judge, Thoresen, Pucik, & Welbourne, 1999; Kammeyer-Mueller et al., 2009). These personal characteristics can result in working mothers having greater determination to achieve a desired goal and promote the use of effective problem solving behaviours. The positive experience of coping effectively, reinforces competency leading to the likelihood of future positive outcomes (Elliott, Sherwin, Harkins, & Marmarosh, 1995). In comparison, working mothers with a negative affect will tend to be self doubting, anxious and view their lives through a ‘darker lens’ (Elliott

et al., 1995). Due to their negatively tainted perception, these individuals report more experiences of role conflict and strain (Decker & Borgen, 1993; Spector, Fox, & Van Katwyk, 1999) and are therefore less likely to feel balanced (Kammeyer-Mueller et al., 2009). As women may be more prone to experiencing negative affect than men (Heinisch & Jex, 1997; Polasky & Holahan, 1998), further exploration of how this personality disposition interferes with coping strategies and perceived work-life balance is needed.

Research integrating personality traits and the stress and coping process is still developing, and is complicated by findings that the impact of each trait may not necessarily be direct but act through attenuating or buffering effects (Ingledew et al., 1997). Despite this, findings still support that the ability to achieve work-life balance differs between individuals and that this is a result of varying personality traits and values that impact on the intensity of role conflict and type of coping strategy selected (Crooker, Smith, & Tabak, 2002; Kammeyer-Mueller et al., 2009; Thompson et al., 2007).

Context - Appraisal of Resources and Constraints

Following the appraisal of a conflict, the second part of the coping process is the appraisal of the environmental context, its resources, and constraints on participation (Lazarus & Folkman, 1984). Context refers to the environment in which working mothers' occupational roles take place. It also refers to the availability and accessibility of resources that either enable her to cope effectively, or hinder her performance, creating conflict and stress (Crooker et al., 2002; Thompson et al., 2007). The main contexts of work, home and community will be explored in terms of their potential to impact on role conflict and coping ability in working mothers striving to achieve work-life balance.

The work context refers to the environment in which the tasks of a mother's worker role take place. In this context, resources such as time (Pocock, 2000; Wolcott & Gleezer, 1995), 'Family friendly' work

policies (Bellavia & Frone, 2005) and opportunity for work autonomy (Duxbury, Higgins, & Lee, 1994; Spector, 1986) can either positively or negatively impact on a mother's sense of balance depending on their availability and accessibility (Crooker et al., 2002). Temporal resources such as hours of work and work schedules can be potential sources of role conflict if they place constraints on a mother's ability to meet parenting responsibilities. This can occur when a mother needs to coordinate work hours with school opening and closing times, or when she requires time off because a child is sick (Wolcott & Gleezer, 1995). In this case, time constraints result in role conflict, which reduce the likelihood of work-life balance. Conversely, working conditions that include flexible working hours and leave entitlements such as parental leave, sick leave and annual leave, allow a mother to coordinate work and caring responsibilities and are therefore an important resource for reducing the conflict between competing roles (Pocock, 2000; Wolcott & Gleezer, 1995).

In a similar vain, organisational culture, defined as a business's beliefs and expectations, plays a key role in enabling or inhibiting work-life balance through increasing or reducing conflict for working mothers (Lee & Duxbury, 1998; Warren & Johnson, 1995; Wolcott & Gleezer, 1995). The term 'Family Friendly', for example, describes an organisational culture that supports working parents in their family responsibilities through the provision of flexible schedules and parental leave (Bellavia & Frone, 2005; Wolcott & Gleezer, 1995). The provision of this supportive environment is essential to the ability of many working mothers to balance their work and parenting roles. However, simply having 'Family Friendly' policies is not sufficient. In order to reduce conflict, supportive supervisors who uphold these policies and understand a worker's conflicting demands are required. When supportive supervision is not provided, mothers are less likely to feel comfortable accessing the 'Family Friendly' programs and resources provided (Warren & Johnson, 1995; Wolcott & Gleezer, 1995).

Another aspect of the work context that can assist in alleviating conflict and thus promote balance, is the opportunity for women to experience work autonomy (Duxbury et al., 1994; Spector, 1986).

Autonomy refers to the amount of control an employee has over when and how tasks are completed, and whether they are involved in making business decisions. Having low control and little input into how work is performed has been linked with higher levels of overload and inter-role conflict (Duxbury et al., 1994).

In contrast to the context of work, the tasks of parenting occur in the home and community. Within this context, coping resources such as child care, instrumental support and emotional support allow women to fulfil both work and family demands simultaneously and so are essential in enabling work-family balance (Pocock, 2000; Wolcott & Gleezer, 1995). Appropriate and affordable child care services for example, provide care for children during work hour's and assist with the transportation of children to and from school. This support allows the mother to focus attention on fulfilling the demands of her worker role while knowing that the needs of her child are also being met (Pocock, 2000). In addition child care is an invaluable resource when unplanned or uncontrollable situations occur, such as when children are sick or on school holidays (Erdwins et al., 2001; Pocock, 2000; Wolcott & Gleezer, 1995). Support with childcare may also be gained through friends and extended family when family care is preferred or when formal supports fail (Wolcott & Gleezer, 1995).

Instrumental support is another resource found in the contexts of home and community. It includes the provision of tangible assistance such as help with cleaning, shopping or other household chores. For many working mothers, instrumental support is gained from their spouse in the form of assistance with childcare, cooking, housework and transport of children to and from extra curricular activities (Pocock, 2000; Wolcott & Gleezer, 1995). The ability to gain such support in these areas is crucial to a mother's ability to manage the conflicting demands of work and family (Gordan & Whelan-Berry, 2004; Wolcott

& Gleezer, 1995). If however, instrumental assistance can not be gained through spousal support, friends; extended family or hired domestic help may provide the assistance needed to reduce role conflict between work and family (Wolcott & Gleezer, 1995).

Within the home and community context, emotional support is a further resource that when available, assists in reducing conflict and aids balance (Gordan & Whelan-Berry, 2004; Lee & Duxbury, 1998). Friends and family that understand the challenges of combining both work and home roles can be a great source of emotional support (Lee & Duxbury, 1998). A further source of emotional support is that of spirituality which can provide hope and comfort for mothers in times of great conflict (Folkman & Moskowitz, 2004). However, some cultural beliefs can, increase the stress and role conflict experienced by working mothers. An example relates to societal expectations of a 'proper mother', requiring a mother to be devoted to the needs of her children. These beliefs provoke feelings of guilt in a mother when the demands of her worker role interfere with her mothering responsibilities (Pocock, 2000).

For a working mother, work, home and community contexts provide the physical space in which her role related tasks take place. These contexts can be either a source of great support or conflict, depending on whether resources match the conflict experienced and how accessible these resources are (Crooker et al., 2002).

Tasks - Appraisal of Demands

The third part of the coping process is that of assessing the demands of the task (Lazarus & Folkman, 1984). The demands of the mother and worker roles are determined by the tasks associated with each role (Kramer et al., 2003). Research exploring the impact of these demands provides evidence

of both positive and negative effects on women's role balance, health and wellbeing. The accumulation of roles and associated tasks have been found to increase self esteem, status and overall life satisfaction (Greenhaus & Powell, 2006; Marks & MacDermid, 1996; Sieber, 1974), however they have also been associated with increased conflict, stress and ill-health (Cooke & Rousseau, 1984; Goode, 1960). As the tasks and demands of the worker and mother role are unique, tasks associated with each of these roles will be discussed separately.

The role of mother is important and complex, requiring considerable time, emotional and cognitive effort (Segal, 2000). The tasks involved in motherhood may be the most influential causes of stress in women's lives, as they are associated more with responsibilities and obligations than privileges (Barnett & Baruch, 1985). Responsibilities and tasks of motherhood change with the maturation of a child, with infants requiring more assistance with self care activities. As the child reaches school age, tasks shift from self care to those of transport, education and emotional development. Mothers are often responsible for transporting children to and from school, social and sporting activities. They attend school activities, parent teacher meetings, assist with homework, provide discipline, facilitate independence, support emotional development and instil awareness of other's feelings and values (Bornstein, 2002; Case-Smith, 2005). The tasks and responsibilities of motherhood are a potential source of stress and conflict, however can also be an opportunity for personal growth and feelings of mastery (Pocock, 2000).

In addition to the child caring role, working mothers are responsible for the majority of domestic duties. Australian time use studies show that although traditional family dynamics have changed, with more mothers entering the workforce, gendered divisions of labour within the home remain largely unchanged. Research suggests mothers spend on average 33 hours per week on child care and domestic tasks, as compared to the fathers' 18 hours per week (Australian Bureau of Statistics, 2009; Craig, 2005; Goward et al., 2005; Headey & Warren, 2008).

In the last 40 years the role of worker has become a common addition to many women's repertoire of roles. The types of employment positions undertaken by mothers are often restricted due to their family obligations and are commonly positions with little scope for advancement and lower levels of financial gain. Australian statistics indicate that 54% of women in the Australian labour force are employed in clerical, sales or service related occupations (Australian Bureau of Statistics, 2006b) and work an average of 16 hours per week, reflecting the additional time demands of their other childcare and domestic duties (Australian Bureau of Statistics, 2006a).

Tasks affect the level of conflict and imbalance that women feel through the demands of each task. As demands vary from one individual to another, depending on factors such as; type of occupation, level of responsibility, number of hours worked and the number and age of their children, so too will a mother's ability to cope with those demands. Due to this, exploring individuals' roles and their associated tasks and demands is essential (Baxter & Alexander, 2008).

Performance - Choice of Coping Strategy

Work-life conflict occurs when the demands or pressures of one role make performance in another role difficult (Greenhaus & Beutell, 1985). In order to cope with this conflict an effective strategy must be chosen that enables the person to achieve balance between all important roles. Choosing the coping strategy is the last stage of the stress and coping process (Lazarus & Folkman, 1984).

According to Lazarus and Folkman (1984), the coping strategies used will be either problem or emotion focused. Problem focused coping involves taking action to address an issue, such as finding out information, asking for help or reducing work hours. Emotional based coping involves reducing the negative emotions associated with the problem, by avoiding the problem or engaging in distracting

behaviours. Within the coping literature, three common individual coping strategies were found: increased role behaviour, role redefinition and accessing support.

Increased Role Behaviour

A common problem focused strategy used by contemporary mothers is increased role behaviour. This personal coping strategy involves the mother attempting to work harder and more efficiently in order to fulfil the demands of all her roles (Freeman, 1988; Pocock, 2000). One method used by mothers is sacrificing their own personal care and leisure time, to ensure they meet the needs of work and family (Craig, 2005; Pocock, 2000). Another is the use of enfolding occupations. Enfolding is a method of time management used by mothers which involves performing two or more occupations simultaneously. An example of such a strategy is assisting with a child's homework while cooking the evening meal (Connolly, 2000). Research on the efficacy of increased role participation has revealed conflicting results. One line of research suggests that because it is usually the mother who makes accommodations to fulfil the demands of childcare and domestic life (Gilbert & Rachlin, 1987; Lee & Duxbury, 1998), women experience multiple sources of stress and feel torn between what they need to do and what they are actually capable of doing (Kushner & Harrison, 2002). Therefore, the aspiration of being 'super-woman', in which women try to be the perfect mother, wife and worker, with limited time and resources is an impossible lifestyle leading to conflict and overload (Duxbury & Higgins, 2003; Gilbert & Rachlin, 1987; Pocock, 2000). In contrast, Freeman (1988), reports that it is possible for 'super-women' to feel enriched and satisfied with life, family and career. However, individuals in Freemans sample combined the use of increased role behaviour with structural role redefinition strategies, potentially reducing the conflict, through delegation of tasks.

Role Redefinition

Role redefinition is a problem focused strategy that can be person, work or family based. Personal role redefinition entails changing one's expectations. For example, a mother may accept that she can not 'do it all', and decide to hire domestic help or put less emphasis on the level of home cleanliness (Pocock, 2000). In the work environment, role redefinition involves changing work colleagues' or supervisors' expectations. Examples of how this can be achieved include asking for work tasks to be adapted, refusing to take on extra responsibility, or reducing work hours (Freeman, 1988; Middleton, 2004). In the family domain, women can redefine their mother and spousal roles through planning, delegating and lowering their standards. For example a mother may delegate domestic responsibilities to her children or spouse (Middleton, 2004; Pocock, 2000).

Accessing Support

Thirdly, actively accessing available instrumental and emotional support from family, community and work is another strategy commonly used by working mothers to balance their work and parenting roles (Rout, Cooper, & Kerslake, 1997). Accessing instrumental and emotional support from a spouse, friend or extended family member has been found to assist working mothers to balance their home and work responsibilities (Gudmondsson, 2004; Lee & Duxbury, 1998; Wolcott & Gleezer, 1995). Formal child care supports are usually only sought when the resources of family and friends have been exhausted (Wolcott & Gleezer, 1995), which in part relates to a lack of available childcare facilities (Headey & Warren, 2008). Despite instrumental support being received by women, many still feel the need for additional assistance (Gudmondsson, 2004; Lee & Duxbury, 1998). In regards to emotional support, women often seek opportunities to discuss the challenges of combining work and family, to assist in the reduction of stress and promote wellbeing (Bernas & Major, 2000; Lapierre & Allen, 2006).

Research suggests that emotional support may not be as effective as instrumental support in its ability to reduce conflict and increase role balance (Lapierre & Allen, 2006).

Coping strategies such as increased role performance, role redefinition and actively accessing support enable mothers to manage conflicts that arise within and between their work and parenting roles (Gudmondsson, 2004; Kushner & Harrison, 2002). The choice of coping strategy is dependent on how role conflict is appraised, the resources and constraints within the environmental context and the demands of the task (Lazarus & Folkman, 1984). Due to this, coping strategies are person and context specific. A strategy perceived to be effective by one individual in a specific situation, may not be effective for the same individual in a different situation or a different individual in a similar situation.

As a result of the individualistic nature of coping strategies, there is an overall paucity of research examining the effectiveness of coping strategies to reduce work-life conflict and improve work-life balance (Folkman & Moskowitz, 2004; Rotondo & Kincaid, 2008; Thompson et al., 2007).

Conclusion

In conclusion, this paper has presented a framework that allows a comprehensive exploration of how working mothers cope with the demands of multiple roles and maintain work-life balance. Using the EHP framework (Dunn et al., 1996), in conjunction with the Stress and Coping Model (Lazarus & Folkman, 1984), this paper describes: how a mother's self evaluations impact on her perception of conflict and the coping strategies she will use, how the environmental context can provide support or hinder performance, how the demands of the mother and worker roles impact on the level of conflict experienced, and finally the individual coping strategies used to regain work-life balance (Folkman & Moskowitz, 2004). Throughout this literature review, evidence has been provided to support the need to

consider personal, contextual, task and performance factors when examining work-life balance as a complex phenomena.

Implications for Practice

Despite the availability of various resources within the workplace, family and community, many working mothers still struggle to cope with numerous roles (Pocock, 2000, 2005). The literature presented within the theoretical framework provides evidence to support the complex, dynamic and individualistic nature of coping and restoration of work-life balance. There is currently insufficient research evidence to guide best practice interventions to assist working mothers to manage their multiple role demands. Future research should investigate the coping process that working mothers undergo in attempting to juggle their worker and mother roles. Initially, a qualitative methodology that allows detailed exploration of the personal, contextual and occupational aspects of negotiating the work-family interface is recommended. Once a greater understanding of the topic has been obtained, interventions based on individual counselling and small group education can be developed and thoroughly evaluated.

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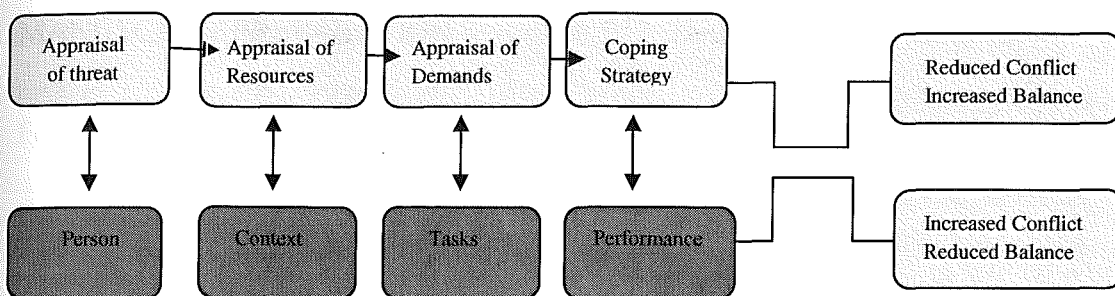
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Appendix A: Theoretical Framework

Stress and Coping Model (Lazarus & Folkman, 1994)



Ecology of Human Performance Framework
(Dunn, Brown & McGuigan, 1994)

Figure 1. Theoretical Framework

Appendix B: Author Guidelines

Journal of Occupational Science

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MANUSCRIPT PREPARATION

Follow APA (5th ed.) guidelines for manuscript preparation.

SUBMITTING A MANUSCRIPT

Prepare your manuscript in separate files. 1. Title, author details, and address for correspondence. 2. Title, abstract, text and references. 3. Figures and Tables. Submit simultaneously to Clare.Hocking@AUT.ac.nz and JOSsecretary@UniSA.edu.au

REFERENCE STYLE

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References should be numbered in the text where they occur, using superscript numbers placed at the end of the sentence and listed in the order in which they appear at the end of the article. The original number assigned to the reference is reused each time the reference is cited in the text. For further

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BOOKS (Vancouver style)

Jones B. Sleepers wake! Technology and the future of work. Melbourne: Oxford University Press, 1982.

CHAPTER

Durant JR. Innate character in animals and man: A perspective on the origins of ethology. In: Webster C (editor). Biology, medicine and society 1840-1940. Cambridge: Cambridge University Press, 1981: 157-192.

JOURNAL ARTICLES (Vancouver style)

Yerxa EJ, Clark F, Frank G, Jackson J, Parham D, Pierce D, et al. Occupational science: the foundation for new models of practice. Occupational Therapy in Health Care 1989; 6(4): 1-17.

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CAPTURING THE COMPLEXITY OF ROLE BALANCE FOR WORKING MOTHERS:
TESTING A THEORETICAL FRAMEWORK

Katherine Prince

Katherine Prince is an honours student within the occupational therapy program at Edith Cowan University. She was the principle researcher for the pilot study described in this paper, where she examined electronic time diaries and the individual coping strategies utilised by working mothers to maintain role balance. This research project formed part of the pilot study for a larger doctoral study on *Role Balance for Working Women with Multigenerational Caring Responsibilities*, being conducted by her honours supervisor, Kiah Evans (also of Edith Cowan University).

Address for correspondence:

Katherine Prince

Occupational Therapy Program

Edith Cowan University

270 Joondalup Drive

JOONDALUP WA AUSTRALIA 6027

Phone: 08 6304 5523

Email: kprince@student.ecu.edu.au

CAPTURING THE COMPLEXITY OF ROLE BALANCE FOR WORKING MOTHERS: TESTING A THEORETICAL FRAMEWORK

Abstract

Despite decades of research, stress and negative health outcomes from role imbalance still cost governments millions of dollars per year. In Western Australia 6 million dollars was spent in compensation for work related stress in the 2001/2002 financial year. Inability to reduce the effects of role imbalance is not due to the lack of research, but rather its fragmented state. This study piloted the effectiveness of a theoretical framework for a doctoral study titled *Role Balance and Working Mothers with Multigenerational Caring Responsibilities*. The framework aims to capture the complexity of role balance through the integration of two theoretical models. A case study design was used to pilot the framework with three working mothers with primary school age children. Data was collected from three sources, a descriptive questionnaire, a three day electronic time diary and a semi structured interview. Global role balance was measured using the Marks and MacDermid eight item *Role Balance Scale*. Activity specific role balance was collected for each activity, over three days, using a *five point likert scale* within the electronic time diary. Results indicate that the theoretical framework, which includes both inter-role conflict and inter-role enrichment along with personal factors, is an effective framework for addressing the complexity of role balance in this population.

Key Words: Work-life balance, work-life conflict, mothers

Researcher: Katherine Prince

Supervisors: Kiah Evans, Dr Sonya Girdler

Date Submission: 18th September 2009

CAPTURING THE COMPLEXITY OF ROLE BALANCE FOR WORKING MOTHERS: TESTING A THEORETICAL FRAMEWORK

Introduction

Role balance has been described as a personally perceived state in which an individual has arranged their life to allow adequate balance between their work and family roles (Evans, 2008). Consequences of the inability to reach this role balance remains a challenge to individuals, communities and governments globally (Brough, Holt, Bauld, Biggs, & Ryan, 2008; Pocock, 2005). The negative impact of role imbalance on the health of individuals alone costs governments millions of dollars every year (Higgins, Duxbury, & Johnson, 2004). There are substantial costs to industry relating to absenteeism, lost productivity and staff turnover (Duxbury & Higgins, 2003; Pocock, 2005). Additionally, in Western Australia, over 6 million dollars was spent in compensation payouts for work related stress in the 2001/02 financial year (Stansbury & Lim, 2004). Despite decades of multidisciplinary research, an understanding of what constitutes a balanced work and family life remains an enigma (Barnett, 1998). One reason for this is that although previous research has provided insight into factors impacting on role balance, research remains disjointed. Without the presence of an integrating theoretical framework the ability to fully understand the complexity of the problem is severely hampered (Barnett, 1998; Eby, Casper, Lockwood, Bordeaux, & Brinley, 2005; Rotondo & Kincaid, 2008).

The lack of a holistic and integrating model has led to an overwhelming focus on inter-role conflict, with studies exploring the negative impact of work on family, and family on work. Although results of these studies support the conclusion that inter-role conflict can have a negative impact on mental and/or physical health, more recent studies suggest work/family interactions can also provide inter-role enrichment (Grzywacz & Bass, 2003; Rothbard, 2001). In

addition to this, although it is known that an inability to cope with inter-role conflict can cause stress and ill-health only 1% of studies in a recent meta-analysis focused on individual coping strategies (Eby et al., 2005).

The divide within the literature between inter-role conflict and inter-role enrichment is not the only barrier to a consolidation of work/family research. Studies also tend to focus on either the work or family role (Barnett, 1998; Ishii-Kuntz, 1994). However, in reality work and family are not separate entities but spheres of life that interact bi-directionally (Pocock, Skinner, & Williams, 2007). Further, individuals usually occupy more than just these two roles resulting in both conflict and enrichment from other roles and the physical, cultural and social contexts in which they occur (Folkman & Moskowitz, 2004; Lazarus & Folkman, 1984).

With the focus of research being on broad relationships, such as inter-role conflict and enrichment between work and family roles, contributing factors relating to the person have not been examined in a holistic manner. Instead, constructs such as role salience (Cinamon & Rich, 2002; Greenhaus & Beutell, 1985), locus of control (Bowman & Stern, 1995; Spector, 1982) self-efficacy (Jex, Bliese, Buzzell, & Primeau, 2001), self-esteem (Dutton & Brown, 1997; Jex & Elacqua, 1999), affect (Heinisch & Jex, 1997; Kaplan, Bradley, Luchman, & Haynes, 2009), positive role experiences (Erlandsson & Eklund, 2003; Pocock, 2000), time spent on roles (Craig, 2005; Crowe & Florez, 2006), role demands (Van Hooff, Geurts, Kompier, & Taris, 2006) and routines (Erlandsson, Rognvaldsson, & Eklund, 2004; Larson, 2000) have been studied in isolation. These factors are inextricably linked with an individual's behaviour and as such can influence their experience of inter-role conflict or inter-role enrichment by influencing how they cope with the demands of their roles (Bolger & Zuckerman, 1995; Fride & Ryan, 2005; Kammeyer-Mueller, Judge, & Scott, 2009).

Studies within the work-family literature have highlighted that a multitude of factors impact on the ability of an individual to balance their work and family roles. What does not exist is a framework that enables an integration of all of these factors (Barnett, 1998; Eby et al., 2005; Rotondo & Kincaid, 2008). This article presents the findings of a pilot study testing a theoretical framework for a doctoral study into role balance for working women with multigenerational caring responsibilities (Evans, 2008). It is hypothesised that this theoretical framework will also be effective in exploring the complexity of role balance among the targeted population for this study, that is, working mothers with primary school aged children. This will be achieved by providing a holistic lens through which to view role balance. Specifically the theoretical framework will enable greater insight into the impact of both the negative (inter-role conflict) and positive (inter-role enrichment) interactions between roles, along with an exploration of the contributing factors relating to the individual person and their environmental context. In addition it will guide exploration of the strategies that working mothers with primary school aged children use to balance work and family responsibilities.

Theoretical Framework

The theoretical framework proposed by Evans (2008, pp. 14-16) is based upon Joseph Sirgy's (2002) conceptualisation of role balance and Gary Kielhofner's (2008) Model of Human Occupation. The theoretical framework (Figure 1) suggests that in order to achieve role balance an individual must have balance both within roles (intra-role balance) and between roles (inter-role balance).

Within the framework inter-role balance is the result of the bi-directional interaction between inter-role conflict and inter-role enrichment. Inter-role conflict is experienced when time, strain or behaviour based pressures of one role make performance in another role difficult, while inter-role enrichment is experienced when resources or assets are utilised to promote performance or positive affect in another role (Greenhaus & Beutell, 1985; Greenhaus & Powell, 2006). Inter-role balance therefore is achieved when conflicts arising between roles are compensated for by benefits gained through participation in meaningful life roles (Sirgy, 2002).

Intra-role balance, or balance within a role is captured by the framework through three inter-related constructs described by the Model of Human Occupation (Kielhofner, 2008): (1) occupational participation, which relates to the tasks associated with a chosen role; (2) volition or motivational forces, including personal causation, values and interests; and (3) habituation, or the habits and routines associated with a task or role.

Finally, the theoretical framework acknowledges that participation in roles, and therefore role balance, occurs within different environmental contexts (Kielhofner, 2008), including familial, organizational, informal and formal societal contexts.

Methodology

To test that the theoretical framework proposed was able to capture and explain the complexities of role balance, a mixed methods case study design was utilized, to explore the experiences of role balance in three working mothers with primary school aged children. This design was appropriate for this study as it enabled in-depth exploration of the experiences of inter-role and intra-role balance of the working mothers within their real-life contexts (Yin,

2009). Complementarity and triangulation were subsequently used to strengthen the validity and reliability of emerging themes (Green & Caracelli, 2003). Prior to the commencement of this study, ethics approval was gained from the Edith Cowan University Ethics Committee.

Participants

Working mothers with primary school aged children were chosen for the study sample, as this particular population is likely to experience complex factors relating to their role balance (Pocock, 2000). Purposive sampling was used to ensure participants met the following inclusion criteria;

- Aged 18 years or older
- Mother to at least one primary school aged child who lives in the same household and attends primary school
- No additional children younger than 5 years or older than 13
- English speaking (fluent written and verbal skills)
- Live in the Perth metropolitan area.

Three participants completed the study; Margaret, Jasmina and Aimee (note pseudonyms have been used).

Margaret is a 50 year old mother who lives in Perth with her husband and 11 year old daughter. Margaret currently works as a full time college lecturer. In addition to her roles as mother and worker, Margaret's role as home maintainer requires that she be responsible for the upkeep of her home. Margaret also spends time with friends, family and the church community on a weekly basis.

Jasmina is a 38 year old mother who lives in Perth with her husband and two boys aged 8 and 11. She works for a large aged care facility as a carer, working 18 hours per week. As well as being a mother and worker, Jasmina's other roles include being a home maintainer, hobbyist, volunteer and carer to her father-in-law.

Aimee is a 41 year old mother of two children, aged six and eight. She lives alone for long periods and is responsible for the caring and domestic duties while her husband works away. In addition, Aimee works 16 hours per week for a large private company as a client service officer. She also enjoys playing netball and socializing with friends and family members.

Data Collection

A number of data collection methods were utilised. These included;

Descriptive Questionnaire

The descriptive questionnaire consisted of closed answer questions to collect demographic information and descriptions of the mothers parenting and worker roles (Portney & Watkins, 2009), the Role Checklist (Oakley, Kielhofner, Barris, & Klinger Reicher, 1986), the Role Balance Scale (Marks & MacDermid, 1996) and Role Cross Impact Matrix (Little, Samela-Aro, & Phillips, 2007).

The Role Checklist (Oakley et al., 1986) collected information on the number and types of roles mothers were engaged in, and their level of importance. Content validity of the checklist has previously been established, in addition to test-retest reliability (weighted kappa ranged from 79-87%) which was tested in a sample of 124 adults (Oakley et al., 1986).

The Role Balance Scale (Marks & MacDermid, 1996) was used to measure role balance across all life roles. Five point likert scales are used to measure eight items that focus on different aspects of the construct of role balance including; enjoyment, attention, importance, satisfaction and effort. Scores on the Role Balance Scale range from 8 to 40, with higher scores associated with greater balance. Cronbach's alpha for the eight point scale was measured at 0.68 in a study of 333 college students who held multiple roles (Marks & MacDermid, 1996) and 0.76 in 133 female counsellors (Bryant & Constantine, 2006).

The Role Cross Impact Matrix (Little et al., 2007) is a tool based on the Personal Project Analysis Technique. This assessment was used to measure inter-role conflict and inter-role enrichment by assessing the impact that each current role (identified through The Role Checklist) had on each other role in the participant's role sets. The matrix uses a five point scale ranging from strong negative impact (-2) to a strong positive impact (+2). As the Role Cross Impact Matrix is one of a set of three measures, psychometric properties specifically related to the matrix have not been reported (Backman, 2005).

Electronic Time Diary

The electronic time diaries used in the study were created using Pocket PC Creations software (OT International, n.d) on personal digital assistants (PDA). Based on the Experience Sampling Method, the diaries collected information on the participants individual experiences within their temporal and physical environment (Hektner, Schmidt, & Csikszentmihalyi, 2007). A series of 14 questions were used to collect data on the participants occupations, thoughts and emotions as they occurred (Backman, 2005). Based on the Occupational Questionnaire (Smith, Kielhofner, & Watts, 1986), additional questions were added (with permission from the author) to enable data to be collected on all aspects of the theoretical framework (Evans, 2008). To

increase efficiency of data entry, the diaries included drop down answer menus containing the occupational areas and occupational participation categories of the International Classification of Functioning, Disability and Health (World Health Organisation, 2001). Adequate test retest reliability of the paper version of the Occupational Questionnaire (Smith et al., 1986) has been established in studies of older adults and students (Backman, 2005).

Semi Structured Interview

A semi structured interview facilitated a greater understanding of strategies utilised by working mothers with primary school age children to balance the responsibilities of their parenting and worker roles. The semi structured style of the interview gave the participants the freedom to identify their own unique ways of managing their multiple roles and gave the researcher a greater understanding of the individual's actual awareness of their use of coping strategies (Kielhofner, 2006).

Data Collection Procedures

Participants were sent an information sheet and questionnaire prior to the initial interview, where informed consent was obtained and participants received training in the use of the PDA and electronic time diary questionnaire. Participants were provided with a PDA, written instructions on completing the diary and a glossary of terms used in the questionnaire. Participants chose three days of the following week on which to record their diaries. Over the three days data was entered by the participant at the transition of every activity from the time they woke up to when they went to bed, using 30 minute increments. All participants were contacted by short text messaging service to provide encouragement during the three days and as a reminder to enter data. Within one week of the completion of the diaries an interview was conducted by the researcher at the participant's home. During this interview data was checked for missing information and clarification gained on any unusual data. Information on strategies that the participants use to cope with the demands of multiple roles was then collected. Both components of the interview were audio recorded with permission.

Data Analysis

Data from the time diaries were scripted into written vignettes of each participant's three days. Demographic data and scores from the questionnaire were then added to the vignettes creating a rich descriptive picture of each participant's life over the three days. Following this calendar diagrams, pie charts, line graphs and bar graphs using Microsoft Excel were created to

analyse time spent in roles and activities and to explore relationships between variables for each participant (Hektner et al., 2007). Given the use of ordinal data, Excel was used to calculate modes within variables daily and over the three days (Jackson, 2003). Statistical significance of the relationship between activity specific role balance and variables relating to intra-role balance were then calculated within SPSS using Spearman's Rank Correlation Co-efficient (Jackson, 2003). Lastly, qualitative content analysis was used to examine verbatim transcriptions of the semi-structured interviews. Transcriptions were read and re-read at both an individual and group level. Descriptive, topic and analytical coding was used to organise the data into emerging topics and categories (Richards, 2005). These were then checked by the researcher's supervisor to minimise bias. Data from all three collection methods was then analysed collectively for each individual and emerging themes organised into the theoretical framework. This was then repeated at a group level.

Findings

To illustrate the relevance of data collected to the theoretical framework, findings have been organised under the theoretical framework headings.

Role Balance

Role balance occurs when an individual experiences balance between (inter-role), and within roles (intra-role), in their lives. Results of the Role Balance Scale (RBS, Marks and MacDermid, 1996) and mode score of activity specific role balance indicated that Jasmina and Aimee perceived their overall role balance to be positive. Discrepancy however was found in Margaret's scores with the RBS indicating a neutral perception of her overall role balance and her mode

diary score suggesting very positive activity specific role balance (Table 1). Discrepancy between the RBS and the diary mode score could be due to the RBS collecting a retrospective response, which may be affected by the tendency of some individuals to over focus on negative events (Kahneman & Krueger, 2006). In contrast, the role balance question in the time diary captures feelings of role balance for one specific activity period only, thus not allowing the opportunity for the participant's response to be influenced by other negative events.

The level of activity specific role balance varied within each participant's time diary responses (Table 1). Aimee reported the least variation, with all activity periods rated as either satisfied or very satisfied with her role balance. Jasmina experienced the greatest range, with two days containing activities which lead her to feel either very satisfied with her role balance or not very satisfied with her role balance within the same 24 hour period. In addition to the range of role balance experiences, the degree of consistency in the levels of role balance varied for each individual. When exploring Margaret's activity specific role balance in more detail, fluctuations occurred frequently throughout each day with no apparent pattern. In contrast, there was a high level of consistency in Aimee's responses, where a pattern emerged of moving from very (role) balanced in the mornings, to less (role) balanced in the afternoons, and finally greater role balance again at night.

Inter-Role Balance

Inter-role balance was evident for both Margaret and Aimee. Aimee recorded no inter-role conflict indicating overall positive role balance. Margaret's data illustrated the interaction of both inter-role conflict and inter-role enrichment, with her worker and mother roles having both positive and negative effects on other roles. Margaret's overall positive activity specific role balance score suggests that the positive aspects of her mother and worker roles may compensate

for their negative aspects. Jasmina, had a more modest positive overall activity specific role balance score. She also recorded no enrichment from her worker role to her mother role, and only minimal enrichment from other roles. The lack of positive interaction from worker to parenting role in Jasmina's case may be because her role as a carer is very similar to a parenting role. Therefore, she has less opportunity to gain resources or learn new skills within her worker role to improve her performance in her role as parent. Overall Jasmina's data suggests that her experience of greater inter-role conflict exceeded that of her experiences of enrichment resulting in a lower overall sense of role balance (Table 2).

Intra-Role Balance

Occupational participation.

Specific activities that were undertaken within the mother role for all three participants were similar. Mothers were involved with assisting children with self care, meal preparation, shopping, domestic tasks, education, leisure / recreation and transport. Time in these activities varied greatly, reflecting the individual's different role repertoires. Although the difference in the proportion of time spent on mothering tasks was related to the number of children (participants with two children spent a greater proportion of time directly assisting others) this could also have been due to difference in the number of hours worked and/or the age of the child(ren).

The number of hours spent solely in the mother role for each participant was relatively small. The proportion of time each mother spent where the mother role was combined with other roles (such as home maintainer role) was much greater. This might be a reflection of a primary school aged child's level of independence, or it may relate to the need for mothers to multitask in order to meet the demands of all of their roles in the limited time that they have available.

The type of employment, and associated tasks and hours, for each participant was different. Over the three data collection days Margaret spent an average of 28% of her time in her worker role. The tasks of her role as worker included assisting with education and administration tasks. Jasmina spent an average of 18% of her time in her worker as carer. The tasks associated with her worker role included assisting others with nutrition, mobility, communication and self care. As a Client Service Officer, Aimee spent an average of 10% of her time in her worker role over the three days. The tasks associated with her worker role were communicating and socialising with customers (Table 3).

During the significant periods of time when the women were not engaged in either their mother or worker roles, the participants spent a considerable proportion of their time undertaking tasks related to rest, domestic life and self care (Figure 2). All three participants spent the greatest proportion of their time sleeping (41%, 38% and 44%), while self care and domestic life took up the second highest proportion of time (self care 11%, 5% and 9%), (domestic life 10%, 9%, and 13%).

Values.

For each participant, every role in their role set was identified as either somewhat or very valuable in the Role Checklist. In the diaries, self care and rest activities were identified by all three participants as very important, and assisting others was identified as very important by Margaret and Aimee. Variation occurred in the degree of importance ascribed to specific activities over the three days. This was particularly apparent for Jasmina, where on one day assisting others with self care was identified as *important* and on the following day the same activity was identified as *neither important nor unimportant*. This may suggest that the value

ascribed to the activity changes in response to the demands of the day. This may also suggest that prioritizing activities based on importance is used as a coping strategy, although this was not directly stated by the mothers during the interviews. For Jasmina, a moderate but significant correlation ($r(38) = .682, p < .01$) was found between levels of activity specific role balance and importance of activities. This indicates that for this participant, perception of role balance is greater when performing activities that are of higher importance. This suggests that when time is precious, having to spend time on activities that are not so important may affect perceived role balance.

Personal causation.

All three participants in the study indicated that they were either skilled or very skilled at the majority of the activities that they performed throughout the three day data collection period. None of the participants indicated poor ability in any activity undertaken. However, Margaret and Jasmina both indicated average ability in sleep and self care. Variations in their perceived ability for the same specific activity existed for all three participants. This may suggest that time, strain or behaviour based conflict may have occurred and was significant enough to cause a decrease in the individuals perceived level of ability, but not significant enough to cause a feeling of role imbalance. This is supported by a weak but significant relationship between the level of ability and level of activity specific role balance for both Jasmina ($r(38) = .526, p < .01$) and Aimee ($r(46) = .439, p < .01$)

Enjoyment.

For all three participants sleeping and watching television were the most enjoyed activities over the three days of data collection. Recreation was also highly enjoyed for Jasmina and Aimee, as was self care for Margaret and Aimee. Domestic activities were the least enjoyed

activities across all three participants. For example, Jasmina did not enjoy shopping, preparing meals or assisting others with recreation. Variation was found in the enjoyment of activities both within a day and over the three days. Variation in the enjoyment of activities was found to be strongly and significantly correlated with the level of balance felt by Jasmina ($r(38) = .803, p < .01$) and moderately but significantly correlated with the balance felt by Aimee ($r(46) = .661, p < .01$).

Habituation.

Analysis of the time diaries indicates a high level of complexity within each of the participants over the three days. Each participant had six roles within their role set, and changed their primary activity frequently throughout the day (average number of changes per day was 14 for Margaret, 8 for Jasmina and 15 for Aimee). In addition, the total number of secondary activities being undertaken at any given time for each participant ranged from nil (most often whilst sleeping) to four for Margaret, five for Aimee and eight for Jasmina). In Jasmina's case, activity specific role balance had a weak but significant relationship with the number of secondary activities ($r(38) = .341, p < .01$) and the number of roles ($r(38) = .302, p < .01$). The level of interruption to activities during the day also varied within and between participants. Jasmina reported the greatest level of interruption. Weak but significant correlation was found between the level of interruption and the level of activity specific role balance felt by Jasmina ($r(38) = .580, p < .01$) and Aimee ($r(46) = .361, p < .01$).

Although the participant's days comprised of many roles and activities, within each participant, routines were evident. Morning routines for each participant were unique however were guided by the need to either get children to school on time and/or get to work. Routines at work for each participant were different and were guided by the demands of their worker role.

Afternoon routines for all three women were similar in that they were governed by a need to pick children up from school and assist with recreational activities. Evening routines were also similar and consisted of preparing the evening meal, assisting children with homework and preparation for bed. This was followed by rest, with television viewing being the main activity used to relax. The activity patterns found in the data were supported by the participant's acknowledgement of the use of routine as a time management strategy.

Role Balance Strategies

The activity specific role balance scores and the RBS scores discussed above suggest that all three participants have successful coping strategies that enable them to cope with the demands of work and family. Five themes emerged from the qualitative interviews to describe their strategies identified by the women to achieve role balance. These were use of Establishing Family Routines, Planning Ahead, Taking Time for Me, Family Friendly Work Policies and Support from Family and Friends.

Individual Coping Strategies

Establishing family routines.

For each of the three mothers, establishing family routines was central to their ability to achieve role balance and enable quality family time after work and on the weekends. The first aspect in establishing a family routine involved assigning responsibility for specific jobs to family members to do on certain days and making sure these were done, as illustrated by:

“If the family wants me to sit down and watch something with them they know all the chores have to be done...we all know the routine” (Margaret).

The second aspect in establishing family routines involved organising the day so that each person in the family knew what was happening and when it needed to happen. The routine was based on everything being done at a certain time of the day. Times differed slightly from day to day depending on what after school activities were on but these were constant week to week. An example of this time tabling is:

We get up by 7am....I get them to school by 8.20 ...We have our bath at 5 and 5:30pm, we do any homework and when I find that's in place, beautiful!" (Aimee).

Routines were not only used by the mothers to organise the day. For all three mothers, routines were nested within routines. For example, within the routine of school drop off, one participant had a nested routine to manage school paperwork so that it does not get forgotten:

"With the kid's things at school if I have to sign anything, I do it as soon as I get it. It gets signed and goes in an envelope. Everything goes in an envelope so that it is clearly marked, the kids know which way it's going and where it needs to be" (Jasmina).

Planning ahead.

In order to create routines that allowed them to manage the different activities associated with work and family, mothers needed to be able to look forward and plan ahead:

"I have to (plan ahead), otherwise we wouldn't get through and achieve as much as we do, for example my daughter wouldn't be able to have as many things after school as she does if we didn't plan for it" (Margaret).

Planning ahead was either done on a daily, weekly or monthly basis (often with a combination of plans existing concurrently). On a daily basis the mothers planned ahead by

calculating what needed to be done for that day, how much time was available for each activity and the most efficient order to complete those activities. For Margaret, weekly planning of lessons and preparation of paperwork assisted her to meet the demands of her worker role. Planning months in advance was also undertaken by the mothers in order to meet their child caring responsibilities during school holidays. This involved calculating when holidays fell and applying for annual leave.

Taking time for me.

In addition to the strategies that assisted with the management of time, it was also important for mothers to have strategies to manage the psychological effects of trying to balance both parenting and worker roles. Strategies varied from passive activities (for example watching TV) to active pursuits, such as playing sport, socialising or shopping. The amount of time mothers could spend on themselves was dependent on work and family obligations. Some mothers made time for recreation a part of their daily routine:

"Taking time out for me is very important...Time that I have that I can do things for me, I cherish every minute of it. Things I can do by myself without the kids, sometimes is a good thing to be able to bring it back to being me rather than mum or aunty or P&C president or whatever" (Jasmina).

While for others, recreation time was taken when opportunity permitted, as indicated by:

"I would like to have more time to myself but that doesn't happen very often....Leisure time for mamma bear is grab it when you can" (Margaret).

Environmental and Social Supports

Family friendly work policies.

On their own, individual coping skills were not always enough to enable working mothers to successfully balance their work and family lives. There were times when unexpected events occurred that required immediate attention, such as when a child was sick. In these situations, having a family friendly workplace allowed mothers to attend to their child care responsibilities without feeling pressured. Examples of family friendly work policies included job share and plans for replacement staff:

“The good thing about where I am at is that we’re in this job share situation....she covered for me and I owed her a day....Otherwise if you can’t get the cover, you ring head office and they will get a temp” (Aimee).

Along with flexible modes of completing work and acceptance of emergency leave provisions:

“Depending on what the illness is I can have them (kids) at work...work is really flexible so I can just say ‘I’m sorry - can’t do it, can’t go in today’ and they don’t make a big fuss” (Jasmina).

Support from family and friends.

Competing family and work responsibilities, such as needing to get a child to/from school or to after school activities was a challenge for mothers. One way that they were able to manage these competing responsibilities was through enlisting help from family and friends. This was through reciprocal support arrangements:

"We have to (get help from friends), and likewise we do that for other families so it's a given really. We just help each other out" (Margaret).

And structured routines for assistance:

"Mum picks them up on Thursdays and they go to after school care on Fridays" (Aimee).

"He (spouse) takes them to school on Monday and Tuesday when I go to work...He takes them to Tae Kwon Do and stays there with them" (Jasmina).

Although all three mothers gained assistance from family and friends, they took primary responsibility for the majority of caring and domestic chores.

Discussion

The study was successful in demonstrating that the proposed theoretical framework (Evans, 2008) was efficient in exploring the complexity of role balance in a holistic manner. The factors relating to inter-role conflict, inter-role enrichment, occupational participation, volition, habituation and environmental context were explored in relating to their impact on role balance in working mothers with primary school aged children. The findings supported a conceptualisation of role balance as an individualized and dynamic state, where the use of routines and environmental supports facilitate successful role balance.

Recent research has begun to understand the individuality of role balance by exploring person factors such as self esteem, self efficacy and individual values. These factors affect

behaviour in roles, the intensity of conflict experienced and ultimately how balanced an individual feels (Bolger & Zuckerman, 1995; Fride & Ryan, 2005). Findings in this study support the individualistic nature of role balance. Weak to moderate relationships were found to exist for some participants between role balance and ability, enjoyment, and complexity of routines. These relationships support the assumption that many person factors can impact on an individual's ability to achieve balance within a role and hence supports the need for these factors to be included in future explorations of role balance.

In addition to acknowledging its individuality, evidence exists for the dynamic nature of role balance. It has been shown that both positive and negative experiences between roles are possible (Rothbard, 2001). As many interactions can occur over time it seems reasonable to assume that the level of balance a person feels will fluctuate with these interactions. This is substantiated by the finding in this study that participants experienced both conflict and enrichment within roles and that the fluctuation in role balance varied within and between participants on a day to day basis.

Given its individual and dynamic nature, understanding individual strategies for coping with the demands of home and family and maintaining balance is important. Unfortunately little is known about individual strategies and their effectiveness, with most research concentrating on environmental supports such as spousal and organisational support (Gudmondsson, 2004; Lee & Duxbury, 1998; Wolcott & Gleezer, 1995). Within this study, routines played a major role in each mothers' ability to achieve balance between roles. Mothers used routines to manage time on a day to day basis, and to structure activities. Routines therefore may assist mothers with balance both within and between roles.

Overall findings from this study imply that balance is not a static state, rather it appears to be an individualised and dynamic phenomenon, potentially fluctuating each hour of each day with the unique personal and environmental experiences of the individual. As such the many factors identified within the theoretical framework proposed should be considered when trying to understand the experience of role balance.

In interpreting the findings of this study a number of limitations must be considered. Firstly, results of the study may only apply to mothers with medium to high role balance (as in the case of the three participants), as it is unlikely that individuals with very low role balance would participate in a study with a large time commitment. Secondly, it is possible that relationships between variables are stronger than reported due to the five point range of the scales utilised in the diary, and the participant's restricted score range. Thirdly, the small number of participants limited the ability to make comparisons between participants, restricted data analysis to simple descriptive statistics and prevents generalisation of the findings to the broader population of working mothers with primary school aged children. This limitation is acceptable within the pilot study purpose of this research.

Conclusion

Role balance poses a problem for individuals, communities and government; hence integration of past and present literature on the factors influencing role balance is needed. The present study, by piloting the theoretical framework (Evans, 2008) takes the first steps toward this integration and adds to the literature by addressing specific identified gaps. In addition to this, establishing the effectiveness of the theoretical framework to capture the complexity of role balance has clinical implications for occupational therapists. Following further research, this

theoretical framework has the potential to act as a guide for occupational therapists working in the areas of mental health and occupational rehabilitation to assist with work and family stress. Due to its holistic approach, the theoretical framework will encourage a client focused approach to intervention and has the potential to improve clinical outcomes through implementation of individualized programs. Within the field of occupational rehabilitation, this framework may also have the potential to be used by businesses to tailor supports to minimise stress and its negative effect on health for individual employees.

Further to this, information gained in this study will enable all therapists working with this population to have a greater understanding and appreciation of the daily experiences of working mothers with primary school aged children. This has the potential to impact greatly on the ability of occupational therapists in all fields to build rapport with their clients and in turn improve clinical outcomes.

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Appendix A: Figure 1 - Theoretical Framework

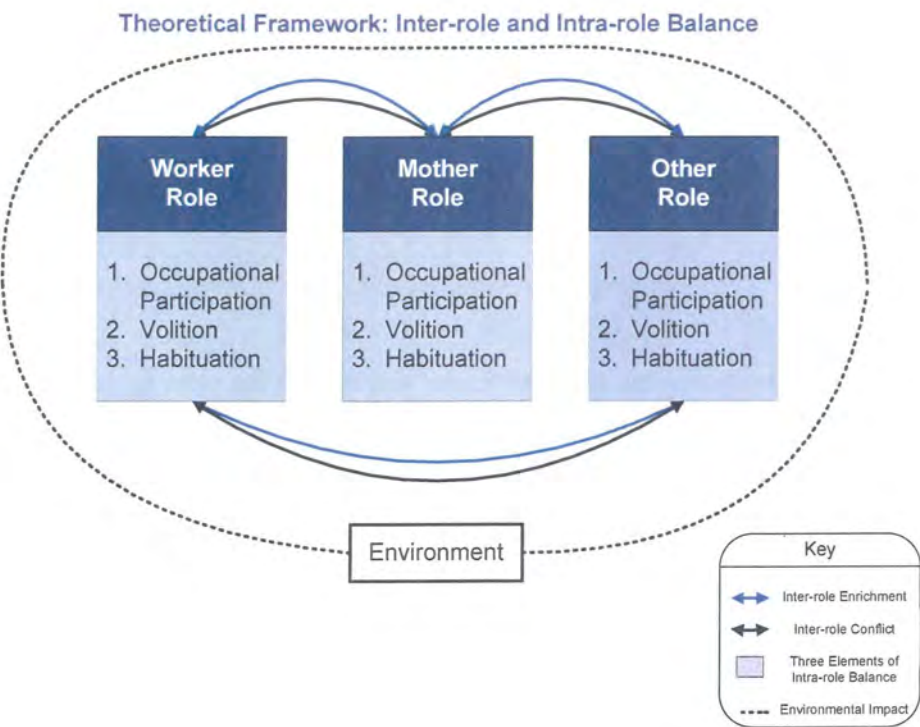


Figure 1. Theoretical Framework

Appendix B: Descriptive Questionnaire

Balancing Multiple Roles: A Pilot Study Testing the Use of Electronic Time Diaries to Capture the Complexity of Role Balance in Working Mothers with Primary School Aged Children.

Questionnaire

Dear Respondent

By completing and returning this questionnaire, you agree to:

- Having received a statement, which explains the research project
- Give your explicit consent to participate in this study and authorise the administration of the questionnaire
- Have been informed that you are free to withdraw from the study at any time

The following survey contains questions about you and your various life roles. The information collected will be seen by the investigator and her supervisor only however, may be used in a larger study to follow.

Please be reminded that if information is used, your identity will remain anonymous. When you complete the questionnaire, it is important to answer as truthfully as possible. Thank you for your help with this research.

Please read the questions carefully and tick the box that applies to you. Do not take long over your replies your immediate reaction to each item will probably be more accurate than a long thought-out response.

You may complete each section of the questionnaire on separate occasions, or all sections at the same time.

Thank you very much for participating in this study. You will be making an invaluable contribution to a better understanding of this area.

SECTION ONE - About You

1. What is your date of birth? (dd-mm-yyyy)

2. What is your post code?

3. What is your marital status at the present time?

- ☐ Never married
- ☐ Divorced
- ☐ Separated but not divorced
- ☐ Married
- ☐ De facto or living together
- ☐ Widowed

4. Please indicate your household's total annual income before tax:

- ☐ Less than \$15,000
- ☐ \$15,000 - \$29,999
- ☐ \$30,000 - \$59,999
- ☐ \$60,000 - \$89,999
- ☐ \$90,000 - \$119,999
- ☐ \$120,000 - \$149,999
- ☐ \$150,000 +

5. What is the highest qualification you have completed?

- ☐ Did not go to school
- ☐ Year 8 or below
- ☐ Year 9 equivalent
- ☐ Year 10 equivalent
- ☐ Year 11 equivalent
- ☐ Year 12 equivalent
- ☐ Trade certificate
- ☐ Bachelor degree
- ☐ Higher degree

SECTION ONE - Continued

6. If you identify as belonging to a specific cultural group that you feel is related to your experience of role balance, or your roles as a worker, mother or carer, please indicate your cultural group in the space provided:

SECTION TWO – About Your Worker Role

1. Thinking again about your work, what is your main occupation? (E.g. your position or job title?)

2. Which one of the following best describes your current type of employment for your main job?

- ☐ Permanent or ongoing
- ☐ Fixed term contract
- ☐ Casual
- ☐ Self employed
- ☐ Other, please specify:

3. How many hours per week are you paid to work in your main job?

hours

4. Which one of the following best describes the category of your employer for your main job?

- ☐ Federal Government
- ☐ State Government
- ☐ Local Government
- ☐ Education
- ☐ Large Private Company
- ☐ Small Business (< 20 staff)
- ☐ Self employed – sole practice
- ☐ Other, please specify:

SECTION THREE - About Your Mother Role

1. Please indicate how many children you have (include adopted and step children)

children

2. What is the age of your child(ren) at their last birthday?

years old
 years old
 years old
 years old
 years old
 years old

Please leave excess spaces blank once you have recorded the age of all children (or feel free to write additional ages below if you have more than 6 children)

3. Please indicate the types of educational institutions that your child(ren) attend

You may tick multiple boxes if you have children at different schooling levels.

- ☐ Not at school yet
- ☐ Pre-school, days/week

Primary school

- ☐ Government
- ☐ Catholic
- ☐ Other non-government
- ☐ Home school

Secondary school

- ☐ Government
- ☐ Catholic
- ☐ Other non-government
- ☐ Home school

Tertiary institution

- ☐ Technical college / TAFE
- ☐ University
- ☐ Other

- ☐ No longer at school

SECTION FOUR – Role Checklist

PART ONE

Beside each role, indicate, by checking the appropriate column, if you performed the role in the past, if you presently perform the role, and if you plan to perform the role in the future. You may check more than one column for each role. For example, if you volunteered in the past, do not volunteer at present, but plan to in the future, you would check the past and future columns.

ROLE	PAST	PRESENT	FUTURE
STUDENT: Attending school on a part-time or full time basis.			
WORKER: Part-time or full-time employment.			
VOLUNTEER: Donating services, at least once a week , to a hospital, school, community, political campaign, and so forth.			
MOTHER: Responsibility, at least once a week , for the care of a child (including step-children and adopted children)			
HOME MAINTAINER: Responsibility, at least once a week , for the upkeep of the home such as housecleaning or yard work.			
FRIEND: Spending time or doing something, at least once a week , with a friend.			
FAMILY MEMBER: Spending time or doing something, at least once a week , with a family member such as a child, spouse, or other relative.			
RELIGIOUS PARTICIPANT: Involvement, at least once a week , in groups or activities affiliated with one's religion (excluding worship).			
HOBBYIST/AMATEUR: Involvement, at least once a week , in a hobby or amateur activity such as sewing, playing a musical instrument, woodworking, sports, the theatre, or participation in a club or team.			
PARTICIPANT IN ORGANIZATIONS: Involvement, at least once a week , in organizations such as civic organizations, political organizations, and so forth.			
CARE GIVER: Responsibility, at least once a week , for the care of someone such as a child, spouse, relative, or friend – other than your child .			
OTHER: _____ A role not listed which you have performed, are presently performing, and/or plan to perform. Write the role on the line above and check the appropriate column(s).			

SECTION FOUR – Continued

PART TWO

The same roles are listed below. Next to each role, check the column which best indicates how valuable or important the role is to you. Answer for each role, even if you have never performed or do not plan to perform the role.

ROLE	NOT AT ALL VALUABLE	SOMEWHAT VALUABLE	VERY VALUABLE
STUDENT: Attending school on a part-time or full time basis.			
WORKER: Part-time or full-time paid employment.			
VOLUNTEER: Donating services, at least once a week , to a hospital, school, community, political campaign, and so forth.			
MOTHER: Responsibility, at least once a week , for the care of a child (including step-children and adopted children).			
HOME MAINTAINER: Responsibility, at least once a week , for the upkeep of the home such as housecleaning or yard work.			
FRIEND: Spending time or doing something, at least once a week , with a friend.			
FAMILY MEMBER: Spending time or doing something, at least once a week , with a family member such as a child, spouse, or other relative.			
RELIGIOUS PARTICIPANT: Involvement, at least once a week , in groups or activities affiliated with one's religion (excluding worship).			
HOBBYIST/AMATEUR: Involvement, at least once a week , in a hobby or amateur activity such as sewing, playing a musical instrument, woodworking, sports, the theatre, or participation in a club or team.			
PARTICIPANT IN ORGANIZATIONS: Involvement, at least once a week , in organizations such as civic organizations, political organizations, and so forth.			
CARE GIVER: Responsibility, at least once a week , for the care of someone such as a child, spouse, relative, or friend – other than your child .			
OTHER: _____ A role not listed which you have performed, are presently performing, and/or plan to perform. Write the role on the line above and check the appropriate column(s).			

SECTION FIVE – Role Balance Scale

The following questions are based on a scale that ranges from strongly disagree to strongly agree, please answer the questions by circling the answer that best describes your situation.

1. Now day's, I seem to enjoy every part of my life equally well.

Strongly Disagree	Moderately Disagree	Neutral	Moderately Agree	Strongly Agree

2. I am pretty good at keeping the different parts of my life in balance, I generally don't let things "slide".

Strongly Disagree	Moderately Disagree	Neutral	Moderately Agree	Strongly Agree

3. Some things I do seem very important, but other things I do are a waste of my time.

Strongly Disagree	Moderately Disagree	Neutral	Moderately Agree	Strongly Agree

4. Everything I do feels special to me, nothing stands out as more important or more valuable than anything else.

Strongly Disagree	Moderately Disagree	Neutral	Moderately Agree	Strongly Agree

5. There are some parts of my life that I don't care much about, and there are other parts I care deeply about.

Strongly Disagree	Moderately Disagree	Neutral	Moderately Agree	Strongly Agree

6. I try to put a lot of myself into everything I do.

Strongly Disagree	Moderately Disagree	Neutral	Moderately Agree	Strongly Agree

7. Work time, classes and study time, partner time, friend time, family time, leisure time – I find satisfaction in everything I do.

Strongly Disagree	Moderately Disagree	Neutral	Moderately Agree	Strongly Agree

8. There are some things I like to do so much that I often neglect other things I also care about.

Strongly Disagree	Moderately Disagree	Neutral	Moderately Agree	Strongly Agree

End of Questionnaire

Please return the completed questionnaire during your scheduled meeting with the researcher.

Thank you very much for your assistance.

Note: Questions used with permission.

Appendix C: Role Cross Impact Matrix

ppa Cross Matrix - Will be loaded onto PDA and completed with assistance from researcher.

For each role, starting with role 1 on the left, decide whether the role will have (or is having) a positive (+) very positive (++) , negative (-) very negative (- -) or neutral impact (0) on the roles across the top. Do the same for role 2, 3 etc, filling in the blocks on both sides of the diagonal. Remember, evaluating the impact of role 2 on role 3 is NOT necessarily the same as evaluating the impact of role 3 on role 2. That is why we want you to complete the entire matrix. Try not to leave any blank boxes.

[illegible]

Appendix D: Questions for Electronic Time Diary

1. What was the date for this activity?*Calendar Date Selection Function***2. What was the start time for this activity?**

- | | | |
|-----------------------------|---------------------------------|-----------------------------|
| <input type="checkbox"/> 12 | <input type="checkbox"/> ...:00 | <input type="checkbox"/> am |
| <input type="checkbox"/> 1 | <input type="checkbox"/> ...:30 | <input type="checkbox"/> pm |
| <input type="checkbox"/> 2 | | |
| <input type="checkbox"/> 3 | | |
| <input type="checkbox"/> 4 | | |
| <input type="checkbox"/> 5 | | |
| <input type="checkbox"/> 6 | | |
| <input type="checkbox"/> 7 | | |
| <input type="checkbox"/> 8 | | |
| <input type="checkbox"/> 9 | | |
| <input type="checkbox"/> 10 | | |
| <input type="checkbox"/> 11 | | |

3. What was the finish time for this activity?

- | | | |
|-----------------------------|---------------------------------|-----------------------------|
| <input type="checkbox"/> 12 | <input type="checkbox"/> ...:00 | <input type="checkbox"/> am |
| <input type="checkbox"/> 1 | <input type="checkbox"/> ...:30 | <input type="checkbox"/> pm |
| <input type="checkbox"/> 2 | | |
| <input type="checkbox"/> 3 | | |
| <input type="checkbox"/> 4 | | |
| <input type="checkbox"/> 5 | | |
| <input type="checkbox"/> 6 | | |
| <input type="checkbox"/> 7 | | |
| <input type="checkbox"/> 8 | | |
| <input type="checkbox"/> 9 | | |
| <input type="checkbox"/> 10 | | |
| <input type="checkbox"/> 11 | | |

4. What was the main type of activity during this period?

- ☐ Self-care
- ☐ Mobility
- ☐ Domestic life
- ☐ Assisting others
- ☐ Education
- ☐ Work and employment
- ☐ Recreation, leisure and interpersonal relationships
- ☐ Civic life
- ☐ Rest

5. What was the main specific activity during this period?

- ☐ Self-care
 - ☐ Washing, toileting, dressing etc
 - ☐ Eating or drinking
 - ☐ Managing diet & fitness
 - ☐ Maintaining one's health
- ☐ Mobility
 - ☐ Walking
 - ☐ Driving
 - ☐ Using transportation
- ☐ Domestic life
 - ☐ Shopping
 - ☐ Preparing meals
 - ☐ Doing housework
 - ☐ Taking care of plants, indoors & outdoors
 - ☐ Taking care of animals
 - ☐ Economic life & transactions
 - ☐ Making & repairing clothes
 - ☐ Maintaining dwellings, furnishings & domestic appliances
 - ☐ Maintaining vehicles
 - ☐ Maintaining assistive devices
 - ☐ Acquiring a place to live
- ☐ Assisting others
 - ☐ Assisting others with self-care
 - ☐ Assisting others with movement
 - ☐ Assisting others with communication
 - ☐ Assisting others with interpersonal relations
 - ☐ Assisting others with nutrition
 - ☐ Assisting others with health maintenance
 - ☐ Assisting others with education
 - ☐ Assisting others with work or employment
 - ☐ Assisting others with recreation or leisure
 - ☐ Assisting others with civic life
 - ☐ Assisting others with domestic life

- Education
 - Informal education
 - Vocational training
 - Higher education
- Work and employment
 - Paid employment
 - Apprenticeship
 - Seeking employment
 - Unpaid employment
- Recreation, leisure and interpersonal relationships
 - Play
 - Sports
 - Arts and culture
 - Crafts
 - Hobbies
 - Socializing
 - Intimate relationships
- Civic life
 - Informal associations
 - Formal associations
 - Ceremonies
 - Organised religious activities
 - Spiritual activities
 - Political life
- Rest
 - Sleep
 - Watching TV
 - Day dreaming
 - Doing nothing

6. I think that I do this:

- ☐ 1 - Very well
- ☐ 2 - Well
- ☐ 3 - About average
- ☐ 4 - Poorly
- ☐ 5 - Very poorly

7. For me this activity is:

- ☐ 1 - Extremely important
- ☐ 2 - Important
- ☐ 3 - Take it or leave it
- ☐ 4 - Rather not do it
- ☐ 5 - Total waste of time

8. How much do you enjoy this activity?

- ☐ 1 - Like it very much
- ☐ 2 - Like it
- ☐ 3 - Neither like it nor dislike it
- ☐ 4 - Dislike it
- ☐ 5 - Strongly dislike it

9. Were you able to complete this activity without interruption?

- ☐ 1 - Without interruption
- ☐ 2 - With minimal interruptions
- ☐ 3 - With some interruptions
- ☐ 4 - With many interruptions
- ☐ 5 - Unable to complete due to interruptions

10. What other activities were you also doing during this activity period? (You can select multiple boxes)

- ☐ Washing, toileting, dressing etc
- ☐ Eating or drinking
- ☐ Managing diet & fitness
- ☐ Maintaining one's health
- ☐ Walking
- ☐ Driving
- ☐ Using transportation
- ☐ Shopping
- ☐ Preparing meals

- ☐ Doing housework
- ☐ Taking care of plants, indoors & outdoors
- ☐ Taking care of animals
- ☐ Economic life & transactions
- ☐ Making & repairing clothes
- ☐ Maintaining dwellings, furnishings & domestic appliances
- ☐ Maintaining vehicles
- ☐ Maintaining assistive devices
- ☐ Acquiring a place to live
- ☐ Assisting others with self-care
- ☐ Assisting others with movement
- ☐ Assisting others with communication
- ☐ Assisting others with interpersonal relations
- ☐ Assisting others with nutrition
- ☐ Assisting others with health maintenance
- ☐ Assisting others with education
- ☐ Assisting others with work or employment
- ☐ Assisting others with recreation or leisure
- ☐ Assisting others with civic life
- ☐ Assisting others with domestic life
- ☐ Informal education
- ☐ Vocational training
- ☐ Higher education
- ☐ Paid employment
- ☐ Apprenticeship
- ☐ Seeking employment
- ☐ Unpaid employment
- ☐ Play
- ☐ Sports
- ☐ Arts and culture
- ☐ Crafts
- ☐ Hobbies
- ☐ Socializing
- ☐ Intimate relationships
- ☐ Informal associations
- ☐ Formal associations
- ☐ Ceremonies
- ☐ Organised religious activities
- ☐ Spiritual activities
- ☐ Political life
- ☐ Sleep
- ☐ Watching TV
- ☐ Day dreaming
- ☐ Doing nothing

11. Which roles were being met during this activity period? (You can select multiple boxes)

- ☐ Worker
- ☐ Mother
- ☐ Parental Care Giver
- ☐ Care Giver (to other)
- ☐ Student
- ☐ Volunteer
- ☐ Home Maintainer
- ☐ Friend
- ☐ Family Member
- ☐ Religious Participant
- ☐ Hobbyist
- ☐ Participant in Organisations
- ☐ Self-maintainer
- ☐ Other, please specify: _____

12. During this activity period did you feel satisfied with the balance between your different roles?

- ☐ 1 – Very satisfied
- ☐ 2 – Somewhat satisfied
- ☐ 3 – Neither satisfied or dissatisfied
- ☐ 4 – Not very satisfied
- ☐ 5 – Not at all satisfied

13. Where were you during this activity period?

- ☐ At home
- ☐ At my parent(-in-law)'s home
- ☐ At work
- ☐ At a friends home
- ☐ At a family members home
- ☐ In the car
- ☐ At a shop
- ☐ At a leisure facility
- ☐ Inside in community
- ☐ Outside in community
- ☐ Other, please specify: _____

14. Who else was present during this activity period? (You can select multiple boxes)

- ☐ I was alone
- ☐ With parent(-in-law)
- ☐ With child(ren)
- ☐ With spouse
- ☐ With sibling(s)
- ☐ With extended family
- ☐ With pet(s)
- ☐ With friend(s)

- ☐ With manager(s)
- ☐ With colleague(s)
- ☐ With client(s) / customer(s)
- ☐ With neighbour(s)
- ☐ With acquaintance(s)
- ☐ With stranger(s)
- ☐ Other, please specify: _____

Appendix E: Interview Guide for Semi-structured Interview

1. Discuss time diary data, with the purpose of correcting any discrepancies and allowing participant to make any further clarifications (ask if there was any activity they couldn't code)
2. Ask participant if the data represents their typical lifestyle? If not, how was it different?
3. Is there anything else you would like to add?
4. What strategies do you use to help you to balance your roles?

Prompts

How effective do you think your strategies have been?

Are there situations where one strategy works better than another?

How do you choose one strategy over another?

Appendix F: Table 1 - Comparison of Role Balance Scale and Activity Specific Role
Balance Mode

Table 1

Comparison of Role Balance Scale and Activity Specific Role Balance Mode

	Margaret	Jasmina	Aimee
Diary Role	2 = Very Balanced	1= Some Balance	2 = Very Balanced
Balance Mode			
Diary Role	Neutral – Very	Not Very – Very	Some – Very
Balance Range	Balanced	Balanced	Balanced
Role Balance	24/40	26/40	32/40
Scale			

Appendix G: Table 2 - Positive and Negative Impact of Roles on Each Other Role

Table 2

Positive and Negative Impact of Roles on Each Other Role

KEY									
Margaret	Worker	Volunteer	Parent	Carer Parent	Home Maintainer	Friend	Family Member	Hobbyist	Self Maintainer
Iasmina									
Aimee									
Worker	x	-2	1	n/a	-1	0	0	-2	-1
Worker	x	0	-1	n/a	-1	0	0	0	-1
Worker	x	n/a	1	n/a	0	1	0	0	0
Volunteer	n/a	x	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Volunteer	-1	x	1	1	-1	1	0	0	0
Volunteer	n/a	x	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Parent	-1	n/a	x	n/a	0	1	2	0	0
Parent	-1	1	x	0	0	1	0	-1	-1
Parent	2	n/a	x	n/a	1	1	1	1	1
Carer to Parent	n/a	n/a	n/a	x	n/a	n/a	n/a	n/a	n/a
Carer to Parent	1	0	0	x	0	-1	1	0	0
Carer to Parent	n/a	n/a	n/a	x	n/a	n/a	n/a	n/a	n/a
Home Maintainer	0	n/a	0	n/a	x	0	0	0	0
Home Maintainer	-1	-1	0	0	x	0	0	0	n/a
Home Maintainer	-1	n/a	1	n/a	x	1	1	0	0
Friend	1	n/a	1	n/a	-1	x	-1	0	1
Friend	-1	0	0	0	0	x	0	0	0
Friend	1	n/a	1	n/a	0	x	1	1	0
Family Member	n/a	1	2	n/a	1	0	x	1	0
Family Member	0	-1	0	2	0	0	x	1	0
Family Member	1	n/a	1	n/a	0	0	x	0	0
Hobbyist	-1	n/a	1	n/a	1	1	1	x	2
Hobbyist	0	0	0	n/a	0	0	0	x	0
Hobbyist	0	n/a	1	n/a	0	1	1	x	0
Self Maintainer	1	n/a	1	n/a	-1	1	1	1	x
Self Maintainer	-1	0	0	0	0	0	0	1	x
Self Maintainer	0	n/a	0	n/a	0	0	0	0	x

Appendix H: Table 3 - Average Time Spent in Mother and Worker Roles

Table 3

Average Time Spent in Mother and Worker Roles

	Margaret	Jasmina	Aimee
Mother	2%	6%	10%
Mother /Other	21%	33%	21%
Worker	29%	18%	10%
Worker /Other	6%	1%	1%
Other	42%	42%	58%
TOTAL	100%	100%	100%

Appendix I: Figure 2 - Proportion of Time Spent in Occupational Performance Areas Over Three Days

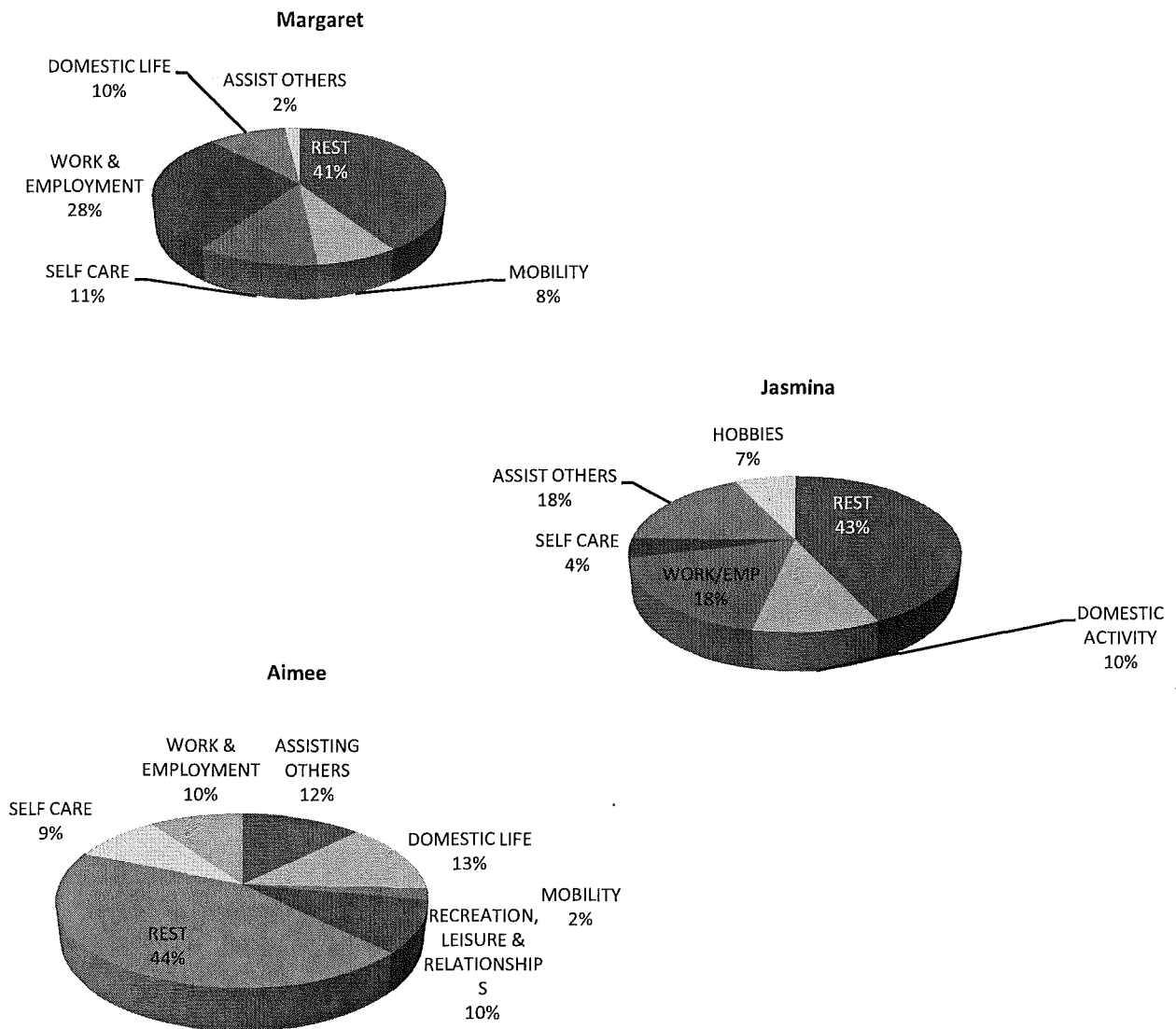


Figure 2 Proportion of Time Spent in Occupational Performance Areas Over Three Days

Appendix J: Usability Report

Electronic Time Diaries as an Effective and User-Friendly Method of Data Collection in the Study of Role Balance in Working Mothers with Primary School Aged Children: Findings of a Pilot Study

Katherine Prince

Abstract

In the past, various time diaries have been used to collect data on individual's experiences in every day life. These methods however have limitations in their ability to capture that experience as it occurs due to their retrospective nature. Advances in technology have more recently enabled improvements to the collection of this experiential data with the use of hand held computers. The use of hand held computers has a number of advantages over the paper and pen forms, including portability and reduced data handling. The present study tested the effectiveness and usability of an electronic time diary data collection method for a doctoral study titled *Role Balance and Working Mothers with Multigenerational Caring Responsibilities*. Personal digital assistants loaded with a 14 questions based on the *Occupational Questionnaire* were piloted with three working mothers with primary school aged children. Results indicate that the electronic time diary was an easy device to use which enabled more efficient data entry for participants. Difficulties mothers had entering data at work suggest that for working mothers the electronic time diary may not be the most effective means of capturing experiences at the time that they occur. Problems and recommendations are discussed.

Key Words: Usability, time diary, experience sampling method, mothers

Introduction

Time diaries are a popular data collection method for obtaining insight into the time use of individuals. They provide a convenient means of capturing and comparing what individuals do on a day to day basis (Harvey & Pentland, 1999; Hektner, Schmidt, & Csikszentmihalyi, 2007). They have been used to collect time use data on individuals with mental illness, mothers with disabled children, the labour force and leisure participation (Australian Bureau of Statistics, 2006; Bejerholm, Hansson, & Eklund, 2006; Farnworth, 2000). The content and method of retrieval of data in time diary studies varies greatly.

In the past, time use data was collected either through a telephone interview held with the participant regarding the previous day, known as a yesterday diary, or via a paper based tomorrow diary left with the participant (Harvey & Pentland, 1999). These methods have a number of disadvantages. Firstly, yesterday diaries rely on retrospective responses which may not accurately represent the experience of the individual. In the case of the tomorrow diary, data collected lacks a link between the participant's thoughts, feelings, motivation and behaviours (Csikszentmihalyi & Larson, 1987; Gersbuny & Sullivan, 1998; Hektner et al., 2007). These diaries also lack the ability to distinguish if the activities were recorded on time, resulting in an inability to distinguish the reliability of the results gained. Finally, analysis of paper and pen time diaries is a lengthy process requiring information to be manually coded and then entered into the chosen data analysis tool increasing potential for coding and data entry error (Bolger, Davis, & Rafaeli, 2003).

More recently, researchers have taken advantage of technological advancement, using techniques such as the Experience Sampling Method (Farnworth, 2000). This method utilizes a pager system whereby the participant is paged at either random or set times during a day. When paged they are required to complete a scaled questionnaire, capturing the experience of the participant as it happens. This method has the potential to elicit data of a much greater richness than was possible in

previous studies, by providing scaled questions on subjective data. It also minimizes the potential of participants forgetting to complete their diary by providing a reminder signal. (Bolger et al., 2003; Csikszentmihalyi & Larson, 1987; Hektner et al., 2007). Lengthy data coding and entry processes in addition to the lack of recoding time are still however, potential problems for this alternative time diary method.

One way in which these problems have been overcome in current studies is through the use of electronic time diaries. Electronic time diaries exist in the form of personal digital assistants (PDA), palm top computers or web based diaries. Software within these electronic devices provides a number of important benefits. Firstly, the ability to time stamp the data entry which results in the researcher being able to objectively identify; the time and date of data input and thus the length of the delay in the response. In this way the researcher will be able to identify which and how much of the data may contain retrospective responses. Electronic time diaries also have the ability to remind the participant to enter their activities through an audible signal, thus further minimising retrospective responses (Bolger et al., 2003).

Another major advantage of the electronic time diary is the ability to reduce data entry time and data entry errors by both participant and researcher. Data entry time is minimized as participants enter their responses directly into the hand held computer. The ability of the participant missing a question is reduced by an automatic prompt to complete the unfinished question. Data inserted into the diary is then uploaded directly onto a computer for analysis reducing coding errors by the researcher (Bolger et al., 2003).

In addition to these advantages the electronic time diaries allow the researcher to create a questionnaire that will illicit the most useful data. The benefits of this are twofold. The researcher gains access to data that best suits their research objectives and the participant is not unnecessarily burdened with non relevant questions (Bolger et al., 2003).

Like all of the other diary methods electronic time diaries do have their drawbacks. Researchers therefore, must take these into consideration when designing a time diary study. One of the major disadvantages of the electronic method is the cost and time needed to set up of the questionnaire. Another disadvantage is the need to train the participants to use the hand held computers and use the program installed.

Although electronic time diaries have their drawbacks, it is expected that they will be effective in collecting data that is able to illustrate the complexity of role balance. It is also anticipated that the personal digital assistants used will be a simple and efficient means for participants to record their experiential data. Specifically this study aims to pilot the use of PDA's to assess their usability and ability to gain data that supports a theoretical framework also being piloted.

Methodology

The aim of the proposed pilot study was to test the usability and effectiveness of an electronic time diary method of data collection and the theoretical framework for a multiple embedded case study. To do this it was necessary for the pilot study to follow the same research design (Yin, 2009). The mixed methods case study design used was appropriate for the research topic as it allowed in-depth exploration of the complex phenomenon of work-life balance within the participant's real-life contexts. The case study design further complimented the holistic investigation of role-balance among the working mothers as it enabled the investigation of multiple variables (Depoy & Gitlin, 2005; Yin, 2009).

Participants

Working mothers with primary school aged children were chosen as a sub-set of the doctoral study sample, as they were also likely to experience complex factors relating to their role balance.

The researcher purposively recruited three participants by asking colleagues to seek expressions of interest from friends who met the following inclusion criteria;

- Aged 18 years or older
- Mother to at least one primary school aged child who lives in the same household and attends primary school
- No additional children younger than 5 years or older than 13
- English speaking (fluent written and verbal skills)
- Live in the Perth metropolitan area.

Three participants completed the Study; Margaret, Jasmina and Aimee (note pseudonyms have been used).

Margaret is a 50 year old mother who lives in Perth with her husband and 11 year old daughter. Margaret currently works as a full time Lecturer. In addition to her roles as mother and worker, Margaret's role as home maintainer requires that she be responsible for the upkeep of her home. Margaret also spends time with friends, family and the church community on a weekly basis.

Jasmina is a 38 year old mother who lives in Perth with her husband and two boys aged 8 and 11. She works for a large company as a Carer, working 18 hours per week. As well as being a mother and worker, Jasmina's other roles include being a home maintainer, hobbyist, volunteer and carer to her father-in-law.

Aimee is a 41 year old mother of two children, aged six and eight. She lives alone for long periods and is responsible for the caring and domestic duties while her husband works away. In addition, Aimee works 16 hours per week for a large private company as a Client Service Officer. She also enjoys playing netball and socializing with friends and family members.

Data Collection

Electronic Time Diary

The electronic time diaries used in the study were created using Pocket PC Creations software (OT International, n.d) on personal digital assistants (PDA). Based on the Experience Sampling Method, the diaries collected information on the participants individual experiences within their temporal and physical environment (Hektner et al., 2007). A series of 14 questions were used to collect data on the participants occupations, thoughts and emotions as they occurred (Backman, 2005). Based on the Occupational Questionnaire (Smith, Kielhofner, & Watts, 1986), additional questions were added (with permission from the author) to enable data to be collected on all aspects of the theoretical framework (Evans, 2008). To increase efficiency of data entry, the diaries included drop down answer menus containing the occupational areas and occupational participation categories of the International Classification of Functioning, Disability and Health (World Health Organisation, 2001). Adequate test retest reliability of the paper version of the Occupational Questionnaire (Smith et al., 1986) has been established in studies of older adults and students (Backman, 2005).

Semi Structured Interview and Embedded Usability Questionnaire

A semi structured interview was held with each participant to gain an understanding of their experience using the electronic time diary. Gaining the participants perspective enabled aspects of the time diary that were either positive or negative to be identified without being biased by the researcher's assumptions (Boissy, Jacobs, & Roy, 2006; Stinson, Feldman, & McGrath, 2006). An embedded un-standardised usability questionnaire (Figure 1), constructed using existing usability literature, collected specific data on; the effectiveness of the training provided, features of the personal digital assistant, content of the diary and experience using the diary (Boissy et al., 2006).

Procedure

Prior to data collection with participants the electronic time diaries were piloted on the researcher and her supervisor. Three days of data were collected, exported to Microsoft Excel and cleaned. Particular attention was paid to the content of the diary, signalling, ease of use, data cleaning and ease of exporting and analysis within Excel (Hektner et al., 2007).

Initial interviews were then carried out with the three participants. At this interview they were asked to sign a consent form, an equipment release form and permission was gained to audiotape the interviews. A training session was then conducted. Training included; how to turn the device on and off, how to charge the device, how to move through the menus, how to back up data, how to make corrections to existing entries and a practice session in which the participant enters a number of scenarios from the previous day. The number of scenarios completed depended on the participant's level of confidence in using the device.

In addition to the training, participants were provided with a booklet of instructions and a glossary of terms booklet that defined terms used within the diary. During the practice session the terms were located in the glossary when needed. The instruction booklet and glossary were left with the participant during the data collection period.

During the interview/training session participants were allocated a personal digital assistant loaded with Pocket PC creations software. They were then given up to a week to practice using the diary. At this time the participants were asked to choose three days that were likely to represent typical days when both their worker and parenting roles would be carried out. They were then asked at what times they wanted the reminder signal to sound. This was then set by the researcher.

During the three days of data collection, participants were required to enter activities of 30 minute duration at the transition of one activity to another, or as soon after as possible. Activities were entered from the time they woke in the morning to the time they went to bed, including sleep.

During the day the participant was reminded to enter data by an alarm set on the personal digital assistant.

Participants were also contacted by SMS to remind and encourage them to enter data. On the final day of data collection the participant was contacted to make arrangements for a final interview.

At the final interview data was exported into Microsoft Excel. The data was checked for missing or unusual data. Any inconsistencies were checked with the participant and corrected at that time. A semi structured interview then took place in which the participants were asked to describe their experience using the electronic time diary and personal digital assistant. This was then followed by a usability questionnaire.

Data Analysis

Data from the usability questionnaire was entered into Microsoft Excel. Totals were calculated for each of the four sections. A written narrative was then created to describe the findings.

Qualitative content analysis was used to examine verbatim transcriptions of the semi-structured interviews. Themes emerging from the transcriptions were added to information from the questionnaire in the written narrative.

Findings

Training

Participants found learning to use the Personal Digital Assistant (PDA) easy and were confident after training. A discrepancy was found between Aimee's responses to feeling confident after training and needing more training. It is assumed that this discrepancy was due to confusion with the response scale (Average score 15/30).

Features of Personal Digital Assistant

Participants found the PDA's easy to use and menu's easy to navigate through (Average score 17/30). This was further described by one participant:

No that PDA's great, fantastic, quick, easy, and like you know you don't have time to just sit down and do a form each, that's fantastic. (Aimee)

Although PDA's needed to be recharged, this was not found to interfere with the input of data by any of the participants. Both Margaret and Aimee found the PDA's very portable. Jasmina however felt that she could not take the PDA around with her because of the type of activities she performs at work. As such she recorded her data during breaks:

"Coz I just put it in my locker at work and just got it out did what I had to do and put it back in again" (Jasmina).

Content of the Electronic Time Diary

Participants found the questions within the time diary relatively easy to understand with only some questions being rated as difficult. The drop down menu's were found by all participants to improve time efficiency of data entry into the diary (Average score 11/20). All participants found choosing the main activity difficult as frequently they were doing multiple tasks at the same time. This made choosing a response that best represented what they were doing difficult.

"Some of the options like the first one where you had assisting others or health it was like, I had to put it under assisting others because I was doing things with the kids, taking them to and from school and music lessons and where ever else..." (Jasmina).

"So there was a couple of times where I was umming and ahhring have I got it under the right header. I think mostly with assisting because also I was self caring at the same time. Anyway I just chose one or the other and then put it under the activity" (Aimee).

"It's hard to define within 30 minutes all the different things that you do within that 30 minute period" (Margaret).

Difficulty was also found by Jasmina in choosing where she was when doing the activity. This is likely to be related to the difficulty in choosing the main activity. This is because the location of the activity is related to the main activity the person was doing and not to the secondary activities.

Similarly Margaret found choosing who she was with for the activity difficult for a similar reason.

"In the morning we leave the house as mother and daughter then I go in to work alone but there is no option for that. You can tick both boxes but then you can't distinguish which part of the activity was done alone or whatever" (Margaret).

Experience Using Electronic Time Diary

Experiences using the time diary varied (Average score 13/30). Margaret who worked full time as a lecturer found it difficult to fill in her diary at work. She rarely filled out the diary after the reminder signal, instead entering data when she got home in the evenings. She also felt that the diary took some time to fill out.

"I had difficulty finding the time to do it. Um I found it easier to just write it down on a piece of paper and then transpose it at the end of the day. That worked better for me"
(Margaret).

Jasmina chose not to use the reminder signal due to her work circumstances. She did not find it difficult taking the diary to work however needed to fill the diary out during breaks. Jasmina was happy with the time it took to fill out the diary.

"I don't know I suppose that it was just an extra thing that I had to remember to do and squeeze it in throughout the day. It was alright just have to remember to do it" (Jasmina).

Aimee was also very positive about her experience. She was happy with the reminder signal and thought it was useful. She felt comfortable filling out the diary at work and did not find it too time consuming.

“Great it was easy, straight forward, I just did it as soon as I had finished what ever I was doing” (Aimee).

Discussion

The aim of the study was to test the effectiveness and usability of the electronic time diary. Overall, findings show that the participants had a positive experience using the electronic time diary. All three participants found it easy to use and portable. Two of the three participants’ were happy with the time it took them to complete the time diary and all participants agreed that the drop down menu assisted in the efficiency of data entry. This supports other findings on the effectiveness of electronic diaries (Bolger et al., 2003).

One problem that was prominent with the content of the diary, was choosing the main activity being performed. This was found particularly difficult because mothers typically participated in several activities at the same time, all of which were deemed important. Choosing the activity that best described what was being done, was therefore difficult for the mothers.

An additional problem that was encountered was that although the personal digital assistants were reported as being portable, two of the three mothers could not fill out their diary at work. This meant that activities were not being recorded at the transition of one activity to another and therefore there is the chance that data collected for these activities may not be accurate. Due to differences in the circumstances of individuals, difficulty recording data has been identified in other studies (Vannier & O'sullivan, 2008).

Conclusion

The electronic time diaries used for this pilot study were found to be easy to use and effective in collecting experiential data on participant’s daily activities. However as a result of the piloting process a number of potential problems have been identified. In order to reduce the chance of these problems occurring during the doctoral study the problems identified and associated recommendations have been described below in Table 1.

Table 1

Recommendations: Equipment and Procedural Changes for Doctoral Study

Problem	Recommendation
No way of telling how long each diary entry took to complete	In addition to <i>created time</i> add <i>completion time</i> to PDA to enable average time taken to fill out diary entries
Scales within variable questions reduce ability to illustrate data graphically	Use scales that go from 2, 1, 0, -1, -2, this gives a better representation of the variable data when graphed
Completing Role Cross Matrix in initial interview disrupts flow of training and demonstration	Provide paper version of Role Cross Matrix at final interview for participant to complete while the researcher is uploading data into Microsoft Excel. If using electronic version needs to automatically skip to next page if role not relevant to participant.
Difficulty completing electronic diary while at work	Possibly use three x 24hour paper diaries and contact individuals by phone at end of each day for researcher records

	data into PDA. Another alternative could be for participants to be given a note pad with the 14 questions relating to each activity on one page, allowing participants to record activities on paper when it is not possible to enter data on the PDA (with the researcher entering these activities following the second interview).
Difficulty with <i>who else was with you?</i> And <i>where were you</i> question when doing multiple activities	Change these questions to allow multiple choices. Participant to choose who was with them for all activities
PDA was limited in ability to set reminder alarm. Notifications alarm only rings once and alarms only lets you set three alarms per day	Possibly need to use only three alarms, a combination of reminders / alarms, or choose another method for reminder

Usability Questionnaire

I am going to read to you several statements that relate to your experience of completing the time use diary. I want you to indicate by pointing to the scale on this sheet how much you agree with the statement, where 1 means you strongly disagree with the statement and 5 means you strongly agree with the statement.

For Example: Turning the personal digital assistant on and off was difficult

(1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree (5) Strongly Agree

1. Interview questions on training

- a. Learning to use the personal digital assistant was not easy for me
- b. The training session for the personal digital assistant was useful
- c. The written instructions were easy to follow
- d. I felt comfortable using the personal digital assistant after the training
- e. I understood what was expected of me after the training session
- f. I felt I needed more training

2. Interview questions on features of the PDA

- a. I found the stylus easy to use
- b. I found the screen size small
- c. It was easy to read the text on the screen
- d. It was easy to navigate through the menus
- e. I had to charge the PDA frequently
- f. Having to charge the PDA made filling in the diary difficult
- g. The PDA was easy to carry around

3. Interview questions on the content of the time diary

- a. I found the questions easy to understand
- b. There were some questions that were difficult to understand
- c. The drop down choices made it easier for me to fill in the diary
- d. The drop down choices were easy to understand

4. Interview questions on the experience

- a. The signalling system helped me to remember to complete my diary
- b. I felt happy with the timing of the reminder signal
- c. I always completed my diary after the signal
- d. It was difficult to complete the diary at work
- e. It didn't take me long to fill out the diary
- f. I was happy with the time it took me to fill out the diary

Figure 1. Usability Questionnaire

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