2006

The relationship between daytime experiences and nighttime marital behaviour; Spillover of daytime emotions on marital interactions

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The relationship between daytime experiences and nighttime marital behaviour.

Katherine J. Fitzsimmons

A report submitted in Partial Fulfilment of the Requirements for the Award of Bachelor of Science (Psychology) Honours, Faculty of Computing, Health and Science, Edith Cowan University.

October 2006

I declare that this written assignment is my own work and does not include:

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Declaration

I certify that this literature review and research project does not incorporate, without acknowledgement, any material previously submitted for a degree or diploma in any institution of higher education and that, to the best of my knowledge and belief, it does not contain any material previously written by another person except where due reference is made in the text.

Signature: 

Date: 15 Jan 07
Acknowledgements

I would like to thank a number of people who without their help this project would not have been possible. Thank you to all the couples that participated in the study and generously contributed their valuable time and personal information whilst completing the questionnaires.

I would like to thank Dr Lynne Cohen, for her precious time, guidance, feedback and support throughout the year. Thank you to my employer, Advanced Personnel Management for their support and understanding, to enable me to combine work, family and university commitments.

Finally, I would like to give my warmest thanks to my husband Julian, my parents Shirley and Graeme, and my brother Tim, for their unconditional love and unwavering belief in my ability to accomplish this project.
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The relationship between daytime experiences and nighttime marital behaviour:

A review of the literature.

Katherine J. Fitzsimmons

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Katherine J. Fitzsimmons
Abstract

This review outlines literature on the influence of daytime experiences on nighttime marital behaviour. Researchers propose that experiences at work and home spillover into and influence the other domain. Factors affecting spillover included gender, job characteristics, role satisfaction, negative affect and marital satisfaction. Outcomes of spillover included withdrawn and angry marital behaviour. Results of the current research suggest that husbands tend to withdraw, whilst wives tend to display anger during marital interactions following a negatively arousing day. Individual differences and situational theories have been proposed to explain this gender difference. Limitations of the studies include the focus on married individuals living in the United States and Canada. Research has also focused on the spillover of husbands' workday experiences. Future research needs to be conducted on couples in other countries and to explore other influences that may impact on spillover. Future research should aim to develop a clear empirical model for understanding the processes by which daytime experiences influence nighttime marital behaviour.

Key Words: Angry Marital Behaviour, Gender Differences, Marital Behaviour, Marital Satisfaction, Negative Affect, Spillover, Withdrawn Marital Behaviour.
The relationship between daytime experiences and nighttime marital behaviour: A review of the literature.

The relationship between work and family has received increased attention in recent years as more individuals are attempting to balance work and family responsibilities (Edwards & Rothbard, 2000). Changes to workforce participation, families, organisations, and the broader social community over the last century has increased the likelihood that both males and females have substantial home and work responsibilities (Australian Bureau of Statistics (ABS), 1999a, 1999b; Australian Centre for Industrial Relations Research and Training (ACIRRT), 1999; Bond, Galinsky, & Swanberg, 1998; Gilbert, Hallet, & Eldridge, 1994).

Evening interactions between a married couple with children, typically occurs after both parents have endured varying degrees of work, family responsibilities, and home duties (Schulz, Cowan, Cowan, & Brennan, 2004). These daytime activities carry with them demands, frustrations and stressors that affect a couple’s emotional lives and family relationships (Larson & Richards, 1994, as cited in Schulz et al.). Previous researchers have proposed a spillover model to explain how daytime experiences influence nighttime behaviours and vice versa (Edwards & Rothbard, 2000). According to spillover theory, behaviour, moods, thoughts and stress generated in one domain or role may influence or spillover to another domain or role (Williams & Alliger, 1994). Research into the connection between daytime experiences and nighttime marital behaviour provides valuable information in preventing marital distress and its effect on married couples and their children.
The aim of this paper is to review research on how daytime experiences affect evening marital behaviour. To establish the context and framework in which spillover occurs, the review will begin with a brief description of social changes, marriage, marital satisfaction, marital behaviours, theory of gender differences in marital behaviour and mechanisms linking work and family. The paper will then present a background and critique of previous research into spillover within married couples. Factors affecting spillover will be discussed including job characteristics, role satisfaction, negative affect and marital satisfaction. Outcomes of spillover including withdrawn and angry marital behaviour will be examined. The effect of spillover on individuals, couples, families, and organisations will be discussed. The paper will then identify research limitations and suggest recommendations for future research. It appears that the most current research has focused on married individuals living in the United States and Canada, predominately investigated husbands’ spillover of workday experiences and utilised self report measures (e.g., Crouter, Perry-Jenkins, Huston, & Crawford, 1989; Hughes, Galinsky, & Morris, 1992; Matjasko & Feldman, 2006; Paden & Buehler, 1995; Repetti, 1989; Roberts, 2000; Roberts & Levenson, 2001; Rogers & May, 2003; Schulz et al., 2004; Small & Riley, 1990).

Social Context

Within Australia, dual income families are now the majority (50% 1988 to 56% in 1999), as more Australian women are entering the workforce (50% 1988 to 55.6% in 2004) (ABS, 1999a, 1999b, 2005). An increasing number of mothers with young children are seeking employment, with almost half (47.5% in 2004) of mothers with children aged 0 to 4 years working. Globalisation, advancements in technology, down
sizing, outsourcing and centralisation of companies has led to changes in job demands, working hours, and job security (Australian Council of Trade Unions (ACTU), 1999). More people are working longer hours or are employed on a part-time or casual basis (an increase from 20% of total employed in 1988 to 28.4% in 2004 and from 19% in 1988 to 26% in 2003 respectively) (ABS, 2005). Changes in society and organisations bring new challenges and influences to marital behaviour.

Marriage

According to previous research, marriage is associated with a number of benefits for individuals including increased personal well being, life satisfaction and happiness (Gove, Briggs-Style, & Hughes, 1990; Horwitz, White, & Howell-White, 1996; Kessler & Essex, 1982; Mastekassa, 1992, 1993; Williams, 1988). Married individuals have lower morbidity and mortality for a number of acute and chronic conditions including cancer and coronary heart disease (Chandra, Szklo, Goldberg, & Tonascia, 1983; Goodwin, Hunt, Key, & Samet, 1987; Gordon & Rosenthal, 1995; House, Landis, & Umberson, 1988). Since 2001 the number of Australians marrying has increased (5.4 and 5.5 registered marriages per 1000 people in 2002 and 2004 respectively) (ABS, 2004a, 2004b). Prior to this recent trend the number of Australians marrying had fallen since 1970, with 2001 experiencing the lowest marriage rate on record (5.3 registered marriages per 1000 people) (ABS, 2003).

Between 32 per cent and 46 per cent of Australian marriages are predicted to end in divorce (De Vaus, 2004). Since the introduction of the Family Law Act in 1976, the divorce rate has fluctuated between 2.4 and 2.9 per 1000 population (ABS, 2004a, 2004b). Divorce and marital distress is a risk factor for adverse psychological and
physical health in adults and children, including depression in adults and conduct

Marital Satisfaction

Studies have suggested that decline in marital satisfaction indicates a deteriorating marriage (Gottman & Levenson, 1992). Marital satisfaction has been conceptualised as an individual’s overall evaluation of their marriage. It refers to increased positive features (such as behaviours and interactions) and decreased negative features, whilst marital dissatisfaction refers to increased negative features and decreased positive features (Bradury, Finchman, & Beach, 2000). Marital satisfaction appears to affect marital behaviour and spillover processes (Schulz et al., 2004).

Previous research has found a significant relationship between daily marital behaviours and marital satisfaction with correlations ranging between r = .25 and r = .45 (Broderick & O'Leary, 1986). The quality of a marriage may also influence the interpretation and consequences of marital behaviour. Within a satisfying marriage, anger is not as likely to be reciprocated, whereas in a less satisfying marriage, anger can escalate and lead to conflict and violence (Brody, 1999). Dissatisfied couples have been
found to be more likely to respond to negative marital behaviours with increased anger arousal and negative attributions, compared to satisfied couples (Byrne & Arias, 1997). In less satisfying relationships, husbands are more likely to withdraw and wives are more likely to be demanding (Sagrestrano, Christensen, & Heavey, 1998).

Marital satisfaction has been found to vary with certain demographic features (Bradbury et al., 2000). Decreased marital satisfaction has been linked to the presence of children (Spanier & Lewis, 1980), marital conflict, individual distress, negative affect (Conger, Rueter, & Elder, 1999), and negative marital behaviours (Christensen, 1987, as cited in Roberts, 2000; Weiss & Heyman, as cited in Roberts). Males and females with higher levels of education have been found to report increased levels of marital satisfaction (Bradbury et al.).

In order to assess marital satisfaction, different measures have been developed (Bradbury et al., 2000). The Short Marital Adjustment Test (MAT: Locke & Wallace, 1959) and Dyadic Adjustment Scale (DAS: Spanier, 1976) are the most commonly used self report measures to assess marital satisfaction (Bradbury et al.). These measures are comprised of evaluative statements about an individual's marriage, specific behaviours and interaction patterns. The MAT and DAS have been found to differentiate between well adjusted (e.g., rated by friends as well adjusted) and maladjusted (e.g., divorced or separated) people in marriages. The MAT has the most number of reliability and validity studies of all self report marital satisfaction scales (Cohen, 1985).

Types and patterns of Marital Behaviour

Past research has identified different types of marital behaviour and patterns of interaction that may impact on marital satisfaction. Negative marital interactions refer to
behaviours between a husband and a wife that displays disagreement, lack of support and encouragement, withdrawal or lack of interest, anger and hostility (Rogers & May, 2003).

A withdraw/demand pattern of marital interaction refers to one partner, typically the wife, criticizing or nagging their partner, who then avoids discussion and withdraws from confrontation (Christensen & Heavey, 1990). According to this model, increased demands lead to increased withdrawal, which precedes an increased demand for engagement that results in decreased marital satisfaction (Bradbury et al., 2000).

Withdrawn marital behaviour refers to disengagement, avoidance, inattention, or silence during marital interactions (Roberts, 2000). Studies investigating the relationship between withdrawal behaviour and marital satisfaction have found conflicting results. Three studies have found no relationship between withdrawal behaviour and marital satisfaction (Heavey, Layne, & Christensen, 1993; Roberts & Kroff, 1990; Smith, Vivian, & O’Leary, 1990), one study found a significant relationship between husband’s withdrawal and marital dissatisfaction (Christensen & Heavey, 1990), whilst two studies found a significant relationship between wife’s withdrawal and marital dissatisfaction (Gottman & Kroff, 1989; Roberts). The conflicting results appear to be due to different operational definitions of withdrawal and methodological problems (Roberts). For example, Roberts and Kroff conceptualised withdrawal on a continuum from uninterested and inattentive during interactions with partner to emotionally invested and involved. In contrast, Smith et al. factor analysed observers’ ratings of descriptors such as silent and quiet to establish a “disengagement” measure.

Angry marital behaviour refers to argumentative, yelling, annoyed, sarcastic and disapproving behaviours during marital interactions (Repetti, 1989). Brody (1999) and
others (e.g., Campos, Mumme, Kermoian, & Campos, 1994, as cited in Schulz et al., 2004) propose that anger signals to others that something is not going right for an individual. A functionalist view of anger argues that anger leads to positive changes. Research by Gottman and Krokoff (1989) supports this view. They found that anger displayed by wives led to improvements in marital satisfaction over a three year period.

Theory of Gender Differences in Marital Behaviour

Early research examined gender differences in marital behaviour by investigating marital conflict. Research using interviews and laboratory based observational studies found support for stable gender differences and situational based differences (e.g., Cohan, Booth, & Granger, 2003; Gottman & Levenson, 1998, as cited in Schulz et al., 2004; Sagrestano et al., 1990). According to the situational theory of behaviour, behaviour can be explained by its benefits and consequences. In a beneficial situation, an individual does not want change and will withdraw from interactions that may result in change. Support for this perspective comes from previous research that found marriage to be more beneficial for husbands (e.g., Litwak & Messeri, 1989; Ross, Mirowsky, & Goldsteen, 1990; Umberson, 1992). Accordingly, husbands have been found to be more likely than wives to withdraw from interactions to avoid changing their status, whereas women were more likely to verbalise their demands in an attempt to evoke change.

In contrast, according to a theory known as the individual differences perspective, marital behaviour can be explained by stable differences between men and women such as physiological responses, personality, socialisation and goals within intimate relationships (e.g., Brody, 1999; Gottman & Levenson, 1988, as cited in Schulz et al., 2004; Taylor, 2002; Taylor et al., 2000; Timmers, Fischer, & Manstead, 1998).
support for this theory a laboratory study by Gottman and Levenson found husbands experienced increased autonomic arousal during marital conflict. Gottman and Levenson argue that men's increased arousal causes them to avoid conflict to escape arousal, whilst women, who are less physically reactive to stress, are free to engage in conflict.

Another individual differences explanation is based on the premise that women and men are socialised differently (Brody, 1999; Gillian, 1982, as cited in Heavey et al., 1993; Rubin, 1983 as cited in Heavey et al.; Timmers, Fischer, & Manstead, 1998). It is argued that women are socialised to be relationship oriented and to seek closeness, with the result that women engage in conversation and pursue intimacy. In contrast, men are socialised to be independent and achievement oriented, leading to their withdrawal from conversations to seek independence. In support for this theory, Christensen (1987, as cited in Heavey et al.) found that in general wives want closeness and husbands want independence. The larger the difference in the needs for closeness and independence, the greater the level of demanding and withdrawal behaviour by the partner wanting closeness or independence respectively.

Previous research by Christensen and Heavey (1990) found support for both the individual differences and the situational theory of gender differences. Christensen and Heavey (N= 31 couples) investigated marital conflict in two situations: wife wanting change and husband wanting change. In the situation where the wife wanted change, wives were more likely than their husbands to verbalise their demands and husbands were more likely than their wives to withdraw. In the situation where the husband wanted change, husbands were more likely to verbalise their demands and the wife to withdraw. These researchers found that whilst couples' withdraw/demand interaction differed
depending on the situation, overall men were found to withdraw more often than women. This supports research by Cohan et al. (2003) and Heavey et al. (1993) who found that when wives wanted change, wives were more likely to demand and husbands were more likely to withdraw. In the situation when husbands wanted change, there was no difference between husbands and wives in withdrawal or demand behaviour.

The above studies were each conducted in a laboratory. Marital behaviour occurs within the context of residing within the family home and other settings where a couple spends time together. Laboratory based observational research has a number of limitations (Larson & Almeida, 1999). First, behaviour does not occur in its natural context or setting, and physical withdrawal cannot be observed as it is presumed participants are encouraged not to leave until the observation is over (Christensen & Heavey, 1990). Second, laboratory based research focuses on short time periods, second to second or minute to minute, and processes that occur over longer time frames cannot be investigated (Larson & Almeida). Research conducted in a more naturalistic setting outside the laboratory such as observing behaviour at home has higher external validity. However, observing behaviour at home has the disadvantage of increased time and cost in conducting the research, increased likelihood of observer bias, and difficulty in gaining control over extraneous variables, which makes establishing cause and effect more difficult.

Other Factors that Impact on Marital Behaviour

There are many other factors that impact on marital behaviour including the family’s stage within the family life cycle, individual’s responsibilities within the home, and mood. The family life cycle is defined as a series of stages that a family passes
through, starting at stage one, when the couple has no children, to stage six, where the children leave home (Duvall, 1977). Each stage within the lifecycle brings its own difficulties and influences to marital behaviour. For example, young children aged between 6 months and 3 years require increased care and interaction from parents and this is a time when many couples report decreased marital satisfaction, and increased marital conflict (Cowan & Cowan, 1988; Osofsky et al., 1985).

Demands and responsibilities at home and work also impact on marital behaviour (Almeida & Kessler, 1998). Past research suggests that despite the increased number of mothers in the workforce, wives continue to undertake a significantly larger proportion of household and family tasks (Gutek, Searle, & Klepa, 1991). Undertaking increased or decreased demands within the home influence marital behaviour. For example, mothers who are engaged in fulltime employment and who are also responsible for meal preparation, child supervision and preparing children for bed may be unable to withdraw after arriving home from work.

In addition, mood and negative affect have been found to influence marital behaviour (Heller & Watson, 2005; Rothbard, 2001). In times of negative arousal, women are more likely to talk about their distress and focus on their emotional arousal. In contrast, men are more likely to withdraw and suppress their emotional arousal (Gottman & Levenson, 1988, as cited in Schulz et al., 2004; Nolen-Hoeksema, 1987; Taylor, 2002; Taylor et al., 2000). Negative affect is a strong correlate of marital dissatisfaction (O'Leary & Smith, 1991; Weiss & Heyman, 1990, as cited in Roberts, 2000). Watson, Clark, and Tellegen (1988) define negative affect as a dimension of subjective distress and displeasurable engagement that encompasses anger, guilt and
other aversive mood states. Previous studies have found negative affect related to self-reported stress and poor coping (e.g., Kanner, Coyne, Schaefer, & Lazarus, 1981; Watson & Clark, 1986, as cited in Watson et al., 1988; Wills, 1986). Watson et al. developed a Positive and Negative Affect Scale. The Negative Affectivity Scale (NAS) comprises ten mood adjectives related to distress and unpleasant arousal. Watson and Clark (1999) argued that the NAS demonstrates good convergent and discriminate validity and the scale is helpful for investigating intra-individual variations in mood. They report that the NAS is a valid measure of state affect, is sensitive to intra-individual mood fluctuations, and is highly correlated with perceived stress.

Mechanisms Linking Work and Family

Understanding the link between work and family is fundamental to investigating nighttime marital behaviour. Work and home are logically connected (Zedeck, 1992). Several mechanisms have been proposed to explain the relationship between work and family including role overload, work family conflict, spillover, and resource drain (Edwards & Rothbard, 2000). Until recently, a conflict perspective has dominated the literature into the relationship between work and family (Allen, Herst, Bruck, & Sutton, 2000; Cardenas, Major, & Bernas, 2004; Westman & Piotrkowski, 1999). The work family conflict model, which builds on the resource drain theory, proposes that individuals have finite resources, with the result that work and home roles compete for existing resources. A work and family conflict occurs when the resources used in one role drains the other, making it difficult for individuals to have enough resources to meet the demands of both roles (Edwards & Rothbard). Researchers have typically classified demands and conflicts into time based, behaviour based and strain based (Greenhaus &
Beutell, 1985). Time based conflict occurs when time devoted to one role devours time required to meet the demands of another role (Repetti, 1987). For example, the demands of one role may cause an individual to be physically absent or mentally preoccupied and unable to meet the demands of another role. Behaviour based conflict occurs when behaviour in one role is inappropriate for another role and the individual is unable to alter their behaviour accordingly and affects role performance (Greenhaus & Beutell). For example, a confrontational problem solving approach that is appropriate at work may be inappropriate at home with young children. Strain based conflict develops when a strain such as anxiety, fatigue, or dissatisfaction in one domain makes it difficult to meet the needs in the other domain.

Role overload has also been used to explain the relationship between work and family. Role overload occurs when the demands of a role are perceived to be overburdening and cannot be handled adequately (Barnett & Hyde, 2001). For example, a paid role outside the home that requires an excessive amount of time or energy to meet the demands of that role will then impact on the quality and quantity of time a married couple spend together. Role overload at work has been associated with negative outcomes at home including marital tension, conflict with the children and increased stress towards family responsibilities (Higgins, Duxbury, & Irving, 1992; Hughes et al., 1992). Individuals experiencing role overload at work are more likely to report increased work pressure (Crouter et al., 1989), and chronic job stress (Frone, Russell, & Cooper, 1992).
Research on Spillover

More recently, researchers have proposed that experiences at work and home spillover into and influence the other domain. This section will provide a background and critique of previous research into spillover within the marital relationship, gender differences and the role of marital satisfaction. Spillover refers to the notion that behaviours, moods, thoughts and stress generated in one domain can influence or spillover to another domain (Williams & Alliger, 1994). For example, stressors at work influence a person’s emotional state, which influences their family interactions, behaviour, and mood at home (Evans & Bartolome, 1984). Negative spillover refers to experiences in one role that leaves the individual feeling frustrated, discontented or depressed, which then lead to withdrawal, anger or hostility in interactions, and dissatisfaction and decreased performance in another role (Rogers & May, 2003).

Positive spillover refers to experiences in one role that leave the individual with feelings of competency, pleasure or fulfilment, which then leads to increased role satisfaction, warmth, involvement, and performance in another role.

Gender Differences in Spillover

Past research has found conflicting results on whether spillover operates similarly for husbands and wives. Traditionally it was thought that spillover of work experiences to home experiences was stronger for husbands and that spillover of home experiences to work experiences was greater for wives (Pleck, 1977, as cited in Rogers & May, 2003). Consistent with this conventional view, Crouter (1984) found home to work spillover was stronger for wives who had less time available for paid employment compared with husbands.
More recent research disputes the conventional view of gender differences in spillover. Bolger, DeLongis, Kessler, and Wethington (1989) conducted the first quantitative study into the spillover of stress from work to home and home to work. Participants (N = 166 married couples) completed questionnaires on work, home and interpersonal stressors (i.e., arguments with spouse, children, and co-workers), including overloads (“a lot of work”) once a day for 42 consecutive days. Bolger et al. argued that socialisation left husbands less able to cope with balancing the practical and emotional demands of both roles. Bolger et al. found spillover from home to work was stronger for husbands, whilst spillover from work to home was found to be similar for husbands and wives. Husbands', but not wives', overloads at home increased the likelihood of overloads at work, and arguments at home increased the likelihood of arguments at work. The researchers found both husbands and wives reduced their involvement in household tasks after a stressful day at work. In response to their partner’s decreased involvement, partners increased their involvement at home. However, wives increased their involvement in household tasks more often than husbands.

*Spillover of Role Satisfaction*

There is evidence that the spillover of marital and job satisfaction to the other domain operates similarly for husbands and wives. In a longitudinal study, Rogers and May (2003) collected questionnaire data on marital satisfaction, marital discord, and job satisfaction at four time points over a 12 year period (N = 1065 married individuals). Using structural equation modelling and after accounting for participants’ level of education, number of children, race and spouse employment, they found a significant positive relationship between marital and job satisfaction, indicating a positive spillover
between marital and job satisfaction. Marital satisfaction was found to be more influential than job satisfaction. They also found marital discord was significantly related to a decline in job satisfaction over time, indicating a negative spillover. Rogers and May found no difference between husband and wife spillover processes.

The findings of this research have been supported by Heller and Watson (2005) who examined the day to day spillover processes of marital and job satisfaction. Participants (N = 66 employed married individuals) completed twice daily diary recordings of negative affect, job satisfaction and marital satisfaction for three weeks. They found job satisfaction in the afternoon was related to marital satisfaction at night and marital satisfaction at night was related to job satisfaction the following afternoon, suggesting negative and positive spillover. However, Heller and Watson did not investigate gender differences in the spillover process. As the research suggests that experiences within the workplace and job satisfaction spillover to the home and marital satisfaction, it is important to consider the features of paid employment.

*Spillover and Job Characteristics*

There has been conflicting evidence on whether job characteristics affect spillover similarly for husbands and wives. Using a cross sectional design and self report questionnaires, Hughes et al. (1992) (N = 523 married individuals) found married employees in high pressured jobs and low support displayed increased negative spillover and marital tension. Hughes et al. found that job characteristics affected spillover similarly for men and women. However, these results need to be interpreted with caution as the study was conducted with fewer female participants (n = 189) compared to males participants (n = 334) and had limited power to detect gender differences.
In contrast, Matjasko and Feldman (2006) (N = 143 married couples) found spillover operated differently for husbands and wives. Matjasko and Feldman used Experience Sampling Method (ESM), qualitative interviews and survey measures to investigate the emotional spillover of anger, happiness and anxiety at work and at home in mothers and fathers. ESM involved participants wearing wrist watches that signalled them to answer questions regarding their activities, interactions and emotions at random times and locations during their waking hours over seven days. They found wives’ work happiness, anger and anxiety spilled over to home, indicating negative and positive spillover, whilst only husbands’ work anxiety spilled over to home, indicating negative spillover. Interestingly, Matjasko and Feldman found that husbands who worked increased hours reported lower spillover of anxiety and anger from work to home.

However, these findings may have limited generalisation due to the affluent nature of the sample group. Participants were from middle to upper class communities in the United States and the mean family annual income was $80,000 to $100,000 (Matjasko & Feldman, 2006). An explanation of the finding that husbands working increased hours reported decreased anger and anxiety may be related to the participant group. Perhaps less affluent males do not have the same intrinsic motivation for work or the resources to hire help to cope with the decreased hours at home such as employing a cleaner, nanny, or maid. Whether daytime experiences spillover to an individual’s different roles they undertake within the home also needs to be considered.
Spillover across Multiple Roles at Home

There is evidence that spillover from work affects multiple roles within the home for males. There have been no studies investigating whether spillover from work affects multiple roles within the home for females. In a sample of 130 married male bank executives with children, Small and Riley (1990) used a cross sectional self report survey to investigate spillover. They found that work impacted equally across marital, parental, leisure and home management roles within the home. A self report measure was developed for the study and participants estimated their own spillover. The measure used lacked proven validity and reliability, and the results of the research need to be interpreted with caution. In addition, the participants were male executives and the findings of the study cannot be generalised to females or other populations.

Spillover into Marital Behaviour

Negative Marital Interactions

There is strong evidence that daytime experiences can spillover and lead to negative marital interactions. Stressful and demanding work experiences have been found to increase the likelihood of negative marital interactions. As discussed above, Bolger et al. (1989) (N = 166 couples) found that arguments at work increased the likelihood of an argument at home for husbands and wives, whereas Crouter et al. (1989) found that wives reported increased negative marital interactions following husbands experiencing a stressful day (N = 29 married males). Research by Roberts and Levenson (2001) (N = 19 male police officers) found that husbands reported increased negative affect and physiological arousal during marital interactions following high workload days. Similarly, Matthews, Conger, and Wickrama (1996) (N = 337 couples) found
individuals reporting work stress were more likely to display hostility towards their partner and decreased warmth and support during nightly marital interactions. Many of the measures used by earlier studies of negative interaction incorporated withdrawn and angry behaviour and failed to distinguish between these behaviours (Repetti, 1989).

Withdrawn and Angry Marital Behaviour

In the first study to separately investigate withdrawn and angry marital behaviour, 33 married male United States air traffic controllers completed questionnaires at the end of their workday and before bed for three consecutive days (Repetti, 1989). Repetti adapted Weiss and Perry’s (1983) Spouse Observation Checklist and developed scales called My Marital Withdrawal Scale, My Marital Anger Scale, My Supportive Behaviour Scale, Partners Marital Anger Scale, and Partner’s Marital Withdrawal Scale. Results indicated that variations in nighttime marital behaviour were associated with variations in the husband’s workdays. Husbands were found to increase their withdrawal and decrease their expressions of anger during nightly marital interactions after high workload days. Increased spousal support was found to further increase withdrawal and decrease anger after high workload days.

Repetti’s (1989) study had a number of limitations which included a small number of participants (N = 33 married males) who were engaged in a unique occupation where increased workload does not result in increased hours. Repetti also failed to explore the impact of individual differences, gender differences, family responsibilities, employment status of wives, and emotions including negative affect on marital behaviour.
In a more recent study, Schulz et al. (2004) investigated the connection between negative affect at the end of the day and workday pace and nightly withdrawn and anger marital behaviour. In the study 42 married couples with their oldest child in kindergarten or younger were required to complete twice daily assessments over a three day period. Before leaving work or before their partner arriving home from work (if the participant did not work), participants completed the NAS (Watson et al., 1988) and Workload Scale (Repetti & Wood, 1997). After interacting with their partner for at least one hour and before going to bed, participants completed the Withdrawn Marital Behaviour Scale and Angry Marital Behaviour Scale, adapted from Repetti’s (1989) Nightly Marital Behaviour scales, for self and partner. In addition, participants completed the MAT (Locke & Wallace, 1959) anytime over the three day period.

Despite popular stereotypes that imply major differences in male and female behaviour within intimate relationships (e.g., Gray, 1992), Schulz et al. (2004) found gender differences were moderate and dependent on the situation (Brody, 1999; Schulz et al.). Schulz et al. found no gender difference between mean levels of withdrawn or angry marital behaviour of husbands and wives. However, they found that husbands and wives behaved differently after experiencing increased negative arousal at the end of the day. Consistent with Repetti’s (1989) findings, Schulz et al. found husbands reported increased withdrawal and decreased anger within marital interactions after negatively arousing days. Consistent with previous research, there was no relationship between wives negative arousal and withdrawal. In the only study to investigate wives' marital behaviour after negatively arousing days, Schulz et al. found wives increased their anger during marital interactions after negatively arousing days.
The study by Schulz et al. (2004) had several strengths and provides evidence that spillover processes were responsible for the connection between daytime experiences and nighttime marital behaviour. First, measurement of daytime experience preceded measurement of nighttime behaviour and both were measured close to when they occurred. Second, individual differences including factors such as amount of time a couple spent together were controlled for. Third, findings using self and partner reports yielded similar results.

There appears to be strong evidence that husbands, and not wives, withdraw from nighttime marital interactions following increased negative arousal during the day (Gottman, 1994; Repetti, 1989; Schulz et al., 2004). Withdrawal from marital interactions appears to be a short term coping strategy for men that facilitates their recovery after enduring a stressful day. There is also evidence that husbands display decreased anger in nighttime marital interactions following stressful work days (Bolger et al., 1989; Repetti; Schulz et al.). In contrast, there has been limited research into wives marital behaviour following a negatively arousing day. One study (Schulz et al.) found that wives increase their anger during marital interactions after negatively arousing days. Another study (Bolger et al.) found no relationship between wives nighttime marital tensions and workday tensions.

Gender differences in nighttime marital behaviour after a negatively arousing day may relate to individual differences such as differing physiological responses to negative arousal and goals within the marriage (Schulz et al., 2004). Previous research has found that women are more likely to talk about their distress when negatively aroused, whilst men are more likely to experience increased autonomic nervous system arousal and
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disengage (Gottman & Levenson, 1988, as cited in Schulz et al.; Nolen-Hoeksema, 1987; Taylor, 2002; Taylor et al., 2000). Physiological gender differences in responding to negative arousal may lead men to withdraw and decrease angry marital interactions, whilst women tend to talk about their day and express anger freely (Gottman & Levenson, 1988, as cited in Schulz et al.). As blood pressure and heart rate have been found to increase during conversation (Lynch, Thomas, Paskewitz, Malinow, & Long, 1982, as cited in Repetti, 1987), withdrawal may assist husbands to cope by lowering their emotional and physiological arousal.

The different angry and withdrawn marital behaviour between husbands and wives may also reflect their different roles and demands within the home (Schulz et al., 2004). Past research has found women undertake greater family and home responsibilities than men (Cowan & Cowan, 1988; Hochschild, 1989). If women are assuming greater responsibilities at home such as preparing dinner, helping with homework, and bathing, they are less able to withdraw following a negatively arousing day, which may lead to anger (Schulz et al.).

Marital Satisfaction and Spillover

Few studies have investigated the influence of marital satisfaction on the spillover of daytime experiences into marital behaviour. Repetti (1989) found marital support strengthened husbands' responses after a stressful day. Husbands reporting support from their wives increased their withdrawal and decreased their anger after a stressful work day. Similarly, Schulz et al. (2004) found husbands reporting increased marital satisfaction were less likely to display angry marital behaviour after a negatively arousing day. It appears that marital support may facilitate a husband's recovery after a stressful
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day by enabling husbands to withdraw and decrease their expression anger during marital interactions. In contrast, wives reporting increased marital satisfaction were more likely to display angry behaviours after a negatively arousing day. Anger may signal to their husband that something is not going right and assist in their recovery after a negatively arousing day (Gottman & Krokoff, 1989).

Evaluating Previous Research

Previous research into the relationship between daytime experiences and nighttime marital behaviour may be evaluated considering matters such as study design, participants and measurement. Each of these issues is addressed below.

*Issues Concerning Study Design*

Longitudinal designs using repeated daily assessments have become increasingly popular for studying daily events, emotions and behaviours, including spillover (e.g., Bolger, et al., 1989; Heller & Watson, 2005; Matjasko & Feldman, 2006; Repetti, 1989, 1987; Roberts & Levenson, 2001; Schulz et al., 2004). This design has several advantages (Larson & Almeida, 1999) over cross sectional based research (e.g., Hughes et al., 1992; Paden & Buehler, 1995; Repetti, 1987; Roberts, 2000; Small & Riley, 1990) and interview research (e.g., Crouter, 1984; Piotrkowski, 1979; Repetti, 1987). First, measuring work and family experiences in close proximity to when they occur reduces retrospective biases that commonly arise when participants are asked to remember prior experiences (Smith, Leffingwell, & Ptacek, 1999). Second, asking participants to report on negative behaviours within a limited time period rather than requiring information on an enduring negative trait, can potentially reduce social desirability biases, providing a
more accurate assessment of typical behaviour. Third, repeated measurements enable the researcher to conduct within subject analyses and investigate variations over time.

Longitudinal designs using repeated daily assessments places greater demands on participants and this therefore has disadvantages (Larson & Almeida, 1999). Repeated daily assessments risk overburdening participants who may become bored or irritated by the requirements of the study and provide less valid data. Researchers can limit the number of assessments per day, the length of the study or requirements of the assessment to reduce the demands on participants. For example, Bolger et al. (1989) asked participants to complete simple one item questionnaires (on presence or absence of workday stress, workday tension and marital tension) once a day for 42 days. This enabled these researchers to investigate within subject variation over a long period of time. However, the once daily assessment of both workday and marital behaviour may have increased the likelihood of retrospective distortions and direction of influence (Larson & Almedia). To decrease the likelihood of distortions, Schulz et al. (2004) used twice daily assessments to separate workday and evening marital behaviour assessments.

The most recent study investigating spillover used Experience Sampling Methods (ESM) (Matjasko & Feldman, 2006). ESM involves participants completing numerous surveys in situ which reduces recall distortions. However, ESM places heavy reporting demands on participants and is typically used on a smaller number of participants (Eckenrode & Bolger, 1995, as cited in Larson & Almeida, 1999; Larzelere & Klein, 1987; Shiffman & Stone, 1998). This means that the results may be less representative of populations.
Issues Concerning Participants within the Studies

The results of a study can only be generalised to populations with similar characteristics to the research participants. Previous studies into spillover have been conducted on married individuals living in the United States and Canada (Crouter et al., 1989; Hughes et al., 1992; Matjasko & Feldman, 2006; Paden & Buehler, 1995; Repetti 1989; Roberts, 2000; Roberts & Levenson, 2001; Rogers & May, 2003; Schulz et al., 2004; Small & Riley, 1990). Early research was primarily conducted on employed American males and focused on the spillover of work day experiences (Crouter et al.; Repetti; Roberts & Levenson; Small & Riley). Few studies have investigated the spillover of daytime experiences of both husband and wife and analysed gender differences (Hughes et al.; Matjasko & Feldman; Schulz et al.). Heller and Watson (2005) conducted their research on females and males but failed to investigate gender as a variable.

Demographics including participant’s age, length of marriage, presence or number of children varied greatly across and within previous research. Past research has varied from being conducted exclusively on newlyweds (Crouter et al., 1989; Roberts, 2000) to a mean length of marriage of 18 years (Small & Riley, 1990). Research has been conducted on couples with children only (Matjasko & Feldman, 2006; Paden & Buehler, 1995; Schulz et al., 2004) and on participants with and without children within the same study (Crouter et al., Roberts & Levenson, 2001; Rogers & May, 2003). Caution needs to be used when interpreting, comparing and generalising results to other populations, particularly if participants are within different stages of the family life cycle.
As the number of de facto relationships increases and more people live together before they marry, it is important to investigate the spillover processes involved in these relationships (ABS, 2004b). Research has not been conducted on unmarried couples living together, or gay and lesbian couples. Limiting the populations of the studies means that the conclusions may not be generalised and care must be taken in doing so.

Furthermore, the number of participants of a study must be sufficient to be able to draw meaningful conclusions. The number of participants in the studies reviewed in this paper ranged from 19 (Roberts & Levenson, 2001) to 1065 (Rogers & May, 2003). A small number of participants makes the results less reliable and decreases the likelihood of being able to detect valid gender differences.

**Issues Concerning Measurement within the Studies**

The studies reviewed lacked consistency on how spillover was conceptualised and measured. A number of studies examined 'perceived' spillover. For example, Small and Riley (1990) and Hughes et al. (1992) asked participants to estimate their own spillover from work to home. Other researchers drew conclusions regarding spillover processes by assessing similarities between domains. Rogers and May (2003) conceptualised spillover as similarities between job satisfaction and marital satisfaction at four points over a 12 year period. The long duration between assessments make it difficult to obtain information on the short term daily processes of spillover.

Furthermore, previous studies investigating spillover lacked consistency on what was measured in the family and work domains and how these variables were measured. Studies differed on how they measured mood, stress, overload, marital satisfaction, and spillover. For example, to assess marital satisfaction three studies (Roberts, 2000;
Roberts & Levenson, 2001; Schulz et al., 2004) used MAT, one (Hughes et al., 1992) used Marriage Adjustment Balance Scale (MABS) and another (Rogers & May, 2003) developed their own scale. The lack of widely accepted measures may have led a number of authors to develop their own measures or adapt previously developed questionnaires and scales for their studies (Hughes et al., 1992; Repetti, 1989; Rogers & May; Small & Riley, 1990; Schulz et al.). Newly developed and adapted measures have unsubstantiated validity and reliability and limit the validity and reliability of a study. It is difficult to compare spillover processes of different studies that use different study designs, measures and definitions.

Early research utilised correlational and regression analysis to investigate relationships between variables. Traditional regression analyses are based on the assumption that married individuals are independent of each other and cannot effectively compare husbands and wives scores (Raudenbush, Brennan, & Barnett, 1995). The most recent research utilised hierarchical linear modeling (HLM) (e.g., Schulz et al., 2004; Matjasko & Feldman, 2006). HLM estimates within couple and between couple variation at the same time and enables researchers to establish an accurate relationship between predictor and outcome variables thus giving greater power to detect gender differences (Barnett, Marshall, Raudenbush, & Brennan, 1993).

Implications for Couples and Society

Research into how experiences at work and family influence marriage is important as more and more couples are attempting to balance the demands of paid employment, child care, family responsibilities, and household duties. Knowing that husbands and wives respond differently to negative arousal, and how their level of
marital satisfaction influences this, can assist individuals, couples, families and workplaces to develop strategies to cope with these challenges. For example, wives can anticipate their husbands withdrawing from marital interactions after experiencing a stressful day. Similarly, husbands can anticipate wives displaying anger after a negatively arousing day. This may assist couples to acknowledge withdrawal and anger to be short term coping strategies rather than a sign of a dysfunctional marriage.

Psychologists and employees need to be aware of the influence that daytime experiences may have on nighttime marital behaviour and develop techniques to assist their clients. Employers can assist by offering Employee Assistant Programs and developing strategies and policies for staff that enable employees to decrease their negative arousal before leaving work. Strategies may assist employers to improve staff retention, decrease absenteeism and increase staff performance. These strategies may improve individuals’ performance and well being in work and family roles and prevent marital distress.

Future Research

The literature reviewed in this paper highlights a number of limitations in spillover research. Previous research has predominately used self report measures and has lacked consistency on what is measured in the work and family domain and how these variables are measured. Future research needs to utilise longitudinal repeated measures design and include ESM, qualitative interviews, survey measures, observation and physiological measures to explore spillover processes. In order for researchers to effectively compare the results of different studies, there needs to be consistency in the variables measured and the measures used. Future research should aim to develop a clear
empirical model for understanding the processes by which daytime experiences spillover to nighttime marital behaviour.

Previous research into spillover has been predominantly conducted on married couples in the United States and Canada. Research, therefore, needs to be conducted on married, defacto, and gay and lesbian couples in other countries to investigate the spillover processes in other types of relationships and countries. Spillover research has focused on husband's work experiences influencing marital relationships and has failed to investigate the influence of other daytime experiences such as undertaking family responsibilities fulltime and unemployment (Baruch, Biener, & Barnett, 1987). A number of other factors may impact on the spillover of day time experiences into nighttime marital behaviour and should also be investigated such as personality, perceived support networks, health status, age and number of children, children's behaviour, family conflict and financial situation. Future research could investigate and compare the spillover processes of Australian couples who are employed fulltime, part-time, unemployed, volunteers and fulltime students.

Few studies have investigated how daytime experiences affect nighttime marital interactions (Bolger, et al. 1989; Repetti, 1989; Schulz et al. 2004) and only one study has investigated how daytime experiences affect withdrawn and angry marital behaviour in both husbands and wives and the role of marital satisfaction. Further studies are needed to investigate the spillover of daytime experiences into marital behaviour and the role of marital satisfaction, utilising longitudinal repeated measures and HLM analyses, on a large number of participants and different samples such as de facto couples, to increase our knowledge in this area.
Conclusion

In conclusion, as more individuals are attempting to balance work and family responsibilities, research into the relationship between daytime experiences and nighttime marital behaviour assumes important implications for couples, families, workplaces, psychologists and the community. Research suggests that husbands, and not wives, withdraw and display decreased anger in nighttime marital interactions following increased negative arousal at the end of the day (Bolger et al., 1989; Gottman, 1994; Repetti, 1989; Schulz et al., 2004). There has been limited research into wives' marital behaviour following a negatively arousing day. The existing research suggests that wives increase their anger in nighttime marital interactions after a negatively arousing day (Schulz et al.). Marital satisfaction appears to strengthen husbands and wives marital behaviours after a negatively arousing day.
References


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Spillover of Daytime Emotions on Marital Interactions

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A report submitted in Partial Fulfilment of the
Requirements for the Award of Bachelor of Science (Psychology) Honours,
Faculty of Computing, Health and Science,
Edith Cowan University.

October 2006.

I declare that this written assignment is my own work and does not include:

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Abstract

This study examines the relationship between negative affect at the end of the day and nighttime marital behaviour (angry and withdrawn). The study explores the influence of gender and marital satisfaction of this relationship. Fifty couples completed Negative Affectivity Scale (NAS; Watson, Clark, & Tellegen, 1988) at the end of their day and Angry and Withdrawn Marital Behaviour Scales (AMBS and WMBS; Schulz, Cowan, Cowan, & Brennan, 2004) before going to bed. Couples provided information on their marital satisfaction through completion of the Marital Adjustment Test (MAT; Locke & Wallace, 1959). Independent T tests found a significant difference between husbands’ and wives’ average nighttime levels of angry and withdrawn marital behaviour. Multiple regression analyses found a relationship between negative affect at the end of the day and nightly marital behaviour. Marital satisfaction was found to influence the relationship between negative affect at the end of the day and nighttime withdrawn behaviour, but not the relationship between negative affect at the end of the day and angry marital behaviour. The study adds important knowledge on gender differences in marital behaviour and spillover processes.

Key Words: Angry Marital Behaviour, Marital Satisfaction, Negative Affect, Spillover, Withdrawn Marital Behaviour.

Katherine Fitzsimmons
Lynne Cohen
October 2006
Introduction

Changes to the broader social community, organisations, workforce participation, and families over the last century bring new challenges to marriage and increases the likelihood that both males and females are attempting to balance substantial home and work responsibilities (Australian Bureau of Statistics (ABS), 1999a, 1999b; Australian Centre for Industrial Relations Research and Training (ACIRRT), 1999; Bond, Galinsky, & Swanberg, 1998; Gilbert, Hallet, & Eldridge, 1994). As a consequence almost half of all Australian marriages are predicted to end in divorce (De Vaus, 2004). Divorce has numerous detrimental outcomes including being a risk factor for many psychological and physical problems in adults and children (Coie et al., 1993; Hahlweg, Thurmaier, Engl, & Eckert, 1998).

Nighttime interactions between a couple with children typically occurs after both parents have endured varying daytime activities including paid employment, family responsibilities and home duties (Schulz, Cowan, Cowan, & Brennan, 2004). These daytime activities carry with them demands, frustrations and stressors that affect a couple’s emotional lives and family relationships (Larson & Richards, 1994, as cited in Schulz et al.). Despite the increased attention in recent years into the relationship between work and family (Edwards & Rothbard, 2000), surprisingly little is known about how daytime emotions affect nighttime marital behaviour or whether the processes are the same for men and women (Schulz et al.). Research into this connection provides valuable information in assisting couples to become aware of these issues and develop coping strategies which may improve the quality of life for couples and their children.
Previous researchers have proposed a spillover model to explain how daytime experiences influence nighttime behaviours and vice versa (Edwards & Rothbard, 2000). According to spillover theory, behaviours, moods, thoughts and stress generated in one domain or role may influence or spillover to another domain or role (Williams & Alliger, 1994). Research has identified withdrawn and angry marital behaviour as outcomes of spillover (Story & Repetti, in press; Schulz et al., 2004). Withdrawn marital behaviour refers to disengagement, avoidance, inattention, or silence during marital interactions (Roberts, 2000). Angry marital behaviour refers to argumentative, yelling, annoying, sarcastic or disapproving behaviours during marital interactions (Repetti, 1989).

Negative affect has been found to influence spillover (Heller & Watson, 2005; Rothbard, 2001; Schulz et al.). Negative affect is defined as a dimension of subjective distress and displeasurable engagement that encompasses anger, guilt and other aversive mood states (Watson, Clark, & Tellegen, 1988).

The current study aims to explore the relationship between end of the day negative affect and nighttime withdrawn and angry marital behaviour. The study further aims to investigate the influence of marital satisfaction on this relationship. By exploring whether there is a difference between husbands’ and wives’ angry and withdrawn marital behaviour, the study seeks to add empirical research to the ongoing debate on gender differences within intimate relationships.

Marital Behaviour and Gender

Popular stereotypes and books imply that there are differences between men and women’s behaviour in intimate relationships (e.g., Gray, 1992; Tannen, 1990). Despite this, previous research has found that gender differences are sometimes small and not
always present (e.g., Aries, 1996; Brody, 1999; Schulz et al., 2004). Schulz et al. found that over a three day period there was no difference between husbands' and wives' average levels of angry and withdrawn marital behaviour. Research suggests that gender differences may be enhanced under stress or whilst an individual is experiencing negative emotions. When experiencing negative affect, Schulz et al. found that husbands withdraw and wives become angry. Two theories have been identified to explain potential gender differences in withdrawn and angry marital behaviour namely; stable gender differences and situational differences.

**Stable Gender Differences**

The theory of stable gender differences proposes that marital behaviour can be explained by stable differences between men and women such as physiological responses, personality, socialisation and goals within intimate relationships (e.g., Brody, 1999; Gillian, 1982, as cited in Heavey, Layne, & Christensen, 1993; Gottman & Levenson, 1988, as cited in Schulz et al., 2004; Taylor, 2002; Taylor et al., 2000; Timmers, Fischer, & Manstead, 1998; Rubin, 1983 as cited in Heavey et al.). In support of this theory, a laboratory study by Gottman and Levenson found husbands experienced increased autonomic nervous system arousal during marital conflict. Gottman and Levenson argue that this increase causes them to avoid conflict to escape arousal, whilst wives, who are less physically reactive to stress, are free to engage in conflict.

**Situational Differences**

In contrast, the theory of situational differences argues that behaviour can be explained by its benefits and consequences (Heavey, Layne, & Christensen, 1993). In beneficial situations, individuals withdraw from interactions that will change their
advantageous status, whilst in unbene... Status theory emerges from... be more beneficial for husbands (e.g., Litwak & Messeri, 1989; Ross, Mirowsky, & Goldsteen, 1990; Umberson, 1992) and that husbands were more likely to withdraw from interactions, whereas wives were more likely to verbalize their demands (Christensen & Heavey, 1990; Cohan, Booth, & Granger, 2003; Heavey et al., 1993).

Previous research by Christensen and Heavey (1990) found support for both stable gender differences and situational differences theories of gender differences. Christensen and Heavey (N = 31 couples) investigated marital conflict in two situations: wife wanting change and husband wanting change. Where the wife wanted change, they were more likely than their husbands to verbalise their demands and husbands were more likely than their wives to withdraw. Where the husband wanted change, husbands were more likely to verbalise their demands and wives to withdraw. These researchers found that whilst couples’ withdraw/demand interactions differed depending on the situation, overall men were found to withdraw more often than women. This supports research by Cohan et al. (2003) and Heavey et al. (1993) also reported found that when wives wanted change, wives were more likely to demand and husbands were more likely to withdraw. In the situation when husbands wanted change, there was no difference between husbands’ and wives’ in withdrawal or demand behaviour.

Early research into gender differences, and theories of stable gender differences and situational differences, as discussed above, utilised laboratory based observational research and predominately investigated marital behaviour during conflict. Laboratory
based research has a number of limitations (Larson & Almeida, 1999). First, behaviour
does not occur in its natural context or setting, and physical withdrawal cannot be
observed as it is presumed participants are encouraged not to leave until the observation
is over (Christensen & Heavey, 1990). Second, laboratory based research focuses on
short time periods, second to second or minute to minute, and processes that occur over
longer time frames cannot be investigated (Larson & Almeida). Daytime and nighttime
experiences are logically connected and investigating marital behaviour within a
laboratory setting does not provide information on the day-to-day behaviours of couples
(Zedeck, 1992). As such, research into angry and withdrawn marital behaviour needs to
be conducted within the natural setting and time processes in which the behaviour occurs.

**Spillover of Daytime Emotions to Marital Interactions**

Spillover theory proposes that daytime behaviours, moods and thoughts influence
or spillover to nighttime behaviours, moods and thoughts (Williams & Alliger, 1994).
For example, stressors at work influences a person’s emotional state, which in turn then
influences their family interactions and behaviour at home (Evans & Bartolome, 1984).
Early research investigating spillover utilised cross sectional research and compared
marital behaviour of individuals reporting high stress at work with those reporting low
stress (e.g., Barling, 1990; Repetti, 1987). Other researchers asked participants to
estimate their own spillover to investigate the relationship between daytime experiences
and nighttime behaviour (e.g., Hughes, Galinsky, & Morris, 1992).

More recently, longitudinal designs utilising repeated daily assessments and a
within subjects design have been used to investigate the relationship between daytime
experiences and nighttime behaviour (e.g., Bolger, DeLongis, Kessler, & Wethington,
This type of research design has several advantages (Larson & Almeida, 1999) over cross sectional and interview based research. First, measuring work and family experiences in close proximity to when they occur reduces retrospective biases that commonly arise when participants are asked to report on past experiences (Smith, Leffingwell, & Ptacek, 1999). Second, asking participants to report on negative behaviours within a limited time period rather than requiring information on an enduring negative trait can potentially reduce social desirability biases and provide a more accurate assessment of typical behaviour. Third, repeated daily assessments enable the researcher to investigate the direction of influence and psychological processes involved (Schulz et al.). Fourth, repeated measurements enable the researcher to conduct within subject analyses and investigate variations over time.

Bolger et al. (1989) conducted the first quantitative study into the spillover of stress from work to home and home to work. Participants (N = 166 married couples) completed questionnaires on work, home and interpersonal stressors (i.e., arguments with spouse, children, and co-workers), including overloads (“a lot of work”) once a day for 42 consecutive days. Bolger et al. found following a stressful day at work, both husbands and wives reduced their involvement in household tasks.

In the first study to investigate withdrawn and angry behaviour as outcomes of spillover, Repetti (1989) examined the relationship between workload and marital behaviour in 33 married male United States air traffic controllers. Participants were required to complete a daily questionnaire for three consecutive days. Results indicated that variations in husbands’ workload were associated with variations in withdrawn and
angry marital behaviour. They found husbands increased their withdrawal and decreased their expressions of anger during nightly marital interactions after high workload days. Increased spousal support after high workload days further increased withdrawal and decreased anger during nightly marital interactions. The study had a number of limitations, which included a small number of participants and a failure to explore the impact of gender and emotions including negative affect on marital behaviour.

In a more recent study, Schulz et al. (2004) investigated the connection between workday pace, end of the day negative mood, nightly withdrawn and anger marital behaviour over a three day period. Schulz et al. used twice daily assessments, in contrast to Repetti (1989) and Bolger et al. (1989) whose research used once daily assessments to measure daytime experiences and nighttime marital behaviour. Twice daily assessments potentially reduced retrospective distortions and enabled the researchers to investigate the direction of influence. Married couples (N = 42) with their oldest child in kindergarten or younger completed the Negative Affectivity Scale (NAS; Watson, Clark, & Tellegen, 1988) at the end of their day and the Withdrawn Marital Behaviour Scale (WMBS; Schulz et al.) and Angry Marital Behaviour Scale (AMBS) for themselves and their partner before going to bed. In addition, participants completed the Marital Adjustment Test (MAT: Locke & Wallace, 1959) anytime over the three day period.

Schulz et al. (2004) found that husbands’ and wives’ nighttime marital behaviour was linked to their daytime experiences. Consistent with Repetti’s (1989) findings, Schulz et al. found husbands reported increased withdrawal and decreased anger during marital interactions after experiencing a negatively arousing day. Schulz et al. found wives increased their anger during marital interactions after experiencing a negatively
arousing day. There was no relationship between wives’ negative arousal and withdrawal behaviour.

**Marital Quality and Spillover**

Previous researchers have found the quality of a marriage influences the interpretation and consequences of marital behaviour (Bradury, Finchman, & Beach, 2000). In less satisfying relationships, husbands are more likely to withdraw and wives are more likely to be demanding (Sagrestano, Christensen, & Heavey, 1998). Within a satisfying marriage anger is not as likely to be reciprocated; whereas in a less satisfying marriage, anger can escalate and lead to conflict and violence (Brody, 1999). Dissatisfied couples have been found to be more likely to respond to negative marital behaviours with increased anger arousal and negative attributions, compared to satisfied couples (Byrne & Arias, 1997).

Despite previous research highlighting the influence of marital satisfaction on marital behaviour, few studies have investigated the influence of marital satisfaction on the spillover of daytime experiences into marital behaviour (Schulz et al., 2004). Two studies have found that increased marital support strengthened husbands’ withdrawn and angry responses after a negatively arousing day. Repetti (1989) found that husbands with increased marital satisfaction reported increased withdrawal and decreased anger during marital interactions following a stressful work day. Similarly, Schulz et al. found husbands reporting increased marital satisfaction were less likely to report anger during marital interactions after a negatively arousing day. In the only study to investigate marital satisfaction and wives marital behaviour, Schulz et al. found wives reporting
increased marital satisfaction were more likely to report angry marital behaviours after a negatively arousing day.

The Present Study

The current study aimed to investigate marital behaviour and negative affect within its natural setting and naturally occurring time processes. The study used a longitudinal design and twice daily assessments, measuring negative affect at the end of the day and withdrawn and angry marital behaviour before going to bed in a sample of married couples with children, to investigate three research questions:

(i) Is there a difference between husbands’ and wives’ average nighttime levels of withdrawn and angry marital behaviour?

(ii) Is there a relationship between negative affect at the end of the day and nighttime marital behaviour?

(iii) Does marital satisfaction influence the relationship between negative affect at the end of the day and nighttime marital behaviour?

Method

Design

The current study utilized a within subjects repeated measures longitudinal design to examine three research questions. Gender, Negative Affectivity Scale (NAS; Watson et al., 1988) score and Marital Adjustment Test (MAT; Locke & Wallace, 1959) score were the independent variables. Withdrawn Marital Behaviour Scale (WMBS; Schulz et al., 2004) score and Angry Marital Behaviour Scale (AMBS) score were the dependent variables.
Participants

Nighttime experiences and opportunities for marital interaction are likely to be influenced by the presence and age of children. To minimize variances, participants were parents with children of similar age and stage within the family life cycle. The family life cycle is defined as a series of stages that a family passes through, starting at stage one, when the couple has no children, to stage six, where the children leave home (Duvall, 1977). Each stage within the lifecycle brings its own difficulties and influences on to marital behaviour. For example, young children aged between 6 months and 3 years require increased care and interaction from parents and this is a time when many couples report decreased marital satisfaction, and increased marital conflict (e.g., Cowan & Cowan, 1988; Osofsky et al., 1985). In order to minimise the influence that children of varying ages have on families, participants in this study were 50 married couples with at least one child and the oldest child in kindergarten or younger. Participants were recruited from a variety of areas within the Perth metropolitan area. Posters were displayed at different locations, including local mothers groups and businesses (see Appendix A). A total of 50 males and 50 females participated in the study.

Materials

A poster (Appendix A) and information letter (Appendix B) were prepared for the purpose of recruiting participants. The material outlined the study and explained the procedure of the study to participants. A questionnaire package was developed containing four established psychometric scales (Appendix C). It contained NAS (Watson et al., 1988), MAT (Locke & Wallace, 1959), AMBS (Schulz et al., 2004) and
WMBS (Schulz et al.) to measure negative affect, marital satisfaction, and angry and withdrawn marital behaviour respectively.

**Negative Affect**

The NAS (Appendix E), which forms part of the Positive and Negative Affectivity Schedule (PANAS), was used to measure negative affect at the end of the day (Watson, et al., 1988). Developed by Watson, Clark and Tellegen, the NAS is a self report questionnaire comprised of ten mood adjectives related to distress and unpleasant arousal (Watson & Clark, 1999). The scale has eight different temporal instructions ranging from “moment” to “general”. The current study utilised the “today” temporal instruction and asked participants to what extent they experienced a negative emotion such as “distressed” during their day on a five point Likert scale anchored by “very slightly or not at all” and “extremely”. A total scale score was computed by averaging the participants’ item scores.

The NAS is a valid and reliable measure of negative affect (Watson & Clark, 1999). Face validity appears satisfactory with the items encompassing negative mood (e.g., “irritable” and “upset”) being an accurate reflection of negative emotional arousal. Evidence for concurrent validity comes from the NAS being highly correlated with perceived stress and strongly correlated with other existing measures of short term affect.

While the normative data for “today” temporal instruction was collected on undergraduate American university students ($N = 1664, M = 17.6, SD = 7.0$), analysis of university students’ and adults’ scores across other temporal instructions, including “moment”, “past week” and “general”, were similar (Watson & Clark, 1999). Evidence for construct validity comes from principle factor analysis consistently supporting a two
factor solution; namely Negative Affect and Positive Affect. In addition, the NAS has demonstrated high discriminate correlation ($r = .93$) and low convergent correlation ($r = -.11$). A low intercorrelation between Positive Affect and Negative Affect Scales of -.05 when participants report on “today” time instructions indicates quasi-independence. Given that the “today” temporal instruction is a state rather than an enduring trait and is sensitive to intraindividual mood fluctuations, test-retest reliability has been found to be low ($r = .39, p > .05$). Watson and Clark found the NAS had high internal consistency reliability (Cronbach’s coefficient alpha) of .87 when participants report on “today” time instructions.

Marital Behaviours

The WMBS and AMBS were used to measure nightly withdrawn and angry marital behaviour respectively (Schulz et al., 2004). The scales were originally developed by Repetti (1989) and adapted from Weiss and Perry’s (1983) Spouse Observation Checklist. Schulz et al. argues the modified scales have greater independence between scales and places less demands on participants. The WMBS and AMBS consist of 9 and 12 items respectively. The WMBS contains items that describe disengagement from marital interactions such as “I wanted to be alone”. The AMBS contains items that describe active expressions of critical or unkind behaviour such as “I said unkind things to my partner”. Participants were asked to rate on a 4 point Likert scale the extent to which they engaged in a thought or behaviour from “not all descriptive of my behaviour or feelings” to “I did this or felt this to a great extent”. A total scale score for WMBS and AMBS was calculated by averaging item scores.
There has been limited research into the reliability and validity of the AMBS and WMBS. Face validity of the WMBS and AMBS appears satisfactory with items encompassing withdrawn (e.g., “I was withdrawn” and “I did not feel like talking about my feelings or thoughts with my partner”) and angry behaviour (e.g., “I got angry at my partner” and “I became annoyed with my partner”) being an accurate reflection of withdrawn and angry marital behaviour respectively (Schulz et al., 2004). Schulz et al. found a high internal consistency for self reported and partner reported AMBS and WMBS over 3 reporting days with the alpha coefficient ranging from .74 for wives self reported WMBS to .91 for husbands self reported AMBS.

Marital Satisfaction

The current study used the MAT (Locke & Wallace, 1959) to assess an individual’s level of marital satisfaction. The MAT consisted of a total of 15 items, one item measuring a participant’s global evaluation of the marriage, eight items assessing the amount of agreement across different areas of possible conflict, and six items measuring conflict resolution, cohesion and communication. A total scale score was obtained by adding item scores and had a possible total score range of 2 to 158.

Previous research has found the MAT to be a valid and reliable psychometric instrument among married couples (Cohen, 1985). It has been used extensively to measure marital satisfaction and scores have supported documented information on couples, as well as differentiated between well adjusted (e.g., rated by friends as well adjusted) and maladjusted (e.g., divorced or separated) people in marriages suggesting evidence for concurrent validity (Crowther, 1985). The MAT has high reliability with a split half reliability coefficient of .90.
Procedure

In accordance with the Australian Psychological Society’s (APS, 2003) ethical guidelines, participants were informed of the research process and their rights as participants was established through the provision of an information letter (see Appendix B). The Faculty of Community Services, Education and Social Sciences Human Research Ethics Committee at Edith Cowan University approved the current research.

Participants were recruited from mothers’ groups within the Perth metropolitan area, the staff and student population at Edith Cowan University Joondalup, and employees at a Perth vocational rehabilitation company. Posters were displayed at local mothers groups, a vocational rehabilitation company and Edith Cowan University to recruit participants (see Appendix A). Participants were asked to phone or email the researcher to register their interest. The researcher ensured participants were married, had at least one child and that their oldest child was in kindergarten or younger. Participants who met these criteria and were interested in participating in the study, were sent a package containing an information letter (Appendix B), questionnaire package, including a list of counselling services that individuals and couples could access to assist them in coping with a negative day (Appendix C), and a reply paid envelope. Out of 212 packages that were distributed, 50 couples returned the questionnaires (response rate of 23.58%). Of the couples that returned the questionnaires, all couples completed all questionnaires and items.

Couples were asked to read the information letter and instructions and to complete all questionnaires independently from their partner at the correct nominated times.

Participants were asked to complete the NAS, AMBS and WMBS questionnaires on the
same day when they would have the opportunity to interact with their partner for at least one hour in the evening. Participants were instructed to complete the NAS at the end of their workday before leaving work or before their partner returned home if the participant was not working. Participants were requested to complete the AMBS and WMBS before going to bed and after interacting with their partner for at least one hour. Participants were asked to complete the MAT at anytime. Couples were instructed to return the questionnaires in the reply paid envelope provided, once all questionnaires were completed. On receipt of the questionnaires, the researcher entered the data into SPSS version 14 and the questionnaires were scored (see Appendix D for scoring key). Each participant obtained a total score for NAS, WMBS, AMBS and MAT.

Analysis and Results

Overview

Independent t tests and multiple regression analyses were conducted to examine the three research questions. Two independent group t tests were conducted to investigate the first research question of whether there is a difference between husbands’ and wives’ average nighttime levels of angry and withdrawn marital behaviour. Two multiple regression analyses were used to investigate the second research question to determine whether there is a relationship between negative affect at the end of the day and withdrawn and angry marital behaviour at night. Two multiple regression analyses were conducted to investigate the third research question to determine whether martial satisfaction influences the relationship between negative affect at the end of the day and nighttime marital behaviour (angry and withdrawn).
Exploratory Data Screening

Prior to analysis, NAS, AMBS, WMBS, and MAT were examined through various SPSS version 14.0 programs for accuracy of data entry, missing values, univariate outliers, multivariate outliers (using Mahalanobis distance) and fit between their distributions and the assumptions of multivariate analysis (Tabacknick & Fidell, 2001). There were no cases with missing data. Husbands’ and wives’ mean scores and standard deviations for NAS, AMBS, WMBS, and MAT are presented in Table 1.

As determined by the Kolmogorov-Smirnov statistic, the NAS, $D(100) = 0.24, p = .00$, WMBS, $D(100) = 0.14, p = .00$, and AMBS, $D(100) = 0.21, p = .00$, appeared to deviate from normality. The MAT appeared to approximate normality. A visual examination of the histograms and normality plots of NAS, WMBS and AMBS suggested that husbands and wives experienced several of the negative mood states and behaviours included in the NAS, WMBS and AMBS at a low level or not at all, resulting in positively skewed distributions. Consistent with Tabacknick and Fidell’s (2001) advice and research by Story and Repetti’s (in press) NAS, AMBS and WMBS variables were transformed to reduce skewness, reduce the number of outliers, and improve normality, linearity, and homoscedasticity of residuals. To reduce extreme skewness and kurtosis, NAS and AMBS were logarithmically transformed (Tabacknick & Fidell). To reduce moderate skewness and kurtosis, a square root transformation was performed on WMBS. Data was transformed prior to being reported in the analyses below. Consistent with Tabacknick and Fidell’s advice, a number of non-extreme univariate outliers were detected and retained in the analysis. With the use of a $p < .001$ criterion for
Mahalanobis distance, no multivariate outliers among cases were detected. Internal consistency of the scales used was well within the acceptable range for research purposes (Sattler, 2005) with Cronbach's alpha found to be .90, .82, .93 and .70 for NAS, WMBS, AMBS and MAT respectively.

**Research Question 1**

Two independent groups t-tests were conducted to investigate whether there was a difference between husbands' and wives' average nighttime levels of AMBS and WMBS. With alpha set at .05 husbands' and wives' total scores on AMBS, \( t(89.66) = -3.86, p < .05 \), and WMBS, \( t(98) = 2.06, p < .05 \), were found to be significantly different. Wives reported significantly higher AMBS scores than husbands. Husbands reported significantly higher WMBS scores than wives. There was no significant difference between husbands' and wives' total scores on NAS, \( t(98) = -0.38, p > .05 \), or MAT, \( t(98) = -0.30, p > .05 \). Descriptive statistics are provided in Table 2.

**Research Question 2**

A standard multiple regression analysis was performed with AMBS as the dependent variable and gender and negative affect as the independent variables. Table 3 displays the correlations between the variables, the unstandardised regression coefficients \((B)\) and intercept, the standardized regression coefficients \((\beta)\), the semipartial correlations \((sri^2)\) and \(R^2\), and adjusted \(R^2\). \(R\) for regression was significantly different from zero, \( F(2, 97) = 14.56, p < .05 \). Gender and NAS combined predicted 23.1% of the variance in AMBS score. Gender and NAS made a significant unique contribution to predicting AMBS score. Post hoc investigation revealed wives' negative affect, \( F(1, 48) = 15.51, p \)
Daytime Emotions and Marital Interactions

<.01, but not husbands’ negative affect was significantly related to nighttime angry behaviour.

Insert Table 3

A standard multiple regression analysis was performed between withdrawn marital behaviour as the dependent variable and gender and negative affect as the independent variables. Table 4 shows the correlations between the variables, the unstandardised regression coefficients (B) and intercept, the standardized regression coefficients (β), the semipartial correlations (sr²) and R², and adjusted R². R for regression was significantly different from zero, F(2, 97) = 7.90, p < .05. Gender and NAS combined predicted 12.8% of the variance in WMBS score. Gender and NAS score made a significant unique contribution to predicting WMBS score. Post hoc investigation revealed husbands’ negative affect, F(1, 48) = 69.50, p < .01, but not wives’ negative affect was significantly related to nighttime withdrawn behaviour.

Insert Table 4

Research Question 3

Two standard multiple regression analyses were used to investigate whether marital satisfaction influenced the relationship between negative affect at the end of the day and nighttime marital behaviour. Marital behaviour, withdrawn and angry, was the dependent variables and gender, negative affect and marital satisfaction were independent variables. Investigating whether marital satisfaction influenced the relationship between negative affect at the end of the day and angry marital behaviour, R for regression was significantly different from zero, F(3, 96) = 9.94, p < .05. Table 5 shows the correlations between the variables, the unstandardised regression coefficients (B) and intercept, the
standardized regression coefficients ($\beta$), the semipartial correlations ($sri^2$) and $R^2$, and adjusted $R^2$. MAT, Gender and NAS combined predicted 23.7% of the variance in the AMBS score. Gender and NAS made a significant unique contribution to predicting the AMBS score. MAT did not make a significant unique contribution to predicting the AMBS score.

Insert Table 5

Investigating whether marital satisfaction influenced the relationship between negative affect at the end of the day and withdrawal behaviour, $R$ for regression was significantly different from zero, $F (3, 96) = 7.23, p < .05$. Table 6 shows the correlations between the variables, the unstandardised regression coefficients ($B$) and intercept, the standardized regression coefficients ($\beta$), the semipartial correlations ($sri^2$) and $R^2$, and adjusted $R^2$. MAT, Gender and NAS combined predicted 18.4% of the variance in the WMBS scores. Gender, NAS and MAT scores made a significant unique contribution to predicting the WMBS score.

Insert Table 6

Discussion

Overview

The purposes of the study were to investigate whether there was a gender difference in average nighttime levels of withdrawn and angry marital behaviour; explore the relationship between negative affect at the end of the day and nighttime marital behaviour; and to investigate the influence of marital satisfaction on the relationship between negative affect at the end of the day and nighttime marital behaviour. The study found that wives reported a significantly higher number of angry behaviours, whilst
husbands reported a significantly higher number of withdrawn behaviours. Results indicated that husbands’ end of the day negative affect was connected to withdrawn nighttime marital behaviour, whilst wives’ end of the day negative affect was connected to angry nighttime marital behaviour. Marital satisfaction was found to influence the relationship between negative affect at the end of the day and nighttime withdrawn marital behaviour, but it did not appear to influence the relationship between negative affect at the end of the day and nighttime angry marital behaviour.

**Gender and Marital Behaviour**

Consistent with research by Christensen and Heavey (1990), the current study found a significant difference between husbands’ and wives’ withdrawn marital behaviour. As the current study found no difference between husbands’ and wives’ levels of negative affect or marital satisfaction, the study provided support for stable gender differences in marital behaviour. The current study suggests husband are more likely than wives to withdraw and women are more likely than husbands to be angry. In contrast to the current study, Schulz et al. (2004) found no difference between husbands’ and wives’ levels of withdrawn and angry marital behaviour over a three day period.

The different results between Christensen and Heavey’s research (1990), Schulz et al.’s (2004) research and the current study may be due to the differences in the studies; participants, including cultural differences, education, levels of marital satisfaction, income and employment variables. For example, Schulz et al.’s study was conducted with couples in the United States, whilst the current study was conducted with Australian couples. The different results may also be due to the different data collection periods or other methodological differences between the studies. Christensen and Heavey’s
research was conducted within a laboratory setting, whilst the current research was conducted within natural settings over a one day period. Schulz et al.'s research was conducted over a three day period.

**Negative Affect at End of the Day and Marital Behaviour**

Consistent with research by Schulz et al. (2004), the current study found a connection between daytime experiences and nighttime marital behaviour. Both studies found wives increased their anger during marital interactions after a negatively arousing day. In contrast to research by Schulz et al. that found wives with increased marital satisfaction further increased their anger during marital interactions after negatively arousing days, the current study found an individual's level of marital satisfaction did not influence the relationship between negative affect and angry marital behaviour.

Previous researchers found husbands decrease their level of angry marital behaviours following negatively arousing or stressful days (Schulz et al., 2004; Bolger et al., 1989, & Repetti, 1989). The current study found no relationship between husbands' end of the day negative affect and angry marital behaviour. The different findings may reflect the different types of analyses conducted and information collected. The multiple regression statistical analyses used in the current study was less sensitive to changes in behaviour compared to hierarchical linear analysis, as used by Schulz et al. The current study did not collect information on a number of variables that may have influenced spillover (for example: socioeconomic status, employment status, education, hours employed, and health status of parents and children). In addition, the current study examined mood, whilst Bolger et al. and Repetti investigated workday stress.
Consistent with Schulz et al.’s (2004) research, the present study found a relationship between husbands’, and not wives’, negative affect at the end of the day and withdrawn marital behaviour. Similarly, Repetti (1989) found husbands withdrew after high workload days. Consistent with research by Repetti and Schulz et al., the study found increased marital satisfaction amplified husbands’ withdrawal behaviour response after a negatively arousing day.

Although the results of the current study provide support for the spillover model, that proposes behaviour, moods, thoughts and stress generated in one domain may influence or spillover to another domain (Williams & Alliger, 1994), a number of other factors or processes may have affected marital behaviour. The current study did not collect information or control variables such as role overload, work family conflict, employment status, financial pressures, the number and age of children, length of marriage, education obtained, time spent together as a couple, and responsibilities within the home (Edwards & Rothbard, 2000). This was evident by the low variance explained in WMBS and AMBS scores.

The current research suggests that husbands and wives behave differently after a negatively arousing day. It appears wives get angry and husbands withdraw. The difference in husbands and wives marital behaviour may be explained by a variety of factors including stable gender differences, coping strategies, function of behaviour, and roles and demands within the home.

Laboratory research has found men and women respond differently to negative arousal and distress (Gottman & Levenson, 1988, as cited in Schulz et al.; Nolen-Hoeksema, 1987; Taylor, 2002; Taylor et al., 2002). Research has found that men have
an increased physiological response to negative arousal. Repetti (1987, 1989, 1992) argued that withdrawing from interactions may enable men to decrease their automatic nervous system arousal to manageable levels. In support for this argument, research has found that blood pressure and heart rate increase during conversation (Lynch, Thomas, Paskewitz, Malinow, & Long, 1982, as cited in Repetti, 1987). The current study’s finding that increased marital satisfaction strengthened a husband’s withdrawal response suggests that wives that allow their husbands to withdraw after a negatively arousing day may assist their husbands’ recovery.

Research has found that women do not experience the same heightened level of physiological arousal following distress negative arousal as men (Gottman & Levenson, 1988, as cited in Schulz et al.; Nolen-Hoeksema, 1987; Taylor, 2002; Taylor et al., 2002). It is argued that women are therefore not compelled to withdraw from interactions to reduce their arousal, but rather engage in interactions and express their anger (Gottman & Levenson, 1988, as cited in Schulz et al., 2004). In support for this argument, previous research has found that during times of distress women are more likely than men to talk about their distress.

Gender differences in marital behaviour after a negatively arousing day may also be explained by husbands’ and wives’ different roles and demands within the home (Almeida & Kessler, 1998; Schulz et al., 2004). Past research has found that women undertake greater family and home responsibilities (Cowan & Cowan, 1988; Hochschild, 1989). If women are assuming greater responsibilities at home such as preparing dinner, helping with homework, and bathing, they may be less able to withdraw, which could lead to anger (Schulz et al.). Similarly, wives with children seven years or younger may
display anger during marital interaction as they do not have sufficient time, energy or skills to effectively communicate how they are feeling. Anger enables wives to express to their husbands that something is wrong (Gottman & Krokoff, 1989; Schulz et al.). A functionalist view of anger proposes that it is an adaptive response and has a functional role that leads to positive changes. In support for this view, research by Gottman and Krokoff found that anger displayed by wives led to improvements in marital satisfaction over a three year period.

**Limitations of the Present Study**

It is important to consider the methodological features and limitations of the current study when interpreting its results. Low reporting and participation demands were placed on participants to ensure an adequate number of participants completed the questionnaires. This resulted in several adverse consequences. Firstly, the one-day data collection period decreased the likelihood of obtaining an accurate picture of typical behaviour and increased the likelihood of response bias, as participants reported on socially undesirable behaviours. Secondly, the study relied exclusively on self-report measures. Although, Schulz et al. (2004) found no significant difference between self and partner reporting of marital behaviour and as negative arousal is a subjective variable, the study did not incorporate partner reports of marital behaviour or objective measures of daytime experiences, such as workload, to improve reliability and validity. Thirdly, information on a number of variables that may have impacted on marital behaviour and spillover processes were not collected. These included participants' age, length of marriage, number of children, ages of children, hours employed, salary, ethnicity, level of education obtained, time spent together as a couple, and responsibilities
within the home. This was evident by the low variance explained in WMBS and AMBS scores. Fourthly, the study was unable to utilise hierarchical linear analysis, as used by Schulz et al., as information was not collected on a number of variables meaning that the results could not be effectively compared. Fifthly, the study’s lack of experimental design limited the causal inferences that can be drawn from its results.

The size (N = 50 couples) and nature of the sample limits the generalisation of the study’s findings. The results of the study cannot be generalised to married couples without children or with children above the age of seven, unmarried couples, same sex couples or couples from other cultures. Furthermore, given the 23% response rate, it is possible that those who elected to complete the questionnaire differed from those who did not. It is probable that those who experienced a high negative arousal at the end of the day and spillover to marital interactions were less likely to complete the questionnaire compared to those who do not encounter those issues.

Despite these limitations, the design of the study had several strengths. First, the study was conducted within the natural setting and time frame that marital behaviour and spillover processes occur. This has three advantages over research conducted in a laboratory, namely, the results have higher external validity (Larson & Almeida, 1999), the end of the day mood and evening marital behaviour measurements were obtained at or close to when they occurred to reduce retrospective bias, and thirdly, the end of the day mood measure preceded nighttime behaviour measures, suggesting day experiences influenced nighttime behaviour. This type of design reduced problems of inference and bias associated with cross sectional designs and enabled the researcher to have
confidence that spillover processes are in part responsible for the relationship between end of the day mood and marital behaviour.

**Future Research**

Few studies have investigated how daytime experiences affect nighttime marital interactions (e.g., Bolger, et al. 1989; Repetti, 1989; Schulz et al. 2004). Further studies are needed to further investigate gender differences in marital behaviour and the spillover of daytime experiences into marital behaviour to increase our knowledge in this area. Future research should utilise longitudinal designs with repeated daily assessments over longer time periods; for example several days or weeks and include qualitative interviews, survey measures, partner report, objective measures, observation and physiological measures to explore spillover processes.

Future research should aim to investigate other factors that may impact on marital behaviour and spillover processes. For example, research to investigate gender differences in marital behaviour could explore physiological arousal, socialisation, the need to pursue intimacy, and whether the situation is beneficial. Research to explore spillover could investigate the effect of employment status, nighttime experiences and other intervening influences including personality, perceived support networks, health status, age and number of children, children’s behaviour, family conflict, financial situation, and what happens between leaving work and arriving home.

The findings of the current research are limited to married couples with young children in kindergarten or younger. To investigate the spillover processes in other types of relationships and countries research needs to be conducted utilising different
populations such as de facto couples, same sex couples, couples without children, couples with children of different ages and couples in different countries and cultures.

Conclusions and Implications for Application

Despite the study’s limitations and need for further research, the current study adds important knowledge on gender differences in marital behaviour and spillover processes. The study suggests that there is a connection between end of the day negative affect and marital behaviour. Husbands and wives appeared to respond differently to negative affect at the end of the day. Husbands withdrew and wives displayed anger during nighttime marital interactions. Marital satisfaction appeared to strengthen husbands’ withdrawal after a negatively arousing day.

Research into how work and home experiences influence marriage is important as more and more couples are attempting to balance the demands of paid employment, child care, family responsibilities, and household duties. Knowing that husbands and wives respond differently to their daily demands and the influence of marital satisfaction can assist individuals, couples, families and workplaces to develop strategies to cope with these challenges. For example, wives can anticipate their husbands withdrawing from marital interactions after experiencing a negatively arousing day. Similarly, husbands can anticipate wives displaying increased anger after a negatively arousing day. This may assist couples to acknowledge withdrawal and anger as short term coping strategies rather than signs of a dysfunctional marriage.

Psychologists and employees need to be aware of the influence that daytime experiences may have on nighttime marital behaviour and develop techniques to assist their clients and employees. Employers can assist by offering Employee Assistant
Programs and developing strategies and policies for staff that enable employees to decrease their negative arousal before leaving work. Strategies may assist employers to improve staff retention, decrease absenteeism and enhance staff performance. These strategies may improve individual performance, well being in work, family roles and prevent marital distress.
References


New York: Viking.


CALLING ALL MARRIED COUPLES

You are invited to participate in a study designed to investigate how couples interact at night after a day filled with various demands and degrees of paid work, home duties and family responsibilities. I am seeking to recruit married couples with at least one child and the oldest child must be in kindergarten or younger.

If you choose to participate in the research study, you and your partner will be asked to complete three questionnaires. All questionnaires take approximately three minutes to complete.

The aim of this research is to investigate if your mood at the end of the day has an effect on your nightly marital behaviour. This research will hopefully lead to the development of more effective coping strategies and positive ways of interacting within the marital relationship.

Please be assured that any information that you provide will be held in strict confidence by the researcher. At no time will your name be asked or recorded.

If you are interested in participating: Please phone Kate Fitzsimmons (Researcher) on 0412 107 436 or email kjfitzsi@student.ecu.edu.au for further information or to register your interest.
Appendix B

Information Letter to Participants’

Dear Participant,

You are invited to participate in a study designed to investigate how couples interact at night after a day filled with various demands and degrees of paid work, home duties and family responsibilities. The study is being conducted by Kate Fitzsimmons, a Psychology Honours student. This research project has been passed by the Ethics Committee of the Faculty of Community Services, Education and Social Services.

If you choose to participate in the research study, you and your partner will be asked to complete the attached questionnaires independently. Each questionnaire takes approximately three minutes to complete. Please ensure that you read all the instructions. You will need to complete the questionnaires at different times of the day. Each questionnaire has instructions on when and how to complete it. Please return the completed questionnaires in the reply paid envelope.

Please complete the questionnaires on the same day when you have had the opportunity to interact with your partner for at least one hour in the evening.

The aim of this research is to investigate if your mood at the end of the day has an effect on your nightly marital behaviour. This research will hopefully lead to the development of more effective coping strategies and more positive ways of interacting within the marital relationship.

Please be assured that any information that you provide will be held in strict confidence by the researcher. At no time will your name be required or recorded. All data will be reported in group form only. At the conclusion of this study, a report of the results will be available upon request.

Please understand that your participation in this research is totally voluntary and you are free not to participate or withdraw at any time during this study without penalty.

Any questions concerning this project can be directed to Kate Fitzsimmons (Researcher) on 0412 107 436 or her supervisor, Dr Lynne Cohen on 6304 5575. If you wish to speak to someone independent of this research, please contact Professor Alison Garton on 6304 5110.

Your cooperation in participating and completing the attached questionnaires is greatly appreciated.

Yours sincerely,

Kate Fitzsimmons
Appendix C

Questionnaire Package

Please complete the Negative Affect Scale at the end of your day before leaving work or before your partner returns from work, if you are not working.

**Negative Affect Scale**

This scale consists of a number of words that describe different feelings and emotions.

Read each item and then mark the appropriate answer in the space next to that word.

Indicate to what extent you have felt this way today.

Use the following scale to record your answers.

Please circle the most appropriate answer.

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<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
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<tbody>
<tr>
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<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
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<tr>
<td>Distressed</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Nervous</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Scared</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Afraid</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
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<tr>
<td>Upset</td>
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<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
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<tr>
<td>Jittery</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Ashamed</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Hostile</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Guilty</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

Please tick your gender  Male □  Female □
Please complete the Marital Behaviour Scale before you go to bed.

**Marital Behaviour Scale**

This scale consists of behaviours and thoughts. Read each item and then mark the appropriate answer in the space next to that word. Indicate to what extent you have felt or behaved this way tonight.

Use the following scale to record your answers.

Please circle the most appropriate answer.

0 = not at all descriptive of my behaviour or feelings to
3 = I did this or felt this to a great extent

1. I was in my own world
2. I wanted to be alone
3. I wanted some quiet time to myself
4. I avoided talking about problems we were having
5. I did not feel like talking about my feelings or thoughts with my partner
6. I avoided listening to my partner's feelings
7. I found it hard to unwind at home
8. I was talkative
9. I was withdrawn
10. I took out my frustrations on my partner
11. I yelled at my partner
12. I was impatient
13. I was argumentative
14. I complained about things my partner did or things he/she did not do
15. I got angry at my partner
16. I said unkind things to my partner
17. I was sarcastic to or made fun of my partner in a way that was not nice
18. I was mean to my partner
19. I became annoyed with my partner
20. I acted in an unkind manner to my partner
21. I snapped at or spoke in a nasty tone of voice to my partner

Please tick your gender

Male [ ] Female [ ]
Please complete the Marital Adjustment Test. This questionnaire can be completed at any time.

The Marital Adjustment Test

1. Check the dot on the scale line below which best describes the degree of happiness, everything considered, of your present marriage. The middle point, "happy", represents the degree of happiness which most people get from marriage, and the scale gradually ranges on one side to those who are very unhappy in marriage, and on the other, to those who experience extreme joy or felicity in marriage.

0 2 7 15 20 25 35

Very Unhappy Happy Perfectly Happy

State the approximate extent of agreement or disagreement between you and your mate on the following items.

Please circle the most appropriate answer

<table>
<thead>
<tr>
<th></th>
<th>Always Agree</th>
<th>Almost Always Agree</th>
<th>Occasionally Disagree</th>
<th>Frequently Disagree</th>
<th>Almost Always Disagree</th>
<th>Always Disagree</th>
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</thead>
<tbody>
<tr>
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<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>3. Matters of recreation</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
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<td>4. Demonstration of Affection</td>
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<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>5. Friends</td>
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<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>6. Sex relations</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>7. Conventionality</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>(right, good, or proper conduct)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Philosophy of life</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>9. Ways of dealing with in-laws</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>

Please circle the most appropriate answer

10. When disagreements arise, they usually result in:
   a) Husband giving in  
   b) Wife giving in  
   c) Agreement by mutual give and take

11. Do you and your mate engage in outside interests together?
   a) All of them  
   b) Some of them  
   c) Very few of them  
   d) None of them
12. In leisure time, do you generally prefer?
a) To be “on the go”  
b) To stay at home  
Does your mate generally prefer?
a) To be “on the go”  
b) To stay at home  

13. Do you ever wish you had not married?
a) Frequently  
b) Occasionally  
c) Rarely  
d) Never  

14. If you had to live your life over, do you think you would?
a) Marry the same person  
b) Marry a different person  
c) Not marry at all  

15. Do you confide in your mate?
a) Almost never  
b) Rarely  
c) In most things  
d) In everything  

Please tick your gender  
Male ☐  Female ☐
Please complete the **Negative Affect Scale** at the end of your day before leaving work or before your partner returns from work, if you are not working.

**Negative Affect Scale**

This scale consists of a number of words that describe different feelings and emotions.

Read each item and then mark the appropriate answer in the space next to that word.

Indicate to what extent you have felt this way today.

Use the following scale to record your answers.

Please circle the most appropriate answer.

<table>
<thead>
<tr>
<th>Emotion</th>
<th>1 Very slightly or not at all</th>
<th>2 a little</th>
<th>3 moderately</th>
<th>4 quite a bit</th>
<th>5 extremely</th>
</tr>
</thead>
<tbody>
<tr>
<td>Irritable</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Distressed</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Nervous</td>
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<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Scared</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Afraid</td>
<td></td>
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<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Upset</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Jittery</td>
<td></td>
<td>1</td>
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<td>3</td>
<td>4</td>
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<tr>
<td>Ashamed</td>
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<td>Hostile</td>
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<td>2</td>
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</tr>
<tr>
<td>Guilty</td>
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<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

Please tick your gender Male [ ] Female [ ]
Please complete the Marital Behaviour Scale before you go to bed.

**Marital Behaviour Scale**

This scale consists of behaviours and thoughts. Read each item and then mark the appropriate answer in the space next to that word. Indicate to what extent you have felt or behaved this way tonight.

Use the following scale to record your answers.

Please circle the most appropriate answer.

- **0** = not at all descriptive of my behaviour or feelings to
- **3** = I did this or felt this to a great extent

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>I was in my own world</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>2.</td>
<td>I wanted to be alone</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>3.</td>
<td>I wanted some quiet time to myself</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>4.</td>
<td>I avoided talking about problems we were having</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>5.</td>
<td>I did not feel like talking about my feelings or thoughts with my partner</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>6.</td>
<td>I avoided listening to my partner's feelings</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>7.</td>
<td>I found it hard to unwind at home</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>8.</td>
<td>I was talkative</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>9.</td>
<td>I was withdrawn</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>10.</td>
<td>I took out my frustrations on my partner</td>
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<td>1</td>
</tr>
<tr>
<td>11.</td>
<td>I yelled at my partner</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>12.</td>
<td>I was impatient</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>13.</td>
<td>I was argumentative</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>14.</td>
<td>I complained about things my partner did or things he/she did not do</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>15.</td>
<td>I got angry at my partner</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>16.</td>
<td>I said unkind things to my partner</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>17.</td>
<td>I was sarcastic to or made fun of my partner in a way that was not nice</td>
<td>0</td>
<td>1</td>
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<tr>
<td>18.</td>
<td>I was mean to my partner</td>
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<td>1</td>
</tr>
<tr>
<td>19.</td>
<td>I became annoyed with my partner</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>20.</td>
<td>I acted in an unkind manner to my partner</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>21.</td>
<td>I snapped at or spoke in a nasty tone of voice to my partner</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

Please tick your gender: Male [ ] Female [ ]
Please complete the Marital Adjustment Test. This questionnaire can be completed at any time.

The Marital Adjustment Test

1. Check the dot on the scale line below which best describes the degree of happiness, everything considered, of your present marriage.

The middle point, “happy”, represents the degree of happiness which most people get from marriage, and the scale gradually ranges on one side to those who are very unhappy in marriage, and on the other, to those who experience extreme joy or felicity in marriage.

0 Very Unhappy

2 7 15 20 25 35 Happy

Perfectly Happy

State the approximate extent of agreement or disagreement between you and your mate on the following items.

Please circle the most appropriate answer

<table>
<thead>
<tr>
<th>Item</th>
<th>Always Agree</th>
<th>Almost Agree</th>
<th>Occasionally Disagree</th>
<th>Frequently Disagree</th>
<th>Always Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Handling family finances</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3. Matters of recreation</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4. Demonstration of Affection</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5. Friends</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6. Sex relations</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>7. Conventionality (right, good, or proper conduct)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>8. Philosophy of life</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>9. Ways of dealing with in-laws</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

Please circle the most appropriate answer

10. When disagreements arise, they usually result in:
    a) Husband giving in 
    b) Wife giving in
    c) Agreement by mutual give and take

11. Do you and your mate engage in outside interests together?
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Does your mate generally prefer?
   a) To be “on the go”  
   b) To stay at home 

13. Do you ever wish you had not married?
   a) Frequently  
   b) Occasionally  
   c) Rarely  
   d) Never 

14. If you had to live your life over, do you think you would?
   a) Marry the same person  
   b) Marry a different person  
   c) Not marry at all 

15. Do you confide in your mate?
   a) Almost never  
   b) Rarely  
   c) In most things  
   d) In everything 

Please tick your gender  
Male [ ]  Female [ ]
Counselling services

A Psychologist or Counselling Service can assist you with coping with a negative day. Services available include:

- Clinical Psychologists in private practice, which are listed in the Yellow Pages (check with your Private Health Insurance fund for details of eligible rebates).

- If you do not have private health insurance see your G.P for referral to a Government Clinic.

- Universities have Post Graduate Training Clinics where you may be seen at very low cost:
  
  University of W.A 6488 2644
  Curtin University 9266 3436
  Murdoch University 9360 2570
  Edith Cowan University 9301 0011

- 24 hour emergency support – Crisis Care 9223 1111
- Relationships Australia 1300 364 277
- Kinway Relationship Counselling – telephone counselling 1800 812 511
Appendix D

Scoring Key

Negative Affectivity Scale

<table>
<thead>
<tr>
<th>Item</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Irritable</td>
<td>+1 +2 +3 +4 +5</td>
</tr>
<tr>
<td>Distressed</td>
<td>+1 +2 +3 +4 +5</td>
</tr>
<tr>
<td>Nervous</td>
<td>+1 +2 +3 +4 +5</td>
</tr>
<tr>
<td>Scared</td>
<td>+1 +2 +3 +4 +5</td>
</tr>
<tr>
<td>Afraid</td>
<td>+1 +2 +3 +4 +5</td>
</tr>
<tr>
<td>Upset</td>
<td>+1 +2 +3 +4 +5</td>
</tr>
<tr>
<td>Jittery</td>
<td>+1 +2 +3 +4 +5</td>
</tr>
<tr>
<td>Ashamed</td>
<td>+1 +2 +3 +4 +5</td>
</tr>
<tr>
<td>Hostile</td>
<td>+1 +2 +3 +4 +5</td>
</tr>
<tr>
<td>Guilty</td>
<td>+1 +2 +3 +4 +5</td>
</tr>
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</table>

Withdrawn Marital Behaviour Scale

<table>
<thead>
<tr>
<th>Item</th>
<th>Score</th>
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<tbody>
<tr>
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<td>+3 +2 +1 +0</td>
</tr>
<tr>
<td>9</td>
<td>+0 +1 +2 +3</td>
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Daytime Emotions and Marital Interactions

Angry Marital Behaviour Scale

<table>
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<th>Item</th>
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<td>+0    +1    +2    +3</td>
</tr>
<tr>
<td>2</td>
<td>+0    +1    +2    +3</td>
</tr>
<tr>
<td>3</td>
<td>+0    +1    +2    +3</td>
</tr>
<tr>
<td>4</td>
<td>+0    +1    +2    +3</td>
</tr>
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<td>5</td>
<td>+0    +1    +2    +3</td>
</tr>
<tr>
<td>6</td>
<td>+0    +1    +2    +3</td>
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<tr>
<td>7</td>
<td>+0    +1    +2    +3</td>
</tr>
<tr>
<td>8</td>
<td>+0    +1    +2    +3</td>
</tr>
<tr>
<td>9</td>
<td>+0    +1    +2    +3</td>
</tr>
<tr>
<td>10</td>
<td>+0    +1    +2    +3</td>
</tr>
<tr>
<td>11</td>
<td>+0    +1    +2    +3</td>
</tr>
<tr>
<td>12</td>
<td>+0    +1    +2    +3</td>
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</table>

Marital Adjustment Test

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<tr>
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<td>+5</td>
</tr>
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<td>+8</td>
</tr>
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<td>5</td>
<td>+5</td>
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<td>+15</td>
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<td>+0</td>
</tr>
<tr>
<td>11</td>
<td>+10</td>
</tr>
<tr>
<td>12</td>
<td>“stay at home” for both +10</td>
</tr>
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<td></td>
<td>“on the go for both” +3</td>
</tr>
<tr>
<td></td>
<td>“disagreement” +2</td>
</tr>
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<td>13</td>
<td>+0</td>
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<tr>
<td>14</td>
<td>+15</td>
</tr>
<tr>
<td>15</td>
<td>+0</td>
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</tbody>
</table>
Appendix E

Negative Affectivity Scale

This scale consists of a number of words that describe different feelings and emotions. Read each item and then mark the appropriate answer in the space next to that word. Indicate to what extent you have felt this way today. Use the following scale to record your answers. Please circle the most appropriate answer.

<table>
<thead>
<tr>
<th>Feeling</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
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</thead>
<tbody>
<tr>
<td>Irritable</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Distressed</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Nervous</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Scared</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Afraid</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Upset</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Jittery</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Ashamed</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Hostile</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Guilty</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
Appendix F

Marital Behaviour Scale

This scale consists of behaviour and thoughts. Read each item and then mark the appropriate answer in the space next to that word. Indicate to what extent you have felt or behave this way tonight. Use the following scale to record your answers. Please circle the most appropriate answer.

0 = not at all descriptive of my behaviour or feelings to
3 = I did this or felt this to a great extent

Withdrawn marital behaviour scale

1. I was in my own world
2. I wanted to be alone
3. I wanted some quiet time to myself
4. I avoided talking about problems we were having
5. I did not feel like talking about my feelings or thoughts with my partner
6. I avoided listening to my partner’s feelings
7. I found it hard to unwind at home
8. I was talkative (reversed scored)
9. I was withdrawn

Angry Marital Behaviour Scale

1. I took out my frustrations on my partner
2. I yelled at my partner
3. I was impatient
4. I was argumentative
5. I complained about things my partner did or things he/she did not do
6. I got angry at my partner
7. I said unkind things to my partner
8. I was sarcastic to or made fun of my partner in a way that was not nice
9. I was mean to my partner
10. I became annoyed with my partner
11. I acted in an unkind manner to my partner
12. I snapped at or spoke in a nasty tone of voice to my partner
Appendix G

The Marital Adjustment Test

1. Check the dot on the scale line below which best describes the degree of happiness, everything considered, of your present marriage. The middle point, "happy", represents the degree of happiness which most people get from marriage, and the scale gradually ranges on one side to those few who are very unhappy in marriage, and on the other, to those few who experience extreme joy or felicity in marriage.

   0 2 7 15 20 25 35

   | Very Unhappy | Happy | Perfectly Happy |

State the approximate extent of agreement or disagreement between you and your mate on the following items. Please circle the most appropriate answer.

<table>
<thead>
<tr>
<th>Always Agree</th>
<th>Almost Agree</th>
<th>Occasionally Disagree</th>
<th>Frequently Disagree</th>
<th>Almost Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Handling family finances</td>
<td>1 2 3 4 5 6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Matters of recreation</td>
<td>1 2 3 4 5 6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Demonstration of Affection</td>
<td>1 2 3 4 5 6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Friends</td>
<td>1 2 3 4 5 6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Sex relations</td>
<td>1 2 3 4 5 6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Conventionality (right, good, or proper conduct)</td>
<td>1 2 3 4 5 6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Philosophy of life</td>
<td>1 2 3 4 5 6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Ways of dealing with in-laws</td>
<td>1 2 3 4 5 6</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Please circle the most appropriate answer

10. When disagreements arise, they usually result in:
   a) Husband giving in
   b) Wife giving in
   c) Agreement by mutual give and take

11. Do you and your mate engage in outside interests together?
   a) All of them
   b) Some of them
   c) Very few of them
   d) None of them
12. In leisure time, do you generally prefer?
   a) To be “on the go”    b) To stay at home

   Does your mate generally prefer?
   a) To be “on the go”    b) To stay at home

13. Do you ever wish you had not married?
   a) Frequently    b) Occasionally
   c) Rarely    d) Never

14. If you had to live your life over, do you think you would?
   a) Marry the same person    b) Marry a different person
   c) Not marry at all

15. Do you confide in your mate?
   a) Almost never    b) Rarely
   c) In most things    d) In everything
Appendix H

Exploratory Key for the Data

<table>
<thead>
<tr>
<th>Variable</th>
<th>Variable Code</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Par</td>
<td>Participant’s number</td>
<td>Each participant was given a number. Nominal data Ranges from 1 to 100</td>
</tr>
<tr>
<td>Couple</td>
<td>Couple’s number</td>
<td>Each couple was given a number. Nominal data Ranges from 1 to 50</td>
</tr>
<tr>
<td>Gender</td>
<td>Participant’s Gender</td>
<td>Gender of the participant. Nominal data Ranges from 1 to 2 1 = male 2 = female</td>
</tr>
<tr>
<td>NA1-10</td>
<td>NA Items</td>
<td>Scores for participants’ response on each item of the Negative Affectivity Scale Ordinal data Ranges from 1 to 5 1 = very slightly or not at all 2 = a little 3 = moderately 4 = quite a bit 5 = extremely</td>
</tr>
<tr>
<td>W1-9</td>
<td>WMBS Items</td>
<td>Scores for participants’ response on each item on the Withdrawn Marital Behaviour Scale Ordinal data Ranges from 0 to 3 0 = not at all 1 = a little 2 = moderately 3 = I did this or felt this to a great extent</td>
</tr>
<tr>
<td>A1-12</td>
<td>AMBS Items</td>
<td>Scores for participants’ response on each Angry Marital Behaviour Scale item Ordinal data Ranges from 0 to 3 0 = not at all 1 = a little 2 = moderately 3 = I did this or felt this to a great extent</td>
</tr>
<tr>
<td>M1-15</td>
<td>MAT Item</td>
<td>Scores for participant’s response on each Marital Adjustment Test items Ordinal data Ranges from 0 to 35</td>
</tr>
<tr>
<td>Variable</td>
<td>Variable Code</td>
<td>Explanation</td>
</tr>
<tr>
<td>----------</td>
<td>---------------</td>
<td>-------------</td>
</tr>
<tr>
<td>NA</td>
<td>NAS Score</td>
<td>This represents participant’s total score on the NAS Ordinal data Ranges from 1 to 5</td>
</tr>
<tr>
<td>WMBS</td>
<td>WMBS Score</td>
<td>This represents participant’s total score on the WMBS Ordinal data Ranges from 0 to 3</td>
</tr>
<tr>
<td>AMBS</td>
<td>AMBS Score</td>
<td>This represents participant’s total score on the AMBS Ordinal data Ranges from 0 to 3</td>
</tr>
<tr>
<td>MAT</td>
<td>MAT Score</td>
<td>This represents participant’s total score on the MAT Ordinal data Ranges from 2 to 158</td>
</tr>
<tr>
<td>Lnna</td>
<td>Logarithm of NA Scale Score</td>
<td>This represents a logarithm transformation of NA Scale Score</td>
</tr>
<tr>
<td>Lnwbs</td>
<td>Logarithm of WMBS Scale Score</td>
<td>This represents a logarithm transformation of WMBA Scale Score</td>
</tr>
<tr>
<td>Lgna</td>
<td>Logarithm of NA Scale Score</td>
<td>This represents a logarithm transformation of NA Scale Score</td>
</tr>
<tr>
<td>Ln1ambs</td>
<td>Logarithm plus 1 of AMBS Scale Score</td>
<td>This represents a logarithm plus 1 transformation of WMBA Scale Score</td>
</tr>
<tr>
<td>Lgna</td>
<td>Logarithm of NA Scale Score</td>
<td>This represents a logarithm transformation of NA Scale Score</td>
</tr>
<tr>
<td>Lgwmbs</td>
<td>Logarithm of WMBS Scale Score</td>
<td>This represents a logarithm transformation of WMBA Scale Score</td>
</tr>
<tr>
<td>Sqna</td>
<td>Square root of NA Scale Score</td>
<td>This represents a square root transformation of NA Scale Score</td>
</tr>
<tr>
<td>Sqwmbs</td>
<td>Square root of WMBS Scale Score</td>
<td>This represents a square root transformation of WMBS Scale Score</td>
</tr>
<tr>
<td>MAH1-27</td>
<td>Mahalanobis Distance</td>
<td>These are the Mahalanobis Distance Scores for the 27 regression analyses.</td>
</tr>
</tbody>
</table>
Table 1

**Descriptive Statistics for End of the Day Negative Affect, Evening Marital Behaviour and Marital Satisfaction (N = 50 couples)**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Husbands</th>
<th>Wives</th>
</tr>
</thead>
<tbody>
<tr>
<td>End of the day negative affect</td>
<td>1.50 (0.09)</td>
<td>1.58 (0.11)</td>
</tr>
<tr>
<td>Evening marital behaviour</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Withdrawn</td>
<td>0.86 (0.09)</td>
<td>0.63 (0.06)</td>
</tr>
<tr>
<td>Angry</td>
<td>0.28 (0.05)</td>
<td>0.67 (0.09)</td>
</tr>
<tr>
<td>Marital Satisfaction</td>
<td>116.13 (19.24)</td>
<td>117.73 (20.13)</td>
</tr>
</tbody>
</table>

Note. Values represent the mean scale scores for husbands and wives. Standard deviations are in brackets. Refers to data prior to transformation of Negative Affect, Withdrawn and Angry Marital Behaviour.
Table 2

*Descriptive Statistics for End of the Day Negative Affect, Evening Marital Behaviour and Marital Satisfaction (N = 50 couples)*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Husbands</th>
<th>Wives</th>
</tr>
</thead>
<tbody>
<tr>
<td>End of the day negative affect</td>
<td>0.33 (0.36)</td>
<td>0.39 (0.38)</td>
</tr>
<tr>
<td>Evening marital behaviour</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Withdrawn</td>
<td>0.86 (0.61)</td>
<td>0.63 (0.47)</td>
</tr>
<tr>
<td>Angry</td>
<td>0.21 (0.04)</td>
<td>0.45 (0.05)</td>
</tr>
<tr>
<td>Marital Satisfaction</td>
<td>116.13 (19.24)</td>
<td>117.73 (20.13)</td>
</tr>
</tbody>
</table>

*Note.* Values represent the mean scale scores for husbands and wives. Standard deviations are in brackets.

*Refers to data following transformation of Negative Affect, Withdrawn and Angry Marital Behaviour.*
### Table 3

*Standard Multiple Regression of Negative Affect and Gender on Nighttime Angry Marital Behaviour (N = 100)*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Angry (DV)</th>
<th>Gender</th>
<th>Negative Affect</th>
<th>B</th>
<th>β</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>.36</td>
<td>.04</td>
<td>.39</td>
<td>.28*</td>
<td>.31</td>
</tr>
<tr>
<td>Intercept</td>
<td></td>
<td></td>
<td></td>
<td>-.11</td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>0.33</td>
<td>1.50</td>
<td>0.35</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SD</td>
<td>0.33</td>
<td>0.50</td>
<td>0.37</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\[ R^2 = .23 \]

Adjusted \[ R^2 = .21 \]

\[ R = .48^{**} \]

* \( p < .01 \). ** \( p < .001 \).
Table 4

*Standard Multiple Regression of Negative Affect and Gender on Nighttime Withdrawn Marital Behaviour (N = 100)*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Withdrawn</th>
<th>Gender</th>
<th>Negative Affect</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(DV)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>-0.20</td>
<td></td>
<td>-0.13* -0.21</td>
</tr>
<tr>
<td>Negative affect</td>
<td>0.29</td>
<td>0.04</td>
<td>0.25* 0.29</td>
</tr>
<tr>
<td>$M$</td>
<td>0.81</td>
<td>1.50</td>
<td>0.35</td>
</tr>
<tr>
<td>$SD$</td>
<td>0.31</td>
<td>0.50</td>
<td>0.37</td>
</tr>
</tbody>
</table>

$R^2 = .13$

$Adjusted R^2 = .11$

$R = .36^*$

* $p < .01$. ** $p < .001$. 
Table 5

*Standard Multiple Regression of Negative Affect, Gender and Marital Satisfaction on Nightly Angry Marital Behaviour (N = 100)*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Angry</th>
<th>Gender</th>
<th>Negative Affect</th>
<th>Marital Satisfaction</th>
<th>$B$</th>
<th>$\beta$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>0.36</td>
<td></td>
<td>0.23**</td>
<td>0.35</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Negative Affect</td>
<td>0.33</td>
<td>0.04</td>
<td>0.27*</td>
<td>0.31</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marital Satisfaction</td>
<td>-0.08</td>
<td>0.03</td>
<td>-0.04</td>
<td>-0.001</td>
<td>-0.08</td>
<td></td>
</tr>
</tbody>
</table>

Intercept = 0.04

M 0.33 1.50 0.35 116.72

SD 0.32 0.50 0.37 19.59

$R^2 = .24$

Adjusted $R^2 = .21$

$R = .49**$

* $p < .01$. ** $p < .001$. 
Table 6

*Standard Multiple Regression of Negative Affect, Gender and Marital Satisfaction on Nightly Withdrawn Marital Behaviour (N = 100)*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Withdrawn</th>
<th>Gender</th>
<th>Negative Affect</th>
<th>Marital Satisfaction</th>
<th>$B$</th>
<th>$\beta$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>-0.20</td>
<td></td>
<td></td>
<td></td>
<td>-0.13*</td>
<td>-0.21</td>
</tr>
<tr>
<td>Negative Affect</td>
<td>0.29</td>
<td>0.04</td>
<td></td>
<td></td>
<td>0.24*</td>
<td>0.28</td>
</tr>
<tr>
<td>Marital Satisfaction</td>
<td>-0.26</td>
<td>0.03</td>
<td>-0.04</td>
<td></td>
<td>-0.004*</td>
<td>-0.24</td>
</tr>
</tbody>
</table>

Intercept = 1.36

M
SD

$R^2 = 0.18$

Adjusted $R^2 = 0.16$

$R = 0.43^{**}$

*p < .01, **p < .001.
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