

# Chapter 4 Crossover and Work-Home Interference<sup>7</sup>

## 4.1 Abstract

In the present study, we examine crossover - the transmission of stress and strain from one spouse to another - in a sample of 78 information technology (IT) professionals and their working spouses. Results of hierarchical regression analysis indicated the following: (H1) For IT professionals, work-home interference (WHI) was directly linked to work-related outcomes (i.e., burnout, turnover intention); (H2) Crossover effects were found between the home-work interference (HWI) of the IT professional and the exhaustion and turnover intentions of their spouse. For IT professionals, negative affectivity (NA) was a significant predictor of all outcomes, whereas for the spouse NA was only a predictor for exhaustion and psychosomatic health. The relevance of these findings to crossover research is discussed.

## 4.2 Introduction

There is considerable evidence that job stress can have a detrimental effect on the psychological and physical well-being of workers (Cooper, Dewe & O'Driscoll, 2001). For example, an increased workload may lead to problems with balancing work and home, or contribute to feelings of burnout (within-individuals). In comparison, the area of crossover has had less attention paid to it (Westman, 2001). Crossover is defined as the reaction of individuals to the job stress and strain experienced by those with whom they interact regularly (between-individuals). So, within any couple the demands of the job (stressor) or feelings of burnout (strain) can contribute to the stress and/or strain of his/her partner. Westman and Etzion (1995) note that while the spillover of experiences from one domain of a person's life to another has been documented extensively, the phenomenon of how stress and strain of one person affect other individuals has been less exhaustively investigated. The aim of the following study is to examine both spillover and crossover processes in a sample of workers and their working spouses.

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#### 4.2.1 Theoretical Background

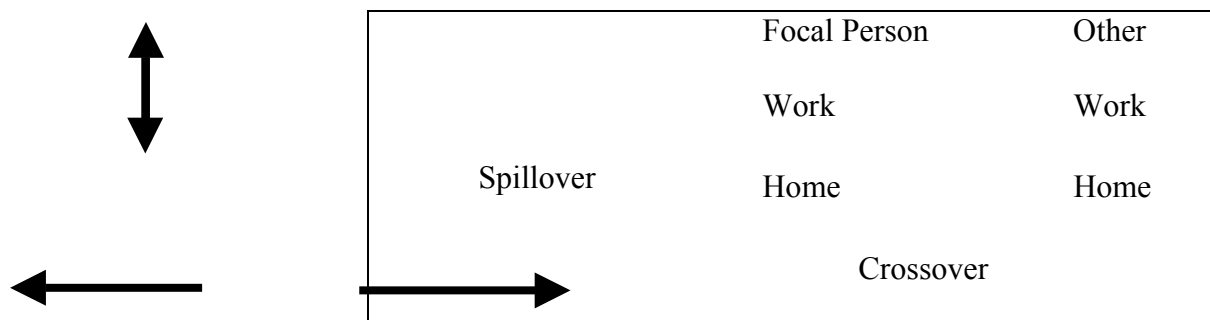
Westman (2001) has noted that the crossover literature does not reveal a systematic theoretical and empirical approach that distinguishes between the possible explanations of crossover effects. Three mechanisms have been identified as explaining crossover: a direct process, a spurious effect via common stressors and an indirect effect. The direct effect is based on the idea that crossover effects appear between closely related partners who share and care for each other. Such a role for empathy is supported by those researchers interested in perspective taking and empathic concern (e.g. Davis, 1983), who suggest that individuals imagine how they would feel in the position of another and consequently experience such feelings (Eckenrode & Gore, 1981). The common stressors mechanism as suggested by Westman and Vinokur (1998) suggests that crossover is the result of common stressors in a shared environment. This view suggests that people in close relationships may experience shared stressors (e.g., economic hardship) creating psychological strain in both of them. Indeed, Hobfoll and London (1986) suggest that many stressors make simultaneous demands on both individuals in a dyad. The indirect mechanism is posited on the idea that partners' strain may exhaust his/her partner's ability to cope, thereby increasing the partner's vulnerability to stress (Burke, Weir & DuWors, 1980; Jackson & Maslach, 1982). Consideration of these three mechanisms together provides the background to the routes to which stress can 'travel' from one partner to another. The present study is primarily interested in the way that the interference felt between the work and family roles contributes to strain experienced by the respective partner. Indeed, there is already evidence (see Fletcher, 1991) that the effects of work stress carry over to the home such that the well-being of the cohabiting partner can also be adversely affected. Therefore, the present study will extend the crossover paradigm by focusing on Work-Home Interference (WHI) and Home-Work Interference (HWI). WHI and HWI can be considered as outcomes of the involvement in work and family roles associated with being in a dual-earner couple is interference between the domains of work and home. WHI and HWI is experienced when pressures from the work and family roles are mutually incompatible, such that participation in one role makes it difficult to participate in the other (Greenhaus & Beutell, 1985). The logical connection between WHI/HWI and crossover is highlighted by the review of Westman (2001), which indicates that role stressors are

one of the main antecedents of crossover. Models of work-home processes have been criticised as being either atheoretical (Barnett, 1998; Zedeck, 1992) or badly conceptually integrated (Lambert, 1990). Westman (2001) suggests that crossover could be theoretically anchored to role theory (Kahn et al., 1964). According to Westman (2001), the usefulness of role theory is that it underscores the interrelations between the focal person and his/her role senders in the different settings (work/home) where the individual finds his/herself. Role theory is a sound basis for crossover research, as first, it relates both to the person and to his or her role senders, thus encompassing spouses and the interaction between them, and second, because it focuses on a wider role stress paradigm than the WHI models. The model delineated in Figure 4.1 uses role theory as an anchor for the theoretical development. This conceptualisation allows us to view the relationship between the focal person and the other in both the domains of work and home. The core assumption is that one's stress or strain has an impact on others in different settings, indicating a relationship between stress and strain in the individual arena and the stress and strain between two people.

However, a significant weakness in the crossover literature concerns the lack of studies investigating the specific effect of wives employment on husband strain in the non-work domain (Westman, 2001). In particular, specific mechanisms of the wife's employment that may cause crossover with regard to the strains experienced by their husbands have not been well specified or accounted for. In general, these studies have not eliminated the possibility that it is their (the wife's) own job stress that causes the strain. Exceptions to this is the study by Westman and Etzion (1995) which demonstrated that there was crossover of burnout from career officers to their spouses and vice versa, after controlling for job stress of each partner. Indeed, in a review of the crossover literature, Westman (2001) identifies only eight studies as examining the bi-directional crossover of stress or strain among both spouses (Barnett et al., 1995; Hammer, Allen & Grigsby, 1997; Jones & Fletcher, 1993; Morrison & Clements, 1997; Westman & Etzion, 1995; Westman & Vinokur, 1998; Westman, Etzion & Segev, 2002; Westman, Vinokur, Hamilton & Roziner, 2002) and of these only two assessed WHI in relation to this issue. Hammer, Allen and Grigsby (1997) found a bi-directional crossover of WHI from husbands to wives and vice-versa. Similarly, Westman et al. (2002) found a bi-directional crossover of WFC in a sample of women in the US army and their spouses.



Thus, in spillover, stress experienced in one domain of life results in stress in the other domain for the same individual; whereas in crossover, stress experienced in one domain (i.e., work, home) by the individual leads to stress being experienced by the individual's spouse. In this sense, spillover is an intra-individual transmission of stress, whereas crossover is dyadic and an inter-individual transmission of stress or strain (Westman, 2001). First of all it is important to see how one's stress affects one's own level of strain and in the second stage, how one's strain affects the strain of one's partner. So these issues constitute a two-level process.



**Figure 4.1 The conceptual model**

#### 4.2.2 Negative Affectivity

A personal trait relevant to crossover research is negative affectivity (NA), defined by Watson and Clark (1984) as a stable tendency to express emotions across time and situations. An exhaustive review of the crossover literature by Westman (2001) identified only one study that had examined and controlled for NA. Morrison and Clements (1997) used NA of both spouses as a control variable. They found that the female's NA was a significant predictor of her reported well-being across each of the dependant measures studied (physical health, depression). However, NA affected only physical complaints among the males. Therefore, not controlling for NA may overestimate the effect of the individual's job stress on the spouse's well-being.

Researchers have only recently acknowledged the role of psychological individual difference variables in work-family relationships (Greenhaus & Parasuraman, 1999). NA has been examined in three studies of WHI (Carlson, 1999; Frone, Russell & Cooper, 1993; Stoeva, Chiu & Greenhaus, 2002). This limited research suggests that NA is associated with WHI. Indeed, Carlson (1999) found that NA was related to three forms of WFC; time based conflict, strain-based conflict, and behaviour based conflict. Additionally, Stoeva et al. (2002) found moderate

correlations between WHI ( $r = .17, p < .05$ ) and HWI ( $r = .16, p < .05$ ) measures. Although the need to study NA has been questioned by researchers (Dollard & Winefield, 1988; Schonfield, 1996), the present research will adhere to the advice of Spector, Zapf, Chen and Frese (2000) to include NA in studies of stressor-strain relationships, but only if one has good conceptual reasons for doing so.

The present study will account for a more differentiated view of the NA process by specifying between NA at home and NA at work. Given that NA is assumed to be stable across both time and situations, this will provide an opportunity to assess how stable NA is across the domains of work and home. Although, this is the first study to make such a dichotomy, Williams et al. (1991) did examine affect across an eight-day period using an experience sampling methodology. Interestingly, Williams et al. (1991) found that affect at work did not influence end-of-day home satisfaction, nor did home affect influence end-of-day job satisfaction. Such research is suggestive of the idea that there is not a one-to-one relationship between mood in the work domain and mood in the home domain. Therefore, in the present study, NA at both home and work of both the IT professional and their spouse will be accounted for and controlled for.

### **4.2.3 Outcome Variables**

The meta-analysis of Allen, Herst, Bruck and Sutton (2001) presents the most comprehensive review of the consequences associated with WHI. Conceptually, Allen et al. (2000) divided the consequences into three general areas: work-related outcomes, non-work related outcomes and stress-related outcomes. In the present research, we will examine outcomes in these three areas also; marital satisfaction (non-work related outcome), turnover intention (work-related), burnout and psychosomatic complaints (stress-related outcomes). Burnout, referring to the draining of energy and resources caused by chronic job stress is considered a work-related indicator of psychological health (Schaufeli & Enzmann, 1998). Several studies have shown that increased WHI is related to increased job burnout (Aryee, 1993; Bacharach, Bamberger, & Conley 1991; Burke, 1988; Geurts, Rutte & Peeters, 1999; Greenglass & Burke, 1988; Kinnunen & Mauno, 1998). Additionally, psychosomatic health complaints have been related to WHI (Burke, 1994; Stephens, Franks & Atienza, 1997). The relationship between marital satisfaction and WHI has been mixed, with some studies finding an association (Barling, 1986, Duxbury et al,

1996), with others only finding significant associations for women (Kinnunen & Mauno, 1998; Matthews, Conger & Wickrama, 1996). The chosen outcome variables represent a broad range of measures to assess the effects of WHI/HWI within individuals (spillover) and between individuals (crossover).

#### 4.2.4 Aims and Hypotheses

The present research will contribute to the transference of stress literature by demonstrating that there is a link between the stressor of one partner and the strain experienced by their spouse. In addition, this research will control for the effects of NA, a variable hypothesised to inflate the relationship. A within-individual relationship between stress (WHI/HWI) and strain (e.g. burnout, satisfaction) for each individual within the dyad can be expected (see Allen et al., 2000 for a review of the literature). Therefore, our initial hypothesis addressed itself to this expected relationship.

- *H1: There will be a direct relationship between WHI/HWI and the work-related/non-work related outcomes, after controlling for negative affectivity.*

The potency of the dyad in the transmission of stress from one partner to another can be found in the interviews conducted by Pearlin and Turner (1987). They found that although interviewees would try to segregate the stress arising from the workplace and from the family domain, stress would be transmitted in other ways. Spouses reported that they could tell when their partners were stressed, regardless of whether the partner referred to it. Additionally, research at the organisational level suggests that feelings of strain (burnout) can be contagious between colleagues (Bakker & Schaufeli, 2000; Bakker, Schaufeli, Sixma & Bosveld, 2001). Based on the research and theory of crossover effects (Westman, 2001), the following hypothesis was examined.

- *H2: The WHI/HWI of one spouse will exhibit a crossover relationship with the work-related/non-work related outcomes of his/her spouse.*



## 4.3 Method

### 4.3.1 Sample & Procedure

This study is part of a larger study concerned with assessing work and home related issues among Information Technology (IT) professionals in the Netherlands. Members of the professional association for IT professionals in the Netherlands were contacted via post. Participants were asked to fill in the enclosed questionnaire and pass a second questionnaire to their spouse to fill in. Participants were urged to fill out their respective questionnaires separately and return the questionnaires in the pre-paid envelopes provided (two separate envelopes were provided). In total, 84 couples agreed to participate in the study and the final sample equalled 78 dual-working couples, after removing 6 individuals who had no paid job.

### 4.3.2 Measures

*Work-Home Interference (WHI) & Home-Work Interference (HWI).* WHI and HWI were measured using one instrument, covering both sub-scales: Survey Work-Home Interference Nijmegen (SWING). The SWING is a work-home interference measure developed by researchers in the Netherlands (Wagena & Geurts, 2000). WHI, referring to a negative impact of the work situation on one's functioning at home (e.g. "your work schedule makes it difficult for you to fulfill your domestic obligations"), is measured by nine items. HWI, referring to a negative impact of the home situation on one's job performance (e.g. "you arrive late at work because of domestic obligations"), is measured by six items. All items are scored on a 4-point scale from '0' (never) to '3' (always).

*Burnout.* The MBI-GS was used to assess burnout (Schaufeli, Leiter, Maslach, & Jackson, 1996). The MBI-GS includes three sub-scales: Exhaustion (five items; e.g. 'I feel used up at the end of the workday'), Cynicism (five items; e.g. 'I have become less enthusiastic about my work') and Professional Efficacy (which was not included in this study). All items are scored on a 7-point frequency rating scale ranging from '0' (never) to '6' (daily). High scores on the exhaustion and cynicism sub-scales are indicative of burnout. In the present study, we restrict ourselves to the exhaustion and cynicism dimensions of burnout. These two dimensions are generally considered as the 'core of burnout' (Green, Walkey & Taylor, 1991), whereas professional efficacy seems to reflect a personality characteristic rather than a genuine

burnout-component (Shirom, 1989, Cordes & Dougherty, 1993). Empirically, this is reflected by the relatively low correlation of professional efficacy with both of the other burnout dimensions (Lee & Ashforth, 1996) and by the fact that cynicism seems to develop in response to exhaustion, whereas professional efficacy seems to develop independently and in parallel (Leiter, 1993).

*Psychosomatic health.* Psychosomatic health complaints were measured with a Dutch questionnaire on subjective health (VOEG: Vragenlijst Onderzoek Ervaren Gezondheid [Questionnaire on Experienced Health]) developed by Dirken (1969). In this study, the 13-item version was used (Jansen & Sikkel, 1981), explaining 95% of the variance in the 21-item version. All items were scored on a 4-point scale ranging from '1' (seldom or never) to '4' (often). The VOEG consists of items asking whether one suffers from a range of psychosomatic complaints, such as headaches, backache, an upset stomach, fatigue, dizziness, and pain in the chest or heart area. The 13-item VOEG is used by the Dutch census office for monitoring psychosomatic health in the Dutch population

*Negative Affectivity (NA).* To assess NA, we used the PANAS scale developed by Watson, Clark and Tellegen (1988). The PANAS is designed to measure negative affectivity (NA) as well as positive affectivity (PA). However, the latter is not further considered in this study. NA is assessed by descriptors such as 'afraid, hostile, irritable, jittery, and upset'. Participant's indicated the extent to which they experienced the particular mood state in general on a 5-point scale ranging from 'very slightly or not at all' to 'extremely'. Extensive research has demonstrated the reliability and validity of instrument across a wide range of subjects (Watson, 1988). An innovation in the present research was not to ask the participants to rate their mood in life in general (as is done traditionally), but to ask participants to rate their mood specifically within the domains of work and home. Participants were asked how they felt in general at work and at home.

*Marital Satisfaction.* Marital satisfaction is measured by a scale used by Rusbult, Martz and Agnew (1998). This consists of five questions, such as "I feel satisfied with our relationship" and "My relationship is close to ideal". Respondents answered on a 9-point scale.

*Turnover Intention.* Intention to leave one's job was assessed by one question; "Do you intend to search for a new job in the short run (within a year) outside your



company?.” Participants indicated their score on a four-point scale, from absolutely not ‘1’ to definitely ‘4’.

## **4.4 Results**

### **4.4.1 Data screening**

Univariate data screening was carried out prior to undertaking statistical analyses for each of the independent and dependent variables, as recommended by Tabachnick and Fidell (1989). For each multivariate analysis, the assumptions of normality and homoscedasticity were checked and found to be satisfactory.

### **4.4.2 Sample Characteristics**

The final sample consisted of 78 couples (all were male-female couples). Sixty-two percent of these dyads had children living at home. Within the IT professionals, 91% were male. Participants ranged in age from 28 to 75 years. Two individuals were over the ‘normal’ age of retirement (65 years); both were male, the 75 year old worked as an IT teacher ten hours per week and the 71 year old worked with his partner in their translation firm (but didn’t fill in amount of hours he worked). The mean age of the sample was 47.78 years ( $sd = 7.9$  years) for IT professionals and a mean age of 46 years ( $sd = 8.7$  years) for their partners. Average hours worked by IT professionals was significantly higher than their spouses (mean hours of IT workers = 43.39 hours, mean hours of their spouses = 29.55 hours,  $t(154) = 7.60$ ,  $p < .000$ ).

### **4.4.3 Descriptive Analysis**

Table 4.1 shows the comparisons between the IT professionals and their partners across all the study variables. Significant differences were found for WHI only. WHI had a higher prevalence than HWI, and NA at home was higher than NA at work.

**Table 4.1 Means and Standard deviations of Study Variables (N=78 couples)**

Variable	Range	IT workers		Partners		t
		M	SD	M	SD	
WHI	0-3	0.88	0.37	0.64	0.39	3.94**
HWI	0-3	0.23	0.26	0.29	0.31	ns
NA for work	1-5	15.95	4.43	16.84	5.80	ns
NA for home	1-5	18.68	8.57	18.11	6.50	ns
Marital Satisfaction	1-9	7.12	1.66	7.13	1.62	ns
Health (VOEG)	1-4	1.47	0.40	1.59	0.43	ns
Exhaustion (MBI-GS)	0-6	1.88	1.27	1.61	1.03	ns
Cynicism (MBI-GS)	0-6	1.72	1.02	1.43	0.98	ns
Turnover Intention	1-4	1.75	0.82	1.78	0.83	ns

Note. \*\* $p < .01$ , ns = not significant

Table 4.2 contains the intercorrelations and coefficient-alpha reliability estimates for the study variables. Reliability estimates were adequate except for HWI of the partner ( $\alpha = 0.60$ ). Removal of items did not improve the estimate significantly, so the scale was left intact. Inspection of the table indicates that significant relationships for the same variable between IT worker and partner was only found for marital satisfaction ( $r = .30$ ,  $p < .01$ ).

Although not statistically significant, a positive relationship was found between worker's and partner's exhaustion ( $r = .20$ ). Relationships between IT worker's and partner's stressors and strains indicated the following; HWI (IT worker) and exhaustion (partner,  $r = .30$ ,  $p < .01$ ), WHI (IT worker) and turnover intention (partner,  $r = .27$ ,  $p < .01$ ), HWI (IT worker) and turnover intention (partner,  $r = .32$ ,  $p < .01$ ), psychosomatic complaints (IT worker) and turnover intention (partner,  $r = .27$ ,  $p < .01$ ). Negative affectivity between the work and home domains were strongly correlated for both the IT worker and spouse ( $r = .61$ ,  $p < .01$ ,  $r = .54$ ,  $p < .01$ , respectively), but not as strongly as expected.

**Table 4.2 Correlations and Cronbach's alpha coefficients (N=78 couples)**

	1	2	3	4	5	6	7	8	9
1 WHI (IT worker)	(.76)								
2 WHI (partner)	-.04	(.83)							
3 HWI (IT worker)	.39**	.22	(.70)						
4 HWI (partner)	-.15	.25*	-.03	(.60)					
5 NA in work (IT worker)	.33**	-.12	.31**	-.06	(.76)				
6 NA in work (partner)	-.04	.30**	-.12	.35**	-.10	(.85)			
7 NA at home (IT worker)	.29**	.03	.24*	.05	.61**	-.02	(.77)		
8 NA at home (partner)	.08	.10	-.06	.26*	-.10	.54**	.00	(.85)	
9 VOEG (IT worker)	.31**	-.12	.03	-.08	.41**	-.09	.28*	-.12	(.82)
10 VOEG (partner)	.17	.15	.21	.25*	.13	.27*	.07	.38**	.05
11 Exhaustion (IT worker)	.54**	-.10	.24*	-.19	.53**	.04	.39**	.16	.56*
12 Exhaustion (partner)	.21	.48**	.30**	.19	.00	.43**	-.00	.30**	.45**
13 Cynicism (IT worker)	.38**	-.08	.12	.03	.38**	-.16	.45**	.01	-.02
14 Cynicism (partner)	-.04	-.01	.00	.16	-.14	.15	-.01	.20	.16
15 Turnover Intention (IT worker)	-.08	.10	.03	.22	.35**	.13	.28*	-.02	-.07
16 Turnover Intention (partner)	.27*	.14	.32**	.12	.13	.14	-.01	.11	.27*
17 Marital Satisfaction (IT worker)	-.09	-.12	.02	.02	.08	-.13	-.24*	-.20	.07
18 Marital Satisfaction (partner)	.01	-.09	-.08	-.14	.19	-.06	-.02	-.19	.05



	10	11	12	13	14	15	16	17	18
10	VOEG (partner)	(.85)							
11	Exhaustion (IT worker)	.18	(.90)						
12	Exhaustion (partner)	.45**	.20	(.80)					
13	Cynicism (IT worker)	-.02	.56**	-.03	(.78)				
14	Cynicism (partner)	.16	.03	.28*	.04	(.76)			
15	Turnover Intention (IT worker)	-.07	.10	.03	.33**	.10			
16	Turnover Intention (partner)	.27*	.13	.23*	.05	.37*	.02		
17	Marital Satisfaction (IT worker)	-.02	-.12	-.12	-.16	-.17	.11	-.01	(.93)
18	Marital Satisfaction (partner)	.14	.02	-.13	-.07	-.24*	.14	-.06	.30** (.93)

Note: \*\* $p < .01$ , \* $p < .05$

#### 4.4.4 Crossover

A series of hierarchical regressions were undertaken in which the order of entry of independent variables was controlled. In the first step, individual measures of affectivity were entered. Then the dependent variable was regressed on the WHI/HWI variables of the participant of interest and finally, in the third step the dependent variable was regressed on the WHI/HWI variables of the spouse of the dyad. In this way, crossover effects for each couple were assessed by regressing the outcomes on the WHI/HWI variables of their spouses. Good examples of the use of hierarchical regression technique to assess crossover can be found in Morrison and Clements (1997), and Hammer, Allen and Grigsby (1997). Table 4.3 and 4.4 shows the results of these analyses. Table 4.3 indicates that negative affectivity at work was a significant predictor for IT workers for their self-reported health complaints, exhaustion, and turnover intentions. NA at home predicted marital satisfaction, but NA at work indicated an unexpected relationship with marital satisfaction as well.

With regard to the first hypothesis, the WHI of IT professionals was a significant predictor of psychosomatic complaints, exhaustion and cynicism. Of note is the fact that, even after controlling for NA, WHI accounted for 5% ( $p < .05$ ) of the variance in psychosomatic health complaints and 8% ( $p < .01$ ) of variance in exhaustion levels. Partner WHI and HWI didn't predict any of the outcomes for IT workers and as such no evidence was found for Hypothesis 2 with regard to crossover of partners' stress to the strains of IT professional.

Analysis of table 4.4 indicates that NA had a less significant impact with regard to predicting outcomes with only partner NA at work predicting exhaustion and partner NA at home predicting psychosomatic complaints. With regard to hypothesis one, direct effects were found for the relationship between WHI and exhaustion. Again, it is noteworthy that even after controlling for NA, WHI accounted for 14% ( $p < .01$ ) of the variance in exhaustion. Despite this, IT professionals' HWI was found to predict exhaustion and turnover intentions of their partners.

**Table 4.3 Crossover from partner to IT worker (N=78 couples)**

	Dependent Variables of IT worker				
	Health VOEG	Marital Satisfaction	Exhaustion MBI-GS	Cynicism MBI-GS	Turnover Intentions
	$\beta$	$\beta$	$\beta$	$\beta$	$\beta$
IT NA at work	.35*	.31*	.39**	.13	.38*
IT NA at home	.04	-.41**	.06	.31*	.10
Partner NA at work	.01	-.03	.05	-.22	.12
Partner NA at home	-.12	-.16	.19	.09	-.09
Step 1 R <sup>2</sup> (R <sup>2</sup> adj)	.18 (.14)	.16 (.11)	.37 (.33)	.28 (.22)	.17 (.12)
$\Delta R^2$	.18**	.16*	.37**	.28**	.17*
F change	4.02**	3.25*	9.25**	6.29**	3.49*
WHI of IT worker	.27*	-.08	.36**	.29*	-.17
HWI of IT worker	-.19	.08	-.03	-.13	-.04
Step 2 R <sup>2</sup> (R <sup>2</sup> adj)	.25 (.19)	.16 (.09)	.46 (.42)	.32 (.26)	.20 (.13)
$\Delta R^2$	.05*	.02	.08**	.04	.01
F change	3.25*	.276	8.46**	3.09	1.79
Partner WHI	-.02	-.09	-.02	-.00	.07
Partner HWI	.00	.12	-.18	.12	.18
Step 3 R <sup>2</sup> (R <sup>2</sup> adj)	.25 (.16)	.18 (.08)	.49 (.43)	.33 (.25)	.23 (.15)
$\Delta R^2$	.03	.01	.01	.01	.02
F change	.00	.66	1.86	.58	1.47

Note: \*\*p<.01, \*p<.05

**Table 4.4 Crossover from IT professional to partner (N=78 couples)**

	Dependant Variables of Partner				
	Health VOEG	Marital Satisfaction	Exhaustion MBI-GS	Cynicism MBI-GS	Turnover Intentions
	$\beta$	$\beta$	$\beta$	$\beta$	$\beta$
Partner NA at work	.08	.09	.30*	.06	.12
Partner NA at home	.32*	-.17	.10	.14	.02
IT NA at work	.16	.32*	.05	-.19	.15
IT NA at home	-.11	-.17	-.14	.09	-.23
Step 1 R <sup>2</sup> (R <sup>2</sup> adj)	.18 (.14)	.09 (.05)	.19(.15)	.06 (.01)	.06 (.01)
$\Delta R^2$	.18**	.09	.19**	.06	.06
F change	3.99**	1.89	4.50**	1.18	1.12
Partner WHI	.04	.00	.35**	-.11	.05
Partner HWI	.15	-.10	.03	.11	.12
Step 2 R <sup>2</sup> (R <sup>2</sup> adj)	.21 (.14)	.11 (.03)	.35 (.29)	.08 (.00)	.08 (.00)
$\Delta R^2$	.00	.02	.14**	.01	.00
F change	1.15	.44	8.46**	.58	.89
WHI of IT worker	.09	.01	.17	-.03	.21
HWI of IT worker	.18	-.14	.22*	.09	.26*
Step 3 R <sup>2</sup> (R <sup>2</sup> adj)	.25 (.16)	.12 (.02)	.44 (.37)	.09 (.02)	.20 (.11)
$\Delta R^2$	.02	.01	.08**	.02	.11**
F change	1.82	.55	5.12**	.25	5.24**

Note:\*\*p<.01, \*p<.05

This suggests that the interference that is experienced from home to work by IT professionals has a significant impact on the exhaustion and turnover intentions of their spouses. This is the clearest indication in the study that the interference experienced from work to home can have a crossover effect from a partner to their spouse. Taken together, our results provide evidence for the second hypothesis and suggest that there is crossover from IT workers stress (HWI) to the strains of their spouse (exhaustion, turnover intention).

*Additional analysis.* It has been shown that strain in one partner can produce an empathetic reaction in the other that increases his or her level of strain (Eckenrode & Gore, 1981; Riley & Eckenrode, 1986). In order to assess the strain of one person on their spouse, one additional analysis was computed whereby the partner's dependant variable was entered in step 3 of the regression analysis. Only marital satisfaction was a significant predictor ( $\beta = .26$ ,  $p < .01$ ), indicating that the marital satisfaction of one partner in the dyad was predictive of the other one.

## 4.5 Discussion

The central aim of the present study was the identification of crossover in a dyad where both partners worked. The present study is innovative in the literature on the transference of stress, in that only one other study (Morrison & Clements, 1997) has examined the relationship between partners' stress and spouses' strain, while controlling for the effects of negative affectivity and within-individual stress.

With regard to the first hypothesis the results are of significant note. For both IT professionals and their spouses, WHI remained a significant predictor of exhaustion after controlling for NA. This correlates with related research which has found a consistent relationship between WHI and exhaustion (Allen et al., 2000). Allen et al. (2000), in their exhaustive review of the WHI literature on outcomes, suggest that research should investigate if there are any underlying dispositional variables which explain the relationship between WHI and affective variables (such as job or life satisfaction). For IT professionals, NA did indicate a significant association with marital satisfaction (albeit in the opposite direction for NA at work). This result is in agreement with findings by Burke, Brief and George (1993) who found that individuals high in NA tended to report higher levels of WHI and lower levels of job and life satisfaction. However, the results of the present study suggest that the



influence of NA was not ubiquitous, as WHI still explained significant amounts of variance in psychosomatic complaints and exhaustion even after controlling for NA.

The fact that NA at work indicated a positive association with marital satisfaction needs to be addressed. This counterintuitive finding may represent the fact that NA at work may mobilise the spouse to increase support towards the partner and thus enhance feelings of marital satisfaction. In terms of future research, tapping NA in different domains will help to provide us with a more dynamic picture of affective processes. Considerable research evidence suggests that negative affectivity is stable across both time and place, but the results of the present research suggest that NA may be contextual across the domains of work and home. While the correlations were both strong and significant, the magnitude of the association was not so strong as to suggest that NA was stable across both domains. Future research should distinguish between these domains, in terms of affectivity, in an effort to further understand the processes that cause NA to be contextualised.

Limited support was found for the second hypothesis. Consistent with previous studies (e.g., Jones & Fletcher, 1993; Morrison & Clements, 1997) support was found for the crossover of stress from one partner to the strains of their spouse. The finding that the HWI of IT professionals affects the exhaustion levels and turnover intentions of their spouses suggests that as IT professionals experience interference from the home domain to the work domain, they 'pass' on this stress to their spouses. In terms of a the conceptualisation of a causal path, this probably suggests when IT workers experience stress in the form of home interfering with work (i.e., they are called upon to share a heavier degree of burden in the home domain, while still trying to accommodate the level of demands at work), such interference leads to increased exhaustion at work and withdrawal (as indicated by turnover intentions) for their spouse. In the present study, the fact that a high correlation was found between NA at home for the IT workers and NA at work for their spouse adds further weight to such an interpretation. This result is consistent with Pearlin and Turner (1987) findings that spouses were sensitive to the stress of their partner (even when their partner didn't refer to it). Given that the majority of partners in this study were women, the result is also consistent with the idea that women are more susceptible than men to the impact of stressors affecting their partners (Haviland & Malatesta, 1981; Kessler, 1979; Kessler & McLeod, 1984). The fact that IT professionals level of WHI indicated significant associations with psychosomatic

complaints, exhaustion and cynicism further suggest that a heavier burden from home has a ‘knock on’ effect in the work domain. Additional analysis, whereby the dependent variables of the spouse were entered into the last step of the regression model indicated crossover of marital satisfaction.

#### **4.5.1 Potential crossover mechanisms**

At the level of crossover mechanism, the literature on contagion (Hatfield et al., 1994) provides a nice way of conceptualising how the stressor of one partner can crossover to their spouse. Indeed, Bakker and Schaufeli (2000), in a study of Dutch high school teachers, found that the positive or healthy effects of interactions with colleagues turned into a negative or unhealthy effect when teachers talked frequently with burnout colleagues. It is not unreasonable to imagine that interactions within the personal realm of a couple are even more intense and frequent. It is possible to conceptualise that the process of stress crossing over from one partner to another is similar to the processes involved in emotional contagion. Emotional contagion is defined as “the tendency to automatically mimic and synchronise facial expressions, vocalisations, postures and movements with those of another person and consequently, to converge emotionally” (Hatfield, Cacioppo, & Rapson, 1994; p. 5). In terms of crossover via partners, contagion (or crossover) may occur via a conscious cognitive process by “tuning in” to the emotions of others. More specifically, such tuning in can be thought of as empathy or perspective taking, which is the “spontaneous tendency of a person to adopt the psychological perspective of other people- to entertain the point of view of others” (Davis, 1983, p. 169). Empirical evidence for such a finding has been found in the longitudinal study of Bakker, Dierendonck & Schaufeli (in press), who found that empathy made caregivers more vulnerable to burnout. Taken together, both emotional contagion and empathy provide the conceptual framework by which we can understand the mechanisms of crossover in future studies.

#### **4.5.2 Limitations**

Although the present study revealed important crossover effects in the dual-earner families studied, lack of information made it impossible to calculate a response rate. Such an issue raises questions concerning the characteristics of the individuals who did not respond to the survey. This could suggest that those with the greatest stressors did not respond because they experienced too many demands (Hochschild,



1989). Our response rate was probably affected by the fact that privacy considerations meant that our contact with the spouse of the IT professional was mediated by the IT professional. Therefore, the IT professional could choose not to respond (for both him/her and their spouse). Unfortunately, we have no way to verify this empirically. However, indirect evidence may be suggested by the fact that crossover effects were found from IT worker stressors to partner strains, but not vice-versa. A similar result was found by Jones and Fletcher (1993) who found a crossover effect of men's job demands on women's psychological health, but no effect of women's job demands on men's psychological health. In the Jones and Fletcher (1993) study, wives did not report high levels of job stress, and in the present study, partners report lower levels of burnout, suggesting that the partners may have had less demanding jobs. Alternatively, it may reflect the fact that partners worked (on average) less hours than their spouses.

Reliance on data that is self-report, subjective and cross-sectional carries long recognised limitations. Future research should use methods such as experience sampling (Williams & Alliger, 1994) to better understand the dynamics of WHI/HWI and crossover. Such an approach could help to address the point raised by Westman (2001) as to whether crossover might lead people to redefine their roles at work and at home, thereby altering their perceived role processes.

A big advantage of crossover research is that it is based on an observation of two partners, and as such confounding can be avoided by controlling for each partner's stress. The present study advances the knowledge in the field by demonstrating how stressors and strains experienced by one partner can be associated with strain in their spouse. The most important conclusion of the study may be that interference from home to work is more than a problem for the individual concerned; it can also effect one's partner/spouse. Additionally, such a result for HWI is in contrast to idea that WHI is the most potent aspect of the work-home nexus.