



Workaholism and well-being among Japanese dual-earner couples: A spillover-crossover perspective

Akihito Shimazu^{a,*}, Evangelia Demerouti^b, Arnold B. Bakker^c, Kyoko Shimada^a, Norito Kawakami^a

^a Department of Mental Health, The University of Tokyo, Graduate School of Medicine, 7-3-1 Hongo, Bunkyo-ku, Tokyo 113 0033, Japan

^b Eindhoven University of Technology, Department of Human Performance Management, The Netherlands

^c Erasmus University Rotterdam, The Netherlands

ARTICLE INFO

Article history:

Available online 22 June 2011

Keywords:

Crossover
Dual-earner couples
Gender
Japan
Kessler 6
Psychological distress
Workaholism
Work-family conflict
Employment
Family
Gender

ABSTRACT

This study among Japanese dual-earner couples examined the impact of workaholism on employees' and their partners' work-family conflicts and psychological distress. The matched responses of 994 couples were analyzed with logistic regression analyses. Results showed that workaholics (i.e., employees scoring high on both working excessively and working compulsively) were more likely to experience work-to-family conflict and psychological distress compared to relaxed workers (i.e., low on both working excessively and working compulsively) for both genders. Results also showed that husbands of workaholic women were more likely to experience family-to-work conflict, whereas wives of workaholic men were not. These findings integrate and expand previous findings on workaholism and the recently formulated spillover-crossover model.

© 2011 Elsevier Ltd. All rights reserved.

Introduction

With changes in family structures and the increasing participation of women in the workforce (Ministry of Health, Labour, and Welfare, 2010; Peeters, Montgomery, Bakker, & Schaufeli, 2005), employees are having to work additional hours beyond their traditional work schedule more often in order to fulfill the demands of the roles as a spouse, parent or caregiver. In addition, advances in communication technology in recent years have made it possible for work to be performed almost anywhere and anytime: at home or on holiday (Jones, Burke, & Westman, 2006; Kinnunen, Geurts, & Mauno, 2004; Ng, Sorensen, & Feldman, 2007). Excessive work has become a common phenomenon in many cultures and is actually applauded by societies rather than recognized as an addiction-like behavior with negative consequences (Porter, 1996). These changes have created the potential for interference or conflict to occur between employees' work and personal lives (Bakker, Demerouti, & Dollard, 2008), and they call for a better understanding of how an

employee's work may impact their well-being, specifically psychological health and family functioning.

This study focuses on the impacts of workaholism on well-being among Japanese dual-earner couples by using a large community sample. Specifically, we examine whether a spouse's workaholism has an impact on his or her own psychological health and family functioning or on those of his or her partner. To answer the questions, we will use the recently formulated spillover-crossover model (Bakker, Demerouti, & Burke, 2009, 2008; Shimazu, Bakker, & Demerouti, 2009), which proposes an *intra-individual* transmission of stress or strain from work to home and vice versa, and a dyadic, *inter-individual* transmission of stress or strain from husbands to wives and vice versa.

Workaholism

For the general public, workaholism is synonymous with working long hours. However, conceiving workaholism exclusively in terms of the number of working hours is misleading because it neglects its addictive nature. A typical work addict is motivated by a strong internal drive that cannot be resisted, rather than by external or contextual factors, such as financial problems, a poor marriage, organizational culture, supervisory pressure, or a strong

* Corresponding author. Tel./fax: +81 3 5841 3612.

E-mail address: ashimazu@m.u-tokyo.ac.jp (A. Shimazu).

desire for career advancement. This follows from the overview of earlier theory and research presented by Scott and colleagues (Scott, Moore, & Miceli, 1997), who found the common characteristics of workaholism featured in its various definitions.

First, workaholic people spend a great deal of time on work activities when given the discretion to do so—they work excessively hard. Second, they are reluctant to disengage from work and they persistently and frequently think about work when they are not working. This suggests that they are obsessed with their work—they are compulsive workers. Therefore, based on a conceptual analysis, Schaufeli and his colleagues (Schaufeli, Bakker, Van der Heijden, & Prins, 2009; Schaufeli, Taris, & Van Rhenen, 2008) defined workaholism as the tendency to work excessively hard (the behavioral dimension) and to be obsessed with work (the cognitive dimension), which manifests itself in working compulsively. This definition agrees with the most recent analysis of scholarly definitions that concludes that working hard at the expense of other important life roles and a strong internal drive to work are two key aspects of workaholism (Ng et al., 2007).

Three theoretical perspectives on addiction, i.e., individual dispositions, socio-cultural experiences, and behavioral reinforcements in the environment, can help shed light on the causes of workaholism (Ng et al., 2007). These perspectives suggest that people become workaholics because 1) they possess certain personality traits (Scott et al., 1997), 2) their social or cultural experiences facilitate workaholism (Oates, 1971; Robinson & Post, 1995; Schaufeli, Bakker et al., 2009), and/or 3) their workaholic behaviors are reinforced repeatedly (Ng et al., 2007). In terms of personality traits, people scoring high on Type A personality, extraversion, and neuroticism as well as need for achievement are considered vulnerable to becoming addicted to their work (Burke, Matthiesen, & Pallesen, 2006; Ng et al., 2007). In terms of socio-cultural experiences, stressful or dysfunctional childhood/family experiences, competitive work environments, and role modeling are supposed to trigger workaholism. Moreover, work environments that reward excessive work, place emphasis on work input rather than work output and sustain a “winner-takes-all” culture are thought to stimulate workaholism (Ng et al., 2007).

Since workaholism is conceptualized as a syndrome implying that the simultaneous experience of a set of key components is considered to characterize the workaholic (Aziz & Zickar, 2006), we distinguish between four different combinations of both workaholism dimensions (Schaufeli, Bakker et al., 2009; Schaufeli, Shimazu, & Taris, 2009): relaxed workers (who score low on both working excessively and working compulsively), hard workers (who score high only on working excessively), compulsive workers (who score high only on working compulsively), and workaholics (who score high on both workaholism scales).

Workaholism and well-being

Previous studies revealed that workaholism is associated with poor health. By definition, workaholic people spend an excessive amount of time on their work. This suggests that they have insufficient opportunity to recover from their excessive efforts (Schaufeli, Shimazu et al., 2009), leaving them emotionally or cognitively exhausted over time (Taris, Schaufeli, & Verhoeven, 2005). In addition, they persistently and frequently think about work when they are not at work (Taris et al., 2005), which may result in sympathetic arousal and emotional distress. Consequently, workaholism is associated with poor physical health (e.g., Burke, 2000; Kanai, Wakabayashi, & Fling, 1996; Shimazu & Schaufeli, 2009), diminished sleep quality (Kubota et al., 2010), and impaired psychological health (e.g., Burke, 2000; Schaufeli et al., 2008; Shimazu & Schaufeli, 2009).

Previous research also found that workaholism is associated with poor family functioning, for example, increased marital problems (Robinson, Flowers, & Carroll, 2001), lower family satisfaction (Burke, 1999a), lower relationship satisfaction (Bakker et al., 2009), and greater work-family conflict (Bakker et al., 2009; Bonebright, Clay, & Ankenmann, 2000; Taris et al., 2005). The present study focuses on *work-family conflict* or spillover, which is defined as “a form of inter-role conflict in which the role pressures from the work and family domains are mutually incompatible in some respect” (Greenhaus & Beutell, 1985, p.77). This definition of work-family conflict implies a bidirectional relationship between work and family life in such a way that work can interfere with family life (i.e., work-to family conflict: WFC) and family life can interfere with work (i.e., family-to work conflict: FWC) (Frone, 2000).

The scarcity hypothesis (Edwards & Rothbard, 2000) can provide an explanation regarding why workaholism should be related to WFC. Accordingly, people possess limited and fixed amounts of resources (e.g., time and energy). Managing multiple roles, such as employee and spouse, is problematic as it draws on the same scarce resources. Because workaholic people tend to invest more resources in their work at the cost of non-work activities (Ng et al., 2007), they are likely to experience interference from their work with their family lives (i.e., WFC) due to fewer resources left to devote to their family.

Workaholism and a partner's well-being

The scarcity hypothesis would also propose that workaholism is associated with one's partner's well-being. Because workaholic people have fewer resources left to devote to their family, their partners are likely to experience higher home demands and poor relationship quality, which may result in greater FWC for their partner. For instance, Bakker et al. (2008), in a sample of 168 dual-earner couples, showed that one's WFC led to increased social undermining and higher home demands for the partner, which resulted in greater FWC for the partner. This result suggests that workaholism would be associated with one's partner's FWC or, more generally, to that partner's psychological health, probably through one's WFC and relationship quality. However, there have been few empirical studies that directly examine the relationship between one's workaholism and their partner's FWC.

One exception is the study of Robinson, Carroll, and Flowers (2001), which revealed that wives of workaholic husbands reported less positive affect toward their husbands than wives of non-workaholic husbands. However, Robinson et al.'s design did not allow a test of bidirectional effects (i.e., from husbands to wives and from wives to husbands) because they did not collect data from husbands regarding their positive affect toward their wives. This means that the effects of a workaholic wife on her husband's psychological health are unknown. Given that research has confirmed a positive relationship between the individual's workaholism and his or her own WFC (e.g., Bakker et al., 2009; Bonebright et al., 2000; Taris et al., 2005) and between the individual's WFC and his or her partner's psychological distress (Bakker et al., 2008; Shimazu et al., 2009) among both genders, we can assume a positive relationship between the individual's workaholism and his or her partner's psychological distress among both genders, i.e., from men's workaholism to women's psychological distress and from women's workaholism to men's psychological distress.

A spillover-crossover perspective

The present study among Japanese dual-earner couples examines the impacts of workaholism on employees' and their partners'

work-family conflict and psychological distress from a spillover-crossover perspective. Spillover, or work-family conflict, is a within-person across-domains transmission of demands and consequent strain from one area of life to another. In contrast, crossover involves transmission across individuals, whereby demands and their consequent strain cross over between closely related persons (Westman, 2001). Thus, in crossover, stress experienced in the workplace by an individual may lead to stress being experienced by the individual's partner at home. The spillover-crossover model integrates both approaches. In recent spillover-crossover studies that incorporated partner dyads (e.g., Bakker, Demerouti, & Schaufeli, 2005; Shimazu et al., 2009), job and family demands are the common antecedents of the crossover process. In her theoretical analyses, Westman (2001, 2006) also includes workaholism as a factor in an individual's personal attributes that may influence the crossover process. Hence, this study designates workaholism as an antecedent of crossover. Indeed, Bakker et al. (2009) revealed the spillover-crossover process from one partner's workaholism to the other partner's relationship satisfaction through the experience of WFC and reduced social support provided to the partner.

Working conditions and family structure in Japan

Japan is known as a country where long work hours prevail, and as a country whose workforce is having significant difficulty balancing their work and family lives (Rebick & Takenaka, 2006). These characteristics can be explained by prevailing working conditions and the family structure in Japan.

As far as working conditions are concerned, recent economic trends and the employment situation are important to note. The collapse of the bubble economy in 1991 followed by an economic depression led many companies to increase competition, which resulted in a wide-scale restructuring (e.g., lay-offs) and an increase in non-regular employment such as, part-time employment, employment on lease, and temporary employment. Consequently, regular workers are required to work longer hours in order to deal with increased organizational demands (Ohashi, 2000). Indeed, working hours among male regular workers in their late 20s, 30s, and early 40s are particularly longer than those in other groups (Kanai, 2006).

However, the reasons for working long hours in Japan are not just economic, but also socio-cultural (Snir & Harpaz, 2004). To the Japanese, work is an end in itself: it is the process of carrying out obligations owed to society and to oneself as a social being (Snir & Harpaz, 2004). In the Japanese culture, time logged at one's desk or workstation is often a symbolic statement of submission to managerial power and loyalty to the organization (Herbig & Palumbo, 1994; Japan Institute for Labour Policy and Training, 2010), because hard work and effort are more highly valued than ability in collectivistic cultures (Scholz, Gutierrez-Dona, Sud, & Schwarzer, 2002). Consequently, workers in Japan are often asked to volunteer for overtime or work considerable amounts of unpaid extra time (Snir & Harpaz, 2004).

As far as family structure is concerned, women entering the work force have become increasingly common in Japan (Ministry of Health, Labour, and Welfare, 2010). Indeed, the number of dual-earner families has been larger than that of single-earner families (i.e., male worker and female housewife) since 1997. However, gender inequality still remains in terms of political and economic participation for women relative to many of the European OECD (i.e., Organization for Economic Co-operation and Development) nations. For instance, Japan ranks 57th out of 109 countries on the Gender Empowerment Measure, with female legislators, senior officials, and managers totaling only 9% of its workforce (United Nations Development Programme, 2009). In addition, work hours

and hours spent on child care and housework are polarized by gender. According to the Cabinet Office (2006), Japanese men with pre-school children spend 7.7 h on work at their worksite and .8 h on child care and housework at their homes per day. In contrast, Japanese women with pre-school children spend 3.7 h on work at their worksite and 5.7 h on child care and housework at their homes per day. This condition suggests that women play a more important role in child care and housework in dual-earner couples with child(ren).

The current study

In accordance with the discussion above, we expected that workaholics would be more likely to report WFC (Hypothesis 1) and psychological distress (Hypothesis 2) when compared to relaxed workers. In addition, we expected that the partners of workaholics would be more likely to report FWC (Hypothesis 3) and psychological distress (Hypothesis 4) when compared to those of relaxed workers. We did not have any specific hypotheses regarding the differences between hard workers and compulsive workers because we were mainly interested in the differences between workaholics and relaxed workers.

Gender seems to be an important issue in considering the impact of workaholism on the psychological health and family functioning of employees and their partners. On the one hand, we can assume that men would not differ from women in terms of the strength of the hypothesized relationships, because the literature suggests that men do not consistently differ from women in their levels of workaholism (Burke, 1999b; Doerfler & Kammer, 1986) and work-family interference (Barnett & Hyde, 2001; Byron, 2005; Geurts & Demerouti, 2003), and because the psychological mechanism leading to these experiences is found to be the same for men and women (Bakker et al., 2009). This speculation can be further justified by the nature of the present sample, namely young dual-earner parents. Kaufman and Uhlenberg (2000) found that whereas older employees seem to favor the "good-provider" model, implying that they worked more after becoming parents, younger employees showed more evidence of the "involved father" model in which work effort did not increase with parenthood. On the other hand, we can also assume that the impact of workaholism differs according to gender, because the unequal division of labor between genders seems to remain even among the younger generations in Japan (Matsuda, 2000). Considering the fact that very few empirical studies have directly examined the impact of workaholism on one's partner's family functioning among dual-earner couples (Bakker et al., 2009), this study explored gender differences with regard to the impact of workaholism without proposing specific hypotheses on the subject.

Method

Participants and procedure

The present study is a part of the Tokyo Work-family INterface (TWIN) study, a large cohort study. The TWIN study aims at examining intra-individual (i.e., spillover) and inter-individual (i.e., crossover) processes of well-being among all dual-earner couples with pre-school children in the Setagaya ward, Tokyo, Japan. The Setagaya ward has the seventh highest socio-economic status among 62 municipalities in metropolitan Tokyo, with an average annual taxable income of ¥4,989,074 per taxpayer in 2009 (Setagaya ward, 2010). To the best of our knowledge, this is one of the largest work-family interface studies that collected data from dual-earner couples. In the present study, we analyzed the first wave of data collected in 2008.

Working partners were approached through the nursery schools where they brought their children. With the help of the Child-raising Assistance Department of the Setagaya ward in Tokyo, a letter was sent to all directors of nursery schools in this ward to approach all dual-earner couples there. The letter explained the aims, procedure, and ethical considerations of the study. Eighty-one out of all 82 schools agreed to participate.

The data were collected by means of two questionnaires. The researchers distributed two identical questionnaires, one for each partner, through the nursery schools. Participants were included in the study on a voluntary basis. The partners were kindly asked to fill out the questionnaires independently. Respondents returned their questionnaires in closed, pre-stamped envelopes to a researcher at the University of Tokyo.

Of the 8964 questionnaires distributed, 2992 were returned, resulting in a response rate of 33.4%. The participants in the present study were 1988 adults (i.e., 994 couples), who met the following four criteria: (a) having at least one child aged six or younger, (b) having a partner (neither widowed nor divorced status), (c) being a dual-earner household, (d) completing all the items of the study variables. Demographic information such as age, occupation, job contract, working hours per day, and number of children are shown by gender in Table 1. The whole procedure followed in the present study was reviewed and approved by the Ethics Committees of the Graduate School of Medicine at the University of Tokyo.

Measures

Workaholism: workaholism was measured with the Dutch Workaholism Scale (DUWAS) developed by Schaufeli and colleagues (Schaufeli, Shimazu et al., 2009). The scale consists of two subscales: working excessively (e.g., I find myself continuing to work after my co-workers have called it quits: WE) and working compulsively (e.g., I feel guilty when I take time off work: WC). Each subscale consists of five items which were rated on a 4-point Likert scale (1 = totally disagree, 4 = totally agree). The respondents were classified into four quadrant groups using the median scores for WE and WC from the current study: (1) relaxed workers, low on both WE and WC; (2) hard workers, high on WE but low on WC; (3) compulsive workers, low on WE but high on WC; and (4) workaholics, high on both WE and WC (Schaufeli, Bakker et al., 2009; Schaufeli, Shimazu et al., 2009). The prevalence of workaholics in the current study was 31.2% among men and 27.6% among women, respectively. The prevalence among men was approximately at the

same level as in the previous Japanese study by Schaufeli, Shimazu et al. (2009) (32.0%), but the prevalence among women was somewhat lower compared to Schaufeli, Shimazu et al. (2009). Please note that the prevalence reported by Schaufeli, Shimazu et al. (2009) did not differentiate between genders (i.e., it was calculated on the basis of a composite sample).

Work-family conflict: work-family conflict (WFC and FWC) was measured with 12 items selected from the Survey Work-home Interaction-Nijmegen, the SWING (Geurts et al., 2005). WFC was measured with eight items, while FWC was measured with four items, for example: “How often does it happen to you that...” “Your work schedule makes it difficult for you to fulfill your domestic obligations” (WFC), “You have difficulty concentrating on your work because you are preoccupied with domestic matters” (FWC). Items were scored on a four-point Likert scale, from (0) “never” to (3) “always.” WFC and FWC were defined as having a score above the 25th percentile. Each partner reported on his/her own experiences with WFC and FWC.

Psychological distress: the Kessler 6 (K6) questionnaire was employed to assess psychological distress (Furukawa et al., 2008; Kessler et al., 2003). It includes six items assessing how frequently one experienced symptoms of psychological distress (e.g., feeling so sad that nothing can cheer you up) during the past 30 days. Items were scored on a five-point scale, from (1) “none of the time” to (5) “all of the time.” The Japanese version of the K6 has been validated to screen mental disorders (Furukawa et al., 2008). Consistent with its use as a screening tool in Japan, psychological distress was defined as a dichotomized variable with the cut-off point at a score of 15 (cf. Furukawa et al., 2008).

Possible confounders: gender, age, occupation, job contract, working hours per week, and number of children were included as possible confounders in the analyses.

Data analyses

Chi-square tests and paired *t*-tests were performed to evaluate whether there were gender differences in demographic variables (Table 1). Next, chi-square tests and one-way analysis of variance (ANOVA) were performed by gender to evaluate whether there were overall differences in demographic variables among the four groups (i.e., relaxed workers, hard workers, compulsive workers, and workaholics: Table 2). Then, a correlation matrix was calculated for key study variables (Table 3 and 4). Finally, the matched responses of both partners were analyzed with logistic regression

Table 1
Comparison of Means (and SDs) or frequencies (and percentages) of demographic characteristics and study variables between Men and Women.

	Men				Women				Statistical test	<i>p</i> -value
	<i>n</i>	(%)	Mean	(SD)	<i>n</i>	(%)	Mean	(SD)		
Age	994		37.9	(5.3)	994		36.1	(4.2)	<i>t</i> (993) = 14.223 ^a	<.001
Occupation									χ^2 (16) = 391.96	<.001
Worker for private company	737	(74.1)			610	(61.4)				
Civil servant	89	(9.0)			118	(11.9)				
Self-employed	99	(10.0)			73	(7.3)				
Teacher	20	(2.0)			25	(2.5)				
Others	49	(4.9)			168	(16.9)				
Job contract									χ^2 (4) = 19.62	.001
Full-time (> = 40 h/wk)	966	(97.2)			697	(70.1)				
Part-time (<40 h/wk)	8	(.8)			243	(24.4)				
Others	20	(2.0)			54	(5.4)				
Work hours (per week)			49.7	(12.5)			37.3	(8.9)	<i>t</i> (993) = 25.379 ^a	<.001
Number of child(ren)										
1	467	(47.0)			467	(47.0)				
2	428	(43.1)			428	(43.1)				
>=3	99	(10.0)			99	(10.0)				

^a Paired *t*-test.

Table 2
Association between the demographic variables and worker type ($N = 994$).

Variables	Men ($n = 994$)				Statistical test	p -value	Women ($n = 994$)				Statistical test	p -value
	Worker type ^a						Worker type ^a					
	1. Relaxed workers ^b ($n = 344$)	2. Hard workers ^b ($n = 156$)	3. Compulsive workers ^b ($n = 184$)	4. Workaholics ^b ($n = 310$)			1. Relaxed workers ^b ($n = 361$)	2. Hard workers ^b ($n = 192$)	3. Compulsive workers ^b ($n = 167$)	4. Workaholics ^b ($n = 274$)		
Age mean \pm SD	38.1 (5.3)	37.5 (4.8)	38.0 (4.9)	38.0 (5.8)	$F(3, 990) = .48$	.697	35.8 (4.3)	36.6 (4.1)	35.5 (4.4)	36.5 (3.9)	$F(3, 990) = 3.40$	.017
Occupation												
Worker for private company	242 (32.8)	129 (17.5)	125 (17.0)	241 (32.7)	$\chi^2(12) = 19.84$	.070	221 (36.2)	120 (19.7)	106 (17.4)	163 (26.7)	$\chi^2(12) = 33.82$	.001
Civil servant	40 (44.9)	9 (10.1)	22 (24.7)	18 (20.2)			36 (30.5)	35 (29.7)	12 (10.2)	35 (29.7)		
Self-employed	39 (39.4)	11 (11.1)	19 (19.2)	30 (30.3)			29 (39.7)	8 (11.0)	14 (19.2)	22 (30.1)		
Teacher	7 (35.0)	2 (10.0)	4 (20.0)	7 (35.0)			5 (20.0)	8 (32.0)	0 (.0)	12 (48.0)		
Others	16 (32.7)	5 (10.2)	14 (28.6)	14 (28.6)			70 (41.7)	21 (12.5)	35 (20.8)	42 (25.0)		
Job contract												
Full-time (≥ 40 h/wk)	331 (34.3)	151 (15.6)	176 (18.2)	308 (31.9)	$\chi^2(6) = 11.11$	.085	227 (32.6)	158 (22.7)	105 (15.1)	207 (29.7)	$\chi^2(6) = 32.73$	<.001
Part-time (< 40 h/wk)	5 (62.5)	2 (25.0)	1 (12.5)	0 (.0)			112 (46.1)	26 (10.7)	53 (21.8)	52 (21.4)		
Others	8 (40.0)	3 (15.0)	7 (35.0)	2 (10.0)			22 (40.7)	8 (14.8)	9 (16.7)	15 (27.8)		
Work hours (per week) mean \pm SD	45.9 (11.2)	52.9 (12.8)	45.4 (11.7)	54.9 (11.9)	$F(3, 990) = 44.02$	<.001 ^c	35.7 (7.5)	39.6 (9.5)	35.0 (7.7)	39.1 (10.2)	$F(3, 990) = 15.99$	<.001 ^c
Number of child(ren)												
1	155 (33.2)	81 (17.3)	84 (18.0)	147 (31.5)	$\chi^2(6) = 2.97$	.812	166 (35.5)	95 (20.3)	79 (16.9)	127 (27.2)	$\chi^2(6) = 5.21$	.518
2	156 (36.4)	62 (14.5)	81 (18.9)	129 (30.1)			164 (38.3)	80 (18.7)	73 (17.1)	111 (25.9)		
≥ 3	33 (33.3)	13 (13.1)	19 (19.2)	34 (34.3)			31 (31.3)	17 (17.2)	15 (15.2)	36 (36.4)		

(1) Relaxed workers – low on both WE and WC; (2) Hard workers – high on WE and low on WC; (3) Compulsive workers – low on WE and high on WC and (4) Workaholics – high on both WE and WC.

^a The participants were classified into four quadrant groups using the median scores for WE (working excessively) and WC (working compulsively).

^b n (%) or mean \pm SD.

^c 1, 3 < 2, 4.

Table 3
Means, SDs, Cronbach's Alphas, and Correlations of the variables used in the study (Men to Women, $n = 994$ couples).

Measures		Mean	SD	Alpha	1	2	3	4	5
Men ($n = 994$)									
1	Men working excessively	12.2	3.9	.84					
2	Men working compulsively	9.8	3.1	.75	.45 ***				
3	Men WFC	8.0	4.6	.87	.59 ***	.36 ***			
4	Men psychological distress	9.1	4.0	.89	.25 ***	.34 ***	.36 ***		
Women ($n = 994$)									
5	Women FWC	.9	1.5	.78	-.02	.03	.05	.03	
6	Women psychological distress	9.3	4.3	.89	.04	.05	.08 **	.11 ***	.38 ***

Note: WFC = Work-to-Family Conflict; FWC = Family-to-Work Conflict.

** $p < .01$ *** $p < .001$.

analyses to examine whether there were differences among the four groups in their own WFC and psychological distress and their partner's FWC and psychological distress. Odds ratios (ORs) and 95% confidence intervals were calculated (Tables 5–8). The group of relaxed workers was used as the reference group.

Because this study is based on survey data with self-report measures, common method variance might have played a role, especially in examining data from the same respondents. Therefore, Harman's single-factor test (Podsakoff & Organ, 1986) and confirmatory factor analysis were conducted to test the presence of a common method effect. With respect to Harman's single-factor test, all of the variables of interest (i.e., working excessively, working compulsively, WFC, psychological distress) were entered into factor analyses for men and women, respectively. The unrotated factor analysis revealed the presence of four and five distinct factors for men and for women with eigenvalue greater than 1.0, rather than a single-factor. These factors accounted for 51.1% and 50.9% of the total variance for men and women, respectively; the first (largest) factor did not account for a majority of the variance (30.0% and 27.7%). Thus, no general factor was apparent. In addition, the confirmatory factor analysis showed that the four-factor model, which assumes that each construct is independent, although correlated, was superior (adjusted goodness of fit index (AGFI) = .853 and .885, comparative fit index (CFI) = .891 and .906, Tucker-Lewis index (TLI) = .878 and .895, and root mean square error of approximation (RMSEA) = .070 and .061 for men and women, respectively) to the one-factor model, which assumes that all items measuring the four constructs load on one general factor (AGFI = .490 and .532, CFI = .538 and .528, TLI = .494 and .483, and RMSEA = .143 and .135 for men and women, respectively). The results of these analyses suggest that common method variance is not of great concern and thus is unlikely to confound the interpretations of the results.

Results

Table 1 shows the demographic characteristics by gender. Men were older and worked longer than women. There were also

differences between men and women regarding occupation and job contract. With regard to occupation, more men worked for private companies (74.1%) than women (61.4%). Regarding work contracts, most men (97.2%) were full-time workers, whereas 70.1% of all women were full-time workers. Please note that the work hours of our respondents (49.7 and 37.3 h/week for men and women, respectively) were longer than those of a norm group of Japanese working parents with pre-school children (38.5 and 18.5; Cabinet Office, 2006) for both genders.

Table 2 shows the association between demographic variables and worker type (i.e., relaxed workers, hard workers, compulsive workers, and workaholics) by gender. Among men, hard workers and workaholics worked significantly longer than relaxed workers and compulsive workers, whereas there were no significant group differences in age, occupation, and number of children. Among women, there were overall significant group differences in age, occupation, job contract, and work hours (Please note that multiple comparisons of age showed that there were no significant differences among worker types). Regarding occupation, almost half of the teachers were workaholics (48.0%). Furthermore, female hard workers and workaholics worked significantly longer than female relaxed workers and compulsive workers.

Table 3 and 4 show the means, standard deviations, correlations, and internal consistencies of all scales included in this study for men and women, respectively. All variables have satisfactory reliabilities with Cronbach's alpha coefficients of .72 or higher. Both men's and women's working excessively and working compulsively were positively correlated to their own WFC and psychological distress, respectively. In addition, women's working compulsively was positively correlated to their partners' (i.e., men's) FWC and psychological distress. However, men's working excessively and working compulsively were unrelated to women's FWC and psychological distress. Men's and women's psychological distress were positively correlated to each other.

Table 5 shows the association between men's worker type and their own WFC and psychological distress. Compared to relaxed workers, hard workers, compulsive workers, and workaholics were more likely to report WFC (OR = 8.68, 2.21, and 10.20) after

Table 4
Means, SDs, Cronbach's Alphas, and Correlations of the variables used in the study (Women to Men, $n = 994$ couples).

Measures		Mean	SD	Alpha	1	2	3	4	5
Women ($n = 994$)									
1	Women working excessively	10.5	3.6	.79					
2	Women working compulsively	9.3	3.1	.72	.36 ***				
3	Women WFC	6.6	4.5	.85	.56 ***	.30 ***			
4	Women psychological distress	9.3	4.3	.89	.23 ***	.33 ***	.38 ***		
Men ($n = 994$)									
5	Men FWC	1.4	1.9	.81	.04	.12 ***	.07 *	.18 ***	
6	Men psychological distress	9.1	4.0	.89	.01	.06 *	.03	.11 ***	.39 ***

Note: WFC = Work-to-Family Conflict; FWC = Family-to-Work Conflict.

* $p < .05$ ** $p < .01$ *** $p < .001$.

Table 5Association between men's worker type and their own work-to-family conflict and psychological distress ($N = 994$).

Worker type ^a	Men's work-to-family conflict						Men's psychological distress							
	Prevalance of work-to-family conflict (%)	Model 1 ^b			Model 2 ^c			Prevalance of psychological distress (%)	Model 1 ^b			Model 2 ^c		
		OR	95%CI	P-value	OR	95%CI	P-value		OR	95%CI	P-value	OR	95%CI	P-value
Relaxed workers (Men)	6.7						4.4							
Hard workers (Men)	41.7	9.97	5.87–16.93	.000	8.68	5.06–14.89	.000	5.1	1.19	.49–2.86	.704	1.28	.52–3.11	.592
Compulsive workers (Men)	13.6	2.19	1.21–3.99	.010	2.21	1.21–4.03	.010	12.0	2.98	1.50–5.90	.002	2.94	1.49–5.84	.002
Workaholics (Men)	47.4	12.59	7.80–20.30	.000	10.20	6.24–16.65	.000	20.0	5.48	3.05–9.87	.000	5.89	3.20–10.85	.000

(1) Relaxed workers – low on both WE and WC; (2) Hard workers – high on WE and low on WC; (3) Compulsive workers – low on WE and high on WC and (4) Workaholics – high on both WE and WC.

^a The participants were classified into four quadrant groups using the median scores for WE (working excessively) and WC (working compulsively).

^b No adjusted.

^c Adjusted for age, occupation, job contract, work hours (hours/week), and number of children. None of demographics had significant ORs except for working hours (OR = 1.03) in predicting men's work-to-family conflict.

adjusting for demographic variables, i.e., age, occupation, job contract, work hours, number of children, respectively. Compulsive workers and workaholics were more likely to report psychological distress (OR = 2.94 and 5.89). However, regarding the association between men's worker type and their wives' FWC and psychological distress (Table 6), we found that none of the worker types (i.e., hard workers, compulsive workers, and workaholics) had significant odds ratios. This indicates that the workaholism of the men had no influence on their wives' FWC or psychological distress.

Table 7 shows an association between women's worker type and their own WFC and psychological distress. Compared to relaxed workers, hard workers and workaholics were more likely to report WFC (OR = 3.90 and 7.70) after adjusting for demographic variables. Compulsive workers and workaholics were more likely to report psychological distress (OR = 2.23 and 4.23). Regarding the association between women's worker type and their partners' (i.e., husbands') FWC and psychological distress (Table 8), husbands' workaholic women were more likely to report FWC (OR = 1.69) after adjusting for demographic variables.

Taken together, Hypothesis 1 and 2, which stated that compared to relaxed workers, workaholics would be more likely to report WFC and psychological distress, respectively, were supported for both genders. However, Hypothesis 3, which stated that partners of workaholics would be more likely to report FWC, was supported only for female workaholics. Finally, Hypothesis 4, which stated that partners of workaholics would be more likely to report psychological distress, was not supported for either gender.

Discussion

The present study among Japanese dual-earner couples examined the impacts of workaholism on employees' and their partners'

psychological health and work-family balance. To our knowledge, this is one of the largest community-based studies that incorporated partner dyads. We built our hypotheses using the recently formulated spillover-crossover model (Bakker et al., 2008, 2009; Shimazu et al., 2009). The current findings integrate and expand previous studies on workaholism, work-family balance, and health in several respects.

The results of logistic analyses showed that, compared to relaxed workers, workaholics were more likely to report WFC after adjusting for demographic variables (Model 2). Thus, those persons who work excessively in a compulsive manner were more likely to experience interference of their work with their family lives (Hypothesis 1). Because workaholics tend to invest more resources in their work at the expense of other important life roles (Scott et al., 1997), they are more likely to experience WFC due to having fewer resources remaining to devote to their family (Edwards & Rothbard, 2000).

Although we did not propose a specific hypothesis for this finding, we found that hard workers as well as workaholics were more likely to report WFC compared to relaxed workers (see Tables 5 and 7). This is because both groups worked excessively, and studies on overtime have shown that long working hours are associated with interference between work and family life in terms of role conflicts (Geurts, Rutte, & Peeters, 1999; Staines & Pleck, 1984). These results suggest that the tendency to work excessively is more strongly related to WFC in the component of workaholism.

Our findings also demonstrated that, compared to relaxed workers, workaholics were more likely to report psychological distress after adjusting for demographic variables (Model 2) as expected in Hypothesis 2. As mentioned above, insufficient opportunities to recover from their excessive efforts (Schaufeli, Bakker et al., 2009) and persistent thoughts about work during

Table 6Association between men's worker type and their partner's (i.e., women's) family-to-work conflict and psychological distress ($N = 994$).

Worker type ^a	Women's family-to-work conflict						Women's psychological distress							
	Prevalance of women's family-to-work conflict (%)	Model 1 ^b			Model 2 ^c			Prevalance of women's psychological distress (%)	Model 1 ^b			Model 2 ^c		
		OR	95%CI	P-value	OR	95%CI	P-value		OR	95%CI	P-value	OR	95%CI	P-value
Relaxed workers (Men)	24.7						11.0							
Hard workers (Men)	21.2	.82	.52–1.29	.386	.85	.53–1.35	.487	12.2	1.12	.62–2.01	.712	1.28	.70–2.33	.427
Compulsive workers (Men)	26.1	1.08	.71–1.62	.728	1.07	.71–1.61	.751	10.9	.98	.55–1.74	.951	.95	.53–1.70	.868
Workaholics (Men)	25.8	1.06	.74–1.51	.747	1.08	.75–1.57	.671	12.3	1.12	.70–1.82	.629	1.27	.77–2.09	.357

(1) Relaxed workers – low on both WE and WC; (2) Hard workers – high on WE and low on WC; (3) Compulsive workers – low on WE and high on WC and (4) Workaholics – high on both WE and WC.

^a The participants were classified into four quadrant groups using the median scores for WE (working excessively) and WC (working compulsively).

^b No adjusted.

^c Adjusted for age, occupation, job contract, work hours (hours/week), and number of children. None of demographics had significant ORs.

Table 7
Association between women's worker type and their own work-to-family conflict and psychological distress ($N = 994$).

Worker type ^a	Women's work-to-family conflict						Women's psychological distress							
	Prevalance of work-to-family conflict (%)	Model 1 ^b			Model 2 ^c			Prevalance of psychological distress (%)	Model 1 ^b			Model 2 ^c		
		OR	95%CI	P-value	OR	95%CI	P-value		OR	95%CI	P-value	OR	95%CI	P-value
Relaxed workers (Women)	8.9						5.8							
Hard workers (Women)	32.3	4.90	3.06–7.86	.000	3.90	2.40–6.35	.000	7.8	1.37	.69–2.73	.367	1.33	.66–2.66	.430
Compulsive workers (Women)	12.0	1.40	.77–2.53	.266	1.47	.81–2.67	.204	12.0	2.20	1.16–4.19	.016	2.23	1.17–4.25	.015
Workaholics (Women)	46.7	9.01	5.84–13.91	.000	7.70	4.95–11.97	.000	21.5	4.44	2.62–7.52	.000	4.23	2.48–7.23	.000

(1) Relaxed workers – low on both WE and WC; (2) Hard workers –high on WE and low on WC; (3) Compulsive workers – low on WE and high on WC and (4) Workaholics –high on both WE and WC.

^a The participants were classified into four quadrant groups using the median scores for WE (working excessively) and WC (working compulsively).

^b No adjusted.

^c Adjusted for age, occupation, job contract, work hours (hours/week), and number of children. None of demographics had significant ORs except for working hours (OR = 1.06) in predicting women's work-to-family conflict.

off-job time (Taris et al., 2005) may result in emotional exhaustion, sympathetic arousal, and consequently psychological distress (Shimazu & Schaufeli, 2009). In addition, maladaptive coping such as emotional discharge may have led to psychological distress. According to Shimazu, Schaufeli, and Taris (2010), workaholics more easily disclose negative emotions to others in stressful situations at work because 1) the primary purpose of their hard work is the avoidance and reduction of negative emotions when not working, and 2) they perceive their co-workers as being less valuable to the organization than themselves (Porter, 2001). Whereas this kind of coping may result in an instant reduction of their own negative emotions, their relationships with their co-workers may suffer, resulting in reduced social support and, hence, poor psychological health. Furthermore, reduced social support from their partner may have led to psychological distress. Because workaholics are busy with their work (Schaufeli et al., 2008), even when at home (Taris et al., 2005), they offer less emotional and instrumental support to their partners (Bakker et al., 2009). The consequent unsupportive relationship and lowered marital warmth between partners may have resulted in poor psychological health.

It is worth noting that the strength of the associations of workaholism with employees' WFC and psychological distress were stronger in men than in women. A possible explanation is that most Japanese dual-earner couples with children have already adapted to the gender stratification in line with the good-provider model (Bernard, 1981). That is, men have adapted to working long hours and the overvaluing of work relative to family care, whereas women have adapted to working part-time or placing their career second to their husbands (Bardsley, 2004; Doi, 2009; Matsuda, 2000; Nagase, 2006). This explanation can be justified by the

evidence that our male respondents worked significantly longer than their female counterparts and that the prevalence of workaholics among men was larger than that among women. These findings suggest that the impact of work attitude was more critical for men than for women in determining their own family functioning and psychological health.

Perhaps the most important theoretical contribution of this study is that it demonstrates the *inter*-individual impacts of workaholism (i.e., crossover) by using both members of the couple as sources of information. The results showed that husbands of workaholic women were more likely to report family-to-work conflict (FWC) compared to the husbands of relaxed women. In contrast, wives of workaholic men were *not* more likely to report FWC. This discrepancy may reflect the gender role difference (at least) among Japanese couples. In Japan, women play a more important role in child care in dual-earner couples with child(ren) (Cabinet Office, 2006). Hence, it is more critical for men than for women whether their partners are workaholics or not in determining their level of FWC: when wives are workaholics, an increased probability of taking work home (e.g., paperwork, thoughts about things that happened at work, etc.) and of prioritizing work over family among wives can result in increased household responsibilities for husbands. This explanation can be justified by related evidence that showed that wives' Type A behavior had a particularly important influence on marital dynamics (Sanders, Smith, & Alexander, 1991) and that the exhaustion of wives crosses over to their husbands, whereas that of husbands does not cross over to their wives (Demerouti, Bakker, & Schaufeli, 2005).

Another way of interpreting the gender differences in the inter-individual impact of one's workaholism on one's partner's FWC may be gender differences in work hours. We found much longer work hours of the husbands compared to the wives (Table 1). In

Table 8
Association between women's worker type and their partner's (i.e., men's) family-to-work conflict and psychological distress ($N = 994$).

Worker type ^a	Men's family-to-work conflict						Men's psychological distress							
	Prevalance of men's family-to-work conflict (%)	Model 1 ^b			Model 2 ^c			Prevalance of men's psychological distress (%)	Model 1 ^b			Model 2 ^c		
		OR	95%CI	P-value	OR	95%CI	P-value		OR	95%CI	P-value	OR	95%CI	P-value
Relaxed workers (Women)	20.5						9.1							
Hard workers (Women)	22.4	1.12	.73–1.71	.603	1.18	.77–1.82	.447	13.0	1.49	.86–2.58	.158	1.49	.85–2.61	.166
Compulsive workers (Women)	27.5	1.47	.96–2.26	.073	1.46	.95–2.23	.083	13.8	1.59	.90–2.80	.110	1.59	.90–2.81	.107
Workaholics (Women)	29.6	1.63	1.13–2.34	.009	1.69	1.17–2.45	.005	9.5	1.04	.61–1.79	.881	1.03	.60–1.79	.905

(1) Relaxed workers – low on both WE and WC; (2) Hard workers –high on WE and low on WC; (3) Compulsive workers – low on WE and high on WC and (4) Workaholics –high on both WE and WC.

^a The participants were classified into four quadrant groups using the median scores for WE (working excessively) and WC (working compulsively).

^b No adjusted.

^c Adjusted for age, occupation, job contract, work hours (hours/week), and number of children. None of demographics had significant ORs.

addition, one's work hours did not differ as a function of one's partner's work attitude for both genders: husbands (or wives) of workaholic wives (or husbands) were similar to husbands (or wives) of the other three groups in terms of their own work hours (although results were not shown in results section). This suggests that most women have already adjusted to their husband's heavy work time commitments by cutting back on their own hours, but not vice versa.

A further explanation for the gender differences may be gender differences in coping strategies. Since women are more likely to use coping strategies that involve verbal expressions to others in stressful situations (Tamres, Janicki, & Helgeson, 2002), husbands of workaholic women are more likely to be exposed to such verbal expressions by their partner at home compared to wives of workaholic men. This may result in more frequent experiences of negative emotions and consequently FWC among husbands of workaholic women.

However, contrary to our expectations, our results revealed that one's workaholism did not have a *direct* impact on the psychological distress of their partner for either gender. One possible reason is the "healthy couple effect." That is, if couples suffered from a serious workaholism problem, they may have already been divorced and could not have been participants in our study. Another possible reason is an *indirect* effect (Mathieu & Taylor, 2006) of workaholism. Although we did not find a direct relationship between one's own workaholism and the psychological distress of their partner, there is, nevertheless, a possibility of an indirect relationship between them. Given that positive relationships exist between each component of workaholism and one's own psychological distress and between one's own psychological distress and their partner's psychological distress (see Table 3 and 4), we can assume a process that links workaholism via one's own psychological distress with their partner's psychological distress. According to Westman (2006), there is an indirect cross-over of strain mediated by the communication and interaction of the spouse/partner (e.g., coping strategies, social undermining, and lack of social support). Further research is needed to clarify any direct and indirect relationships between one's workaholism and their partner's work-family balance and psychological health.

Strengths and limitations

The present study has several strengths and limitations. First, this study examined the impacts of workaholism on one's partner's family functioning and psychological health for both genders—the impacts of both men's and women's workaholism were taken into account. Given the increasing participation of women in the workforce (Ministry of Health, Labour, and Welfare, 2010; Peeters et al., 2005) and the increasing number of dual-earner couples (Cabinet Office, 2006), future workaholism and work-family balance research would seem to profit from examining data from both genders, especially in Japan. This is because Japan remains a strongly gender-unequal nation in terms of the political and economic participation of women relative to many of the European OECD nations. Second, this study was conducted among Japanese dual-earner couples, and our findings replicate and expand previous findings on workaholism and work-family balance in Western countries. Third, the present study included a relatively large sample, resulting in sufficient statistical power. Also, our participants were working in a wide range of occupational sectors, suggesting that the findings can be generalized across occupations.

In terms of limitations, this study is based on survey data that used self-report measures. Next to self-report bias due to, for example, negative affect, common method variance might have affected the results, suggesting that the true associations between

variables might be weaker than those observed in this study. However, the results of Harman's single-factor test (Podsakoff & Organ, 1986) and confirmatory factor analysis suggest that common method variance is not of great concern and thus is unlikely to confound the interpretations of results. In addition, a special feature of our study is that in addition to examining the impacts of workaholism on one's own WFC and psychological distress, we examined the impacts on one's partner's FWC and psychological distress as well, which should reduce self-report bias. Nevertheless, our findings should be replicated with objective measures in the future. A second possible limitation is that we used a cross-sectional design, which precludes causal inferences. This means that the relationships proposed by our hypotheses can be strengthened by further testing in longitudinal research, interviews with those who participated in the study, and quantitative diary studies among workaholics.

A third possible limitation is that the low response rate may have had unexpected influences on results. There is a possibility that the couples that invested long hours in work and childrearing could not find time to respond to the questionnaire. It is also possible that persons who were less interested in work-family issues did not participate in this survey because they did not feel a need to do so. Considering that the working hours of our respondents were longer than those of a norm group of Japanese working parents with pre-school children, the latter reason seems more probable. Thus, the true associations between variables might be weaker than the relationships observed in this study. A final limitation of the study is that we used a median split to categorize our participants in high and low levels of the respective workaholism dimension. We followed this method because the Japanese version of the DUWAS (Schaufeli, Shimazu et al., 2009) has no recommended cut-off points that are applicable for men and women for the general working population. In fact, the validation study by Schaufeli, Shimazu et al. (2009) is mainly based on a nursing population. This categorization may have limited the comparability and generalizability of the current findings.

Practical implications

Our findings suggest that workaholics are more likely to experience WFC and psychological distress. Therefore, decreasing workaholism is a possible first step toward improving employees' family functioning and psychological health. The organizational culture in which employees who work long hours are the "heroes/heroines" and are thus displayed as role models should be replaced by a culture that values working smart over working hard, maintaining a healthy work-life balance. This might not be easy to accomplish, because those who are in charge of that culture change are often work addicts themselves (Japan Institute for Labour Policy and Training, 2010; Van Wijhe, Schaufeli, & Peeters, 2010). For employees who are at risk for workaholism, training programs that focus on time management and problem solving skills might be helpful, because workaholics take on more work than they can handle and accept new tasks before completing previous ones (Van Wijhe et al., 2010). In addition, employees should be encouraged to detach and recover from a hard day's work. A demanding work situation increases the need for recovery because it draws on an individual's resources (Zijlstra, 1996). Successive depletion of resources will result in negative effects, such as fatigue and, eventually, when no recovery occurs, exhaustion. Distraction may help employees detach and recover from their work (Shimazu & Schaufeli, 2008). Our findings also suggest that the husbands of workaholic women are more likely to experience FWC. Therefore, the programs mentioned above seem especially useful for (at least Japanese) workaholic women,

because workaholic women have adverse effects not only on their own family functioning and psychological health but also on their husband's family functioning.

Conclusion

To conclude, this study among Japanese dual-earner couples clarified that workaholic parents who work excessively in a compulsive manner are more likely to experience WFC and psychological distress. This study also demonstrated that the husbands of workaholic women are more likely to experience FWC, whereas wives of workaholic men are not. Further research is needed to clarify the process of how the individual's workaholism has effects on his or her work-family balance and psychological health as well as that of his or her partner.

References

- Aziz, S., & Zickar, M. J. (2006). A cluster analysis investigation of workaholism as a syndrome. *Journal of Occupational Health Psychology, 11*, 52–62.
- Bakker, A. B., Demerouti, E., & Burke, R. (2009). Workaholism and relationship quality: a spillover–crossover perspective. *Journal of Occupational Health Psychology, 14*, 23–33.
- Bakker, A. B., Demerouti, E., & Dollard, M. (2008). How job demands influence partners' experience of exhaustion: integrating work-family conflict and crossover theory. *Journal of Applied Psychology, 93*, 901–911.
- Bakker, A. B., Demerouti, E., & Schaufeli, W. B. (2005). The crossover of burnout and work engagement among working couples. *Human Relations, 58*, 661–689.
- Bardsley, J. (2004). Women, marriage, and the state in modern Japan: introduction. *Women's Studies, 33*, 353–359.
- Barnett, R. C., & Hyde, J. S. (2001). Women, men, work, and family. *American Psychologist, 56*, 781–796.
- Bernard, J. (1981). The good-provider role: its rise and fall. *American Psychologist, 36*, 1–12.
- Bonebright, C. A., Clay, D. L., & Ankenmann, R. D. (2000). The relationship of workaholism with work-life conflict, life satisfaction, and purpose in life. *Journal of Counseling Psychology, 47*, 469–477.
- Burke, R. J. (1999a). Workaholism in organizations: the role of personal beliefs and fears. *Anxiety, Stress and Coping, 13*, 1–12.
- Burke, R. J. (1999b). Workaholism in organizations: gender differences. *Sex Roles, 47*, 469–477.
- Burke, R. J. (2000). Workaholism in organizations: psychological and physical well-being consequences. *Stress and Health, 16*, 11–16.
- Burke, R. J., Matthiesen, S. B., & Pallesen, S. (2006). Personality correlates of workaholism. *Personality and Individual Differences, 40*, 1223–1233.
- Byron, K. (2005). A meta-analytic review of work-family conflict and its antecedents. *Journal of Vocational Behavior, 67*, 169–198.
- Cabinet Office. (2006). *White paper on the national lifestyle*. Retrieved May 10 2010, from http://www5.cao.go.jp/seikatsu/whitepaper/h18/01_honpen/index.html (in Japanese).
- Demerouti, E., Bakker, A. B., & Schaufeli, W. B. (2005). Spillover and crossover of exhaustion and life satisfaction among dual-earner parents. *Journal of Vocational Behavior, 67*, 266–289.
- Doerfler, M. C., & Kammer, P. P. (1986). Workaholism: sex and sex role stereotyping among female professionals. *Sex Roles, 14*, 551–560.
- Doi, I. (2009). Women in the workplace. In T. Oguchi, T. Kusumi, & Y. Imai (Eds.), *Job skills* (pp. 108–120). Kyoto: Kitaohji-Shobou. (in Japanese).
- Edwards, J. R., & Rothbard, N. P. (2000). Mechanisms linking work and family: clarifying the relationship between work and family constructs. *Academy of Management Review, 25*, 178–199.
- Frone, M. R. (2000). Work-family conflict and employee psychiatric disorders: the national comorbidity survey. *Journal of Applied Psychology, 85*, 888–895.
- Furukawa, T., Kawakami, N., Saitoh, M., Ono, Y., Nakane, Y., Nakamura, Y., et al. (2008). The performance of the Japanese version of the K6 and K10 in the World mental health survey Japan. *International Journal of Methods in Psychiatric Research, 17*, 152–158.
- Geurts, S. A. E., & Demerouti, E. (2003). Work/non-work interface: a review of theories and findings. In M. J. Schabracq, J. A. M. Winnubst, & C. L. Cooper (Eds.), *The handbook of work and health psychology* (pp. 279–312). West Sussex, England: Wiley.
- Geurts, S. A. E., Rutte, C., & Peeters, M. C. W. (1999). Antecedents and consequences of work-home interference among medical residents. *Social Science & Medicine, 48*, 1135–1148.
- Geurts, S. A. E., Taris, T. W., Kompier, M. A. J., Dikkers, J. S. E., Van Hooff, M. L. M., & Kinnunen, U. M. (2005). Work-home interaction from a work psychological perspective: development and validation of a new questionnaire, the SWING. *Work & Stress, 19*, 319–339.
- Greenhaus, J. H., & Beutell, N. J. (1985). Sources of conflict between work and family roles. *Academy of Management Review, 10*, 76–88.
- Herbig, P. A., & Palumbo, F. A. (1994). Karoshi: salaryman sudden death syndrome. *Journal of Managerial Psychology, 9*(7), 11–16.
- Japan Institute for Labour Policy and Training. (2010). *Research findings on work characteristics, personal characteristics, and working time*. Retrieved January 18 2011, from <http://www.jil.go.jp/press/documents/20101207.pdf> (in Japanese).
- Jones, F., Burke, R. J., & Westman, M. (2006). Work–life balance: key issues. In F. Jones, R. J. Burke, & M. Westman (Eds.), *Work-life balance: A psychological perspective* (pp. 1–9). East Sussex: Psychology Press.
- Kanai, A. (2006). Economic and employment conditions, karoshi (work to death) and the trend of studies on workaholism in Japan. In R. J. Burke (Ed.), *Research companion to working time and work addiction* (pp. 158–172). Cheltenham, UK: Edward Elgar.
- Kanai, A., Wakabayashi, M., & Fling, S. (1996). Workaholism among employees in Japanese corporations: an examination based on the Japanese version of the Workaholism scales. *Japanese Psychological Research, 38*, 192–203.
- Kaufman, G., & Uhlenberg, P. (2000). The influence of parenthood on work effort of married men and women. *Social Forces, 78*, 931–947.
- Kessler, R. C., Barker, P. R., Colpe, L. J., Epstein, J. F., Gfroerer, J. C., Hiripi, E., et al. (2003). Screening for serious mental illness in the general population. *Archives of General Psychiatry, 60*, 184–189.
- Kinnunen, U., Geurts, S. A. E., & Mauno, S. (2004). Work-to-family conflict and its relationship with satisfaction and well-being: a one-year longitudinal study on gender differences. *Work & Stress, 18*, 1–22.
- Kubota, K., Shimazu, A., Kawakami, N., Takahashi, M., Nakata, A., & Schaufeli, W. B. (2010). Association between workaholism and sleep problems among hospital nurses. *Industrial Health, 48*, 864–871.
- Mathieu, J. E., & Taylor, S. R. (2006). Clarifying conditions and decision points for mediational type inferences in organizational behavior. *Journal of Organizational Behavior, 27*, 1031–1056.
- Matsuda, T. (2000). Couple relation from gender-role perspective. In K. Yoshizumi (Ed.), *Marriage and partnership: Revisiting the married couple* (pp. 125–146). Kyoto: Minerva Shobo. (in Japanese).
- Ministry of Health, Labour and Welfare. (2010). *Current status of working women in 2009*. Retrieved January 18 2011, from <http://www.mhlw.go.jp/bunya/koyoukintou/josei-jitsujo/09.html> (in Japanese).
- Nagase, N. (2006). Japanese youth's attitudes towards marriage and child rearing. In M. Rebeck, & A. Takenaka (Eds.), *The changing Japanese family* (pp. 39–53). Oxon: Routledge.
- Ng, T. W. H., Sorensen, K. L., & Feldman, D. C. (2007). Dimensions, antecedents, and consequences of workaholism: a conceptual integration and extension. *Journal of Organizational Behavior, 28*, 111–136.
- Oates, W. (1971). *Confessions of a workaholic: The facts about work addiction*. New York: World Publishing.
- Ohashi, Y. (2000). Background of the tendency of single, late-marriage, and individualism. In K. Yoshizumi (Ed.), *Marriage and partnership: Revisiting the married couple* (pp. 27–55). Kyoto: Minerva Shobo. (in Japanese).
- Peeters, M. C. W., Montgomery, A. J., Bakker, A. B., & Schaufeli, W. B. (2005). Balancing work and home: how job and home demands are related to burnout. *International Journal of Stress Management, 12*, 43–61.
- Podsakoff, P. M., & Organ, D. W. (1986). Self-reports in organizational research: problems and prospects. *Journal of Management, 12*, 531–544.
- Porter, G. (1996). Organizational impact of workaholism: suggestions for researching the negative outcomes of excessive work. *Journal of Occupational Health Psychology, 1*, 70–84.
- Porter, G. (2001). Workaholic tendencies and the high potential for stress among co-workers. *International Journal of Stress Management, 8*, 147–164.
- Rebeck, M., & Takenaka, A. (2006). The changing Japanese family. In M. Rebeck, & A. Takenaka (Eds.), *The changing Japanese family* (pp. 39–53). Oxon: Routledge.
- Robinson, B. E., Carroll, J. J., & Flowers, C. (2001). Marital estrangement, positive affect, and locus of control among spouses of workaholics and spouses of nonworkaholics: a national study. *American Journal of Family Therapy, 29*, 397–410.
- Robinson, B. E., Flowers, C., & Carroll, J. J. (2001). Work stress and marriage: a theoretical model examining the relationships between workaholism and marital cohesion. *International Journal of Stress Management, 8*, 165–175.
- Robinson, B. E., & Post, P. (1995). Work addiction as a function of family of origin and its influence on current family functioning. *The Family Journal, 3*, 200–206.
- Sanders, J. D., Smith, T. W., & Alexander, J. F. (1991). Type A behavior and marital interaction: hostile-dominant responses during conflict. *Journal of Behavioral Medicine, 14*, 567–580.
- Schaufeli, W. B., Bakker, A. B., Van der Heijden, F. M. M. A., & Prins, J. T. (2009). Workaholism among medical residents: it is the combination of working excessively and working compulsively that counts. *International Journal of Stress Management, 16*, 249–272.
- Schaufeli, W. B., Shimazu, A., & Taris, T. W. (2009). Being driven to work excessively hard: the evaluation of a two-factor measure of workaholism in the Netherlands and Japan. *Cross-Cultural Research, 43*, 320–348.
- Schaufeli, W. B., Taris, T. W., & Van Rhenen, W. (2008). Workaholism, burnout and engagement: three of a kind or three different kinds of employee well-being. *Applied Psychology-An International Review, 57*, 173–203.
- Scholz, U., Gutierrez-Dona, B., Sud, S., & Schwarzer, R. (2002). Is general self-efficacy a universal construct?: psychometric findings from 25 countries. *European Journal of Psychological Assessment, 18*, 242–251.

- Scott, K. S., Moore, K. S., & Miceli, M. P. (1997). An exploration of the meaning and consequences of workaholism. *Human Relations*, 50, 287–314.
- Setagaya ward. (2010). *General statistic information in 2009*. Retrieved February 18 2011, from <http://www.city.setagaya.tokyo.jp/toukei/hyou/21data/21sougo.pdf> (in Japanese).
- Shimazu, A., Bakker, A. B., & Demerouti, E. (2009). How job demands affect the intimate partner: a test of the spillover-crossover model in Japan. *Journal of Occupational Health*, 51, 239–248.
- Shimazu, A., & Schaufeli, W. B. (2008). Does distraction facilitate problem-focused coping with job stress? A 1 year longitudinal study. *Journal of Behavioral Medicine*, 30, 423–434.
- Shimazu, A., & Schaufeli, W. B. (2009). Is workaholism good or bad for employee well-being? The distinctiveness of workaholism and work engagement among Japanese employees. *Industrial Health*, 47, 495–502.
- Shimazu, A., Schaufeli, W. B., & Taris, T. W. (2010). How does workaholism affect worker health and performance? The mediating role of coping. *International Journal of Behavioral Medicine*, 17, 154–160.
- Snir, R., & Harpaz, I. (2004). Attitudinal and demographic antecedents of workaholism. *Journal of Organizational Change Management*, 17, 520–536.
- Staines, G. L., & Pleck, J. H. (1984). Nonstandard work schedules and family life. *Journal of Applied Psychology*, 69, 515–523.
- Tamres, L. K., Janicki, D., & Helgeson, V. S. (2002). Sex differences in coping behavior: a meta-analytic review and an examination of relative coping. *Personality and Social Psychology Review*, 6, 2–30.
- Taris, T. W., Schaufeli, W. B., & Verhoeven, L. C. (2005). Internal and external validation of the Dutch work addiction risk test: implications for jobs and non-work conflict. *Applied Psychology-An International Review*, 54, 37–60.
- United Nations Development Programme. (2009). *Human development report 2009*. Retrieved January 18 2011, from http://hdr.undp.org/en/media/HDR_2009_EN_Complete.pdf.
- Van Wijhe, C., Schaufeli, W. B., & Peeters, M. C. W. (2010). Understanding and treating workaholism: setting the stage for successful interventions. In R. J. Burke, & C. L. Cooper (Eds.), *Risky business: Psychological, physical and financial costs of high risk behavior in organizations* (pp. 107–134). Farnham, England: Gower.
- Westman, M. (2001). Stress and strain crossover. *Human Relations*, 54, 557–591.
- Westman, M. (2006). Crossover of stress and strain in the work–family context. In F. Jones, R. J. Burke, & M. Westman (Eds.), *Work–life balance: A psychological perspective* (pp. 163–184). East Sussex, England: Psychology Press.
- Zijlstra, F. R. H. (1996). Effort as energy regulation. In W. Battmann, & S. Dutke (Eds.), *Processes of the molar regulation of behavior* (pp. 219–235). Berlin, Germany: Pabst Science Publishers.