Issue Brief

Exploring the Relationship between
Work-Life and Stress
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Introduction

Conflict between work and non-work roles and/or responsibilities is associated with a number of detrimental outcomes that have been well established in the research literature. Referred to generally as "work-life conflict", employees who experience high levels of conflict between work and non-work roles and/or responsibilities tend to have lower levels of job satisfaction (Burke & Greenglass, 1999) and job performance (Anderson, Coffey, & Byerly, 2002; Frone, Russell, & Cooper, 1992; Greenhaus, Colins, Singh, & Parasuraman, 1997), withdraw from work (Hammer, Bauer, & Grandey, 2003; MacEwen & Barley, 1994), and experience greater sickness absence (Jansen, Kant, van Amelsvoort, Kristensen, Swaen, & Nijhuis, 2006) and intentions to leave the organization (O'Neill, Harrison, Cleveland, Almeida, Stawski, and Crouter, 2009) .

Perhaps underlying the myriad negative consequences of work-life conflict is stress. This brief reviews the research literature on the relationship between work-life and stress.

Theoretical Background

Role Theory

Much of the literature on work-life and stress draws on some variant of *role theory*, with the management of multiple roles in the work-life context as the focus of examination in its relation to individual outcomes. The literature on the effects of multiple roles can be broadly

categorized by those emphasizing positive outcomes of *role expansion*, and those emphasizing negative effects of *role stress*.

Proponents of the *role expansion theory* posit that occupying multiple roles enhances engagement in both work and family life, with some studies finding a positive effect of multiple roles on self-esteem and life satisfaction among multiple role occupants (e.g., Barnett and Hyde, 2001; Barnett and Baruch, 1985). An empirical test between the role stress and role expansion theories finds greater support for role expansion, such that the number of social roles an individual occupies is negatively associated with insomnia and lingering illness (Nordenmark, et al., 2004). The authors suggest that multiple roles may expand an individual's access to resources, thereby increasing the support of various kinds.

However, the benefits accrued from multiple roles may be limited, as long as the roles are not experienced as *demands*. Some studies suggest that the positive effect of multiple roles is greatest when the workload, as measured by the number of hours of paid work (Aryee, 1992; Scharlach, 2001) and responsibility for small children (Moen and Yu, 1999; Scharlach, 2001) is not too heavy. Thus, while multiple roles may be beneficial, if those roles begin to impinge upon each other, then role *overload* and/or role *conflict* is experienced and causes distress.

Role stress theory, based on classical role theory (Kahn, Wolfe, Quinn, Snoek, & Rosenthal, 1964), states that the experience of ambiguity of role will result in an undesirable state. A central assumption of role stress theory is that high demand leads to stress, and the stress generated by demand from each of multiple roles increases the stress with each demanding role one occupies.

A variant of *role stress theory* is the *scarcity perspective*, which assumes a finite amount of psychological and physiological resources available to them to respond to their role obligations. Multiple roles increase the demand on resources and an individual risks depletion and/or exhaustion of resources. As such, individuals must make trade-offs to reduce *role strain* (Aryee, Srinivas, & Tan, 2005). Underlying the trading-off of finite resources, particularly in the work-life context, is the notion that work and family roles have distinct responsibilities and obligations in

which the satisfaction of those associated with one role entails the sacrifice of another (Zedeck & Mosier, 1990). This leads to *role conflict*, due to incompatibility between roles (Greenhaus & Beutell, 1986; Kahn, et al., 1964), and this is central to the focus of much of the *work-life/work-family* literature.

Work-Family Conflict

Specifically, *work-family* or *work-life conflict* is "a form of inter-role conflict in which the role pressures from the work and family domains are mutually incompatible in some respect. That is, participation in the work (family) role is made more difficult by participation in the family (work) role" (Greenhaus and Beutell, 1985, p. 77).

One way in which *work-family conflict* manifests is in *spillover,* which occurs as a result of some similarity between work and family life, such that one environment induces similar patterns in the other environment (Zedeck & Mosier, 1990). The spillover effects are further characterized by positive and negative spillover, and researchers find differential effects of positive and negative spillover on psychological dysphoria, such that negative spillover increases dysphoria, positive spillover helps to mitigate dysphoria (Grzywacz and Marks 2000).

Spillover effects and *work-family conflict* are further differentiated by directionality: work-to-family and family-to-work conflict (Frone, et al, 1992; Netermeyer, Boles, and McMurrian, 1996) and appear to exert independent effects on stress outcomes, which suggests that they are each separate constructs. For example, a cross-cultural study finds that for nurses in Norway, work-to-family conflict is a predictor of job stress, while for Indian nurses, family-to-work stress predicts job stress (Pal and Saksvik 2008). However, these two types of conflict (work-to-family and family-to-work) also appear to be reciprocally related (Anderson et al., 2002; Carlson and Kacmar, 2000; Frone, Russell, & Cooper, 1992b). Grandey and Cropanzano (1999) found that work role stress increased work-to-family conflict, which in turn, increased family distress, which also speaks to the reciprocal relationship between work-to-family and family-to-work conflict and associated outcomes.

An oft-cited model of work-family conflict that incorporates both the directionality of the relationship between work and family conflict and the valence of that relationship (e.g., positive or negative) is a four-fold taxonomy developed by Frone, Russell, & Cooper (1992). This taxonomy enables the examination of the distinct contribution of work-to-family conflict and family-to-work conflict, and any reciprocal effects between them, and has been validated by several studies (Aryee, et al., 2005; Innstrand, Langballe, Espnes, Falkum, & Aasland, 2008; Mesmer-Magnus & Viswesvaran, 2005).

Thus, more recent formulations of the intersections between work and non-work life include the concept of work-life facilitation, in which the integration of work and family leads to a net gain in resources (psychological, material, time, or other), which would protect an individual from ill effects of work-life conflict (Frone, et al., 1992; Innstrand, et al, 2008).

Work-Family Conflict and Stress Outcomes

The costs associated with stress-related illnesses are substantial. One estimate finds that stress-related illnesses cost American businesses between $50 and $150 billion a year (Hatfield, 1990). More recently, the American Institute of Stress estimated in 2004 that workplace stress costs the nation over $300 billion in health care, abstenteeism, and the stress-reduction industry that has developed in response to the demand for such services (Schwartz, 2004).

Stress has been conceptualized variously in the literature as burnout, strain, distress, etc. Stress has been defined variously as exhaustion, psychological strain, emotional distress, and has been measured in a variety of ways by assessing behavioral outcomes, physiological measures, physical health, and a variety of psychological scales.

In a meta-analysis of the relationship between work-family conflict and work-related outcomes, non-work-related outcomes, and stress-related outcomes, the authors find the most robust relationships in the literature between work-family conflict and stress-related outcomes in both work-related domains (e.g., job burnout) and non-work-related domains (e.g., psychological strain, fatigue, depression) (Allen, Herst, Bruck, and Sutton, 2000). This review also follows this broad categorization of stress in work- and non-work-related domains.

Stress in Work-Related Domains

Previous studies have found work-to-family interaction more highly correlated with work outcomes and family-to-work interaction more strongly related to family outcomes (Grandey & Copranzano, 1999; Mesmer-Magnus & Viswesvaran, 2005). Researchers posit that stressors associated with the work role, such as work role overload, role ambiguity, or heavy workload, are more likely to increase feelings of work-to-family conflict than family-to-work conflict, and this is largely supported by the research (Mesmer-Magnus & Viswesvaran, 2005).

Burnout

Burnout is a type of psychological stress syndrome characterized by "emotional exhaustion, depersonalization, and diminished personal accomplishment" (Cordes and Dougherty, 1993) as a result of prolonged exposure and response to chronic workplace stress (Maslach, 2003). The research examining the relationship between work-family conflict and burnout consistently finds that the higher the work-family conflict, the greater the risk of burnout (Allen at al., 2000).

Although work-to-family spillover is more highly correlated with burnout than family-to-work spillover (Netemeyer, et al., 1996), Lambert, Hogan, and Altheimer (2010) find that higher levels of strain-based, behavior-based, and family-to-work conflict are associated with higher levels of job burnout among correctional staff.

Using the four-fold taxonomy of work-family to measure directionality (work-to-family; family-to-work) and type of mediation (conflict or facilitation), a longitudinal study by Innstrand, et al. (2008), finds the relationship between work-family and job burnout to be reciprocal, such that work-to-family conflict leads to job burnout, and job burnout leads to work-to-family conflict. However, work-family facilitation was found to have an ameliorative effect on this relationship. These findings strongly suggest that preventive policies/practices might benefit both the organization as well as the individual employee in order to bolster work-family facilitation and stem the negative spiral of work-to-family conflict and burnout.

Grzywacz, Carlson, and Shulkin (2008) find that employees engaged in formal flexible work schedules, particularly those engaged in an arrangement that allows them to modify their work

schedules around a set number of hours (as compared to compressed work-week arrangements), experienced lower levels of job stress and burnout, as measured by a 7-item scale. The researcher suggests that it is the perception of flexibility that promotes a sense of individual control or discretion over when work is done that alleviates job stress and burnout. This is consistent with previous work that found the perception of schedule control to be associated with lower levels of stress and strain, reduced work-family conflict, increased job satisfaction (Thomas & Ganster 1995).

Job burnout in turn, affects a variety of job outcomes associated with withdrawal from work such as turnover, absenteeism, and productivity (Lee and Ashforth, 1996).

Work-Life Stress and Work Withdrawal

Both work-to-family and family-to-work conflict appear to be associated with a variety of aspects of organizational withdrawal. Goff et al. (1990) finds that both work-to-family and family-to-work conflict are predictive of tardiness, absenteeism, family-related interruptions at work, and intentions to quit the job, and these findings are corroborated by a meta-analysis of this same constellation of work withdrawal behaviors (Mesmer-Magnus & Viswesvaran, 2005).

In examining the bi-directionality of the effects of work-family conflict on withdrawal behaviors, Hammer et al. (2003) also find that both directional measures of work-family conflict predict lateness and job interruptions at work. These researchers also find what they call "crossover effects" of married couples, such that wives' levels of work-family conflict exert an effect on husbands' withdrawal behavior, and vice-versa, which underscores the inter-relatedness of work-to-family and family-to-work stressors and their effects on withdrawal from work.

Stress in Non-Work-Related Domains

Several studies have identified relationships between work-family conflict and well-being in non-work-related domains, with different work-life mechanisms driving different outcomes. For example, Frone (1997) found that family-to-work spillover was related to depression and poor physical health, while work-to-family spillover was more closely associated with health behaviors such as alcohol use.

General Psychological Well-Being

Several researchers have found a strong relationship between work-family conflict and general psychological health and well-being. In two studies, Parasuraman (et al.,1992; et al., 1996) defined general life stress as feelings of upset, frustration, or feeling tense, and found work-family conflict to be significantly related to these feelings of general stress.

Another study that measured general psychological strain by the General Health Questionnaire assessed mental health, coping ability, feelings of self-worth, and enjoyment of daily activities found that work spillover into life increased psychological strain (O'Driscoll et al., 1992). Work-family conflict has also been found to be associated with increased anxiety (Beatty, 1996; Greenglass, et al., 1988) and irritability (Beatty, 1996).

Researchers find differential effects of positive and negative spillover on *dysphoria*, as measured by the K6 mental health screener (a 6-item screening tool for further mental health assessment, which asks: "During the past 30 days, how often did you feel so sad nothing could cheer you up? nervous? restless or fidgety? hopeless? that everything was an effort? and worthless?" While negative spillover either from work-to-family or family-to-work increases dysphoria, positive spillover in either direction helps to mitigate dysphoria (Grzywacz & Marks, 2000).

Depression

Several studies find a strong correlation between work-family conflict and depression (Frone et al., 1992; 1996; Googins and Burden, 1987; Greenglass, et al., 1988; Klitzman et al., 1990; MacEwen and Barling, 1994; Netemeyer et al., 1996; Reifman et al., 1991; Thomas and Ganster, 1995).

In studies involving parents, Windle (1997) found both parental (e.g., family-to-work) stress and occupational (e.g., work-to-family) stress, each measured as independent predictors, both independently contributed significantly to husbands' and wives' depressive symptoms. Another study found that among employed parents with children under age 16, less flexible work schedules predicted higher levels of depression, as the perception of a lack of work-family

control and negative work-to-family spillover lead to the experience of depressive symptoms (Thomas and Ganster, 1995).

Beatty (1996) finds a significant relationship between depression and work-family conflict among women with children, though no relationship is found among women without children.

Health Behaviors

Work-family conflict has also been found to be associated with stress-induced behaviors that negatively impact health, such as heavy drinking, and problem drinking (Frone, Russell, & Cooper, 1993; 1997; Frone et al., 1994, 1996; Grzywacz and Marks 2000). Researchers in this area posit that work-to-family conflict and spillover presents a challenge to the successful achievement of family-related roles and responsibilities, which leads to strain and distress in the family (Frone, et al., 1996). As a result, negative work-to-family spillover is associated with an increase in alcohol consumption in response to the family strain (Frone, Russell, & Cooper, 1992; Frone et al., 1994, 1996). In addition, Grzywacz and Marks (2000) found that both positive and negative work-to-family spillover were independently associated with "problem drinking", as defined by the extent to which serious consequences as a result of drinking had occurred within the past year. One study also found a relationship between cigarette use and work-family conflict (Frone et al., 1994).

Another study conducted in China corroborates the relationship between work-life stress and alcohol use, measured by daily fluctuations in alcohol consumption among professional employees who usually consume "normal" levels of alcohol (Wang, Liu, Zhan, and Shi, 2010). Using daily telephone interviews, daily family-to-work and work-to-family conflict and daily alcohol consumption were measured. Researchers found a significant relationship between the amount of work-to-family conflict experienced in a day with the amount of alcohol consumed. These findings suggest that work-family conflict fluctuates on a daily basis and are compelling enough to effect an impact on daily health and well-being outcomes with respect to alcohol consumption. Indeed, prior work has suggested that the direct effect of work-related stress on behavioral outcomes manifests over the course of hours (Cooper, Russell, and Frone, 1990; Frone, 2008).

Furthermore, a longitudinal study found that work-family conflict predicted heavy alcohol use over time, which points to long-term ill-effects of sustained work-family conflict (Frone, Russell, & Cooper, 1997). Thus, work-family conflict appears to affect behavioral outcomes by the hour, by the day, and over years.

Workaholism is another behavioral outcome that has been associated with work-life issues. Aziz and Cunningham (2008) found work-life *imbalance* (which refers to an occupational stressor based on a lack of resources of time and energy, and associated feelings toward work and personal life), to be strongly associated with workaholic behavior, defined as "situationally induced behavioral pattern comprised of excessive work involvement, high work drive, and low work enjoyment" (p. 555) for both men and women.

Physiological Responses, Physical Health and Well-Being

Physical health and well-being appear to suffer as a consequence of work-family conflict as well. In two independent samples, Frone, Russell, and Barnes (1996) found that work-family conflict was related to overall physical health, which was measured by a single question asking respondents to rate their physical health relative to their peers on a scale of 1 – 5 (Poor to Excellent). Research has also shown work-family conflict to be related to self reports of general health and energy (Burke, 1988; Googins & Burden, 1987; Grandey *&* Cropanzano, 1999; Judge et al., 1994).

A number of studies have demonstrated a strong relationship between work-family conflict and negative physical health attributes such as poor appetite, chronic fatigue, and feelings of tension (Adams & Jex, 1999; Burke, 1988; Greenglass et al., 1988; Hughes & Galinsky, 1994; Kinnunen & Mauno, 1998; Klitzman et al., 1990; Netemeyer el al., 1996; Reifman, Biernat, & Lang, 1991; Thomas & Ganster, 1995).

However, in a longitudinal study, Frone, Russell, and Cooper (1997) find no relationship between work-family conflict and overall health or hypertension.

Other studies have examined the effects of work-family conflict on stress via direct measures of cortisol levels in the saliva. Cortisol is a hormone secreted in response to stress, which has been

shown to be associated with negative health outcomes such as cardiovascular disease (Bjorntorp, 1991). One study examining the relationship between family responsibilities, work, and stress found that cortisol levels measured in the evening, after a full day's work were associated with responsibilities at home, such that the greater the level of family responsibility at home, the higher the stress, which produces higher levels of cortisol (Bergman, Ahmad, and Stewart, 2008).

Another study of dual-earner cohabiting parents of two or three children found a positive relationship between work-to-family spillover and higher evening cortisol levels among men, although this effect was mitigated by the quality of the marital relationship, such that men in happier marriages tended to experience the negative spillover cortisol effects less acutely (Repetti, 2008); there was no such ameliorative effect for women.

Greater perceived schedule flexibility has been associated with better self-reported cholesterol values (Thomas & Ganster, 1995).

Fixes: Flexibility and Supportive Work Environments

Supportive practices in the workplace, especially flexible scheduling and supportive supervisors have been found to lower levels of work-family conflict, job dissatisfaction, depression, somatic complaints, and even blood cholesterol through increasing employee perception of greater control over their work and non-work lives (Thomas and Ganster 1995). Importantly, it is the perception of control, more than the actual provision of policies that would presumably provide for that control that is central to its ameliorative effect on work-family conflict.

In a review of flexible work policies, Kelly and Moen (2007) find that policies aimed at increasing flexible scheduling options often fall short of actually serving the purpose of providing employees greater control over when they work. They cite three main reasons for this failure. First, access to flexible work arrangements is uneven, even when there are written policies formalizing access. Flexible scheduling decisions are generally left to the discretion of individual supervisors, which often amount to a case-by-case "let's see how it goes" approach, where the employee is still left without control over their work schedule.

Second, the flexible schedules that are developed often end up tying the employee to an equally rigid schedule, just shifted to different times of the day or week. Compressed work weeks, for example, function in this manner, such that instead of working a rigid 8-hour shift 5 days a week, one works an even longer, equally rigid 10-hour shift 4 days a week. Again, this does not serve the purpose of shifting schedule control to the employee.

And third, if employees believe that taking advantage of flexible work options will stigmatize them or otherwise negatively affect their career trajectories, they avoid using them.

Thus, key to successful work-life integration and resolution of work-life conflict is *perceived* control over work scheduling and/or a work environment supportive to the work-life needs of employees, which includes a supportive supervisor and/or formalized workplace policies that provide for and make accessible, flexible work scheduling options. Indeed, one longitudinal study found lower levels of stress and burnout among employees engaged in various forms of flexible scheduling arrangements, and that 30-50% of the observed differences between employees with and without formal flextime arrangements were explained by the *perception* of flexibility (Grzywacz, et al., 2008).

There is strong evidence in the research that indicates that a supportive work environment (e.g., provision of company-sponsored family-friendly policies and/or having a family-friendly supervisor) is effective in diminishing feelings of work-to-family conflict, stress and burnout, and in decreasing the incidence of worker withdrawal behaviors such as absence, tardiness, and interruptions at work (Hill, Jacob, Shannon, Brennon, Blanchard, & Martinego, 2008; Thompson, Jahn, Kopelman, & Prottas, 2004; Kossek & Ozeki, 1998; Mesmer-Magnus & Viswesvaran, 2008).

Two recent longitudinal studies found associations between perceived schedule control and fewer days of sickness absence (as measured directly by the municipal human resources register, rather than self-report) (Ala-Mursula, Vahtera, Pentti, & Kivimaki, 2004), as well as reductions in sickness absence and work-related injury (Casey & Grzywacz, 2008). Thus, both

cross-sectional and longitudinal results suggest that workers who perceive having flexibility in their work schedules experience fewer days of absence from work.

Work-family facilitation was found to be associated with positive feelings about work (Aryee, et al., 2005), such that to the extent that activities and responsibilities at work were perceived to enhance activities and responsibilities at home, employees experienced greater job satisfaction and organizational commitment. Conversely, both work-to-family and family-to-work conflict are correlated with behaviors indicative of organizational withdrawal, such as tardiness, absenteeism, family-related interruptions at work, and intentions to quit (Goff, et al., 1990; Mesmer-Magnus & Viswesvaran, 2008).

The research in this area points to a strong relationship between work-family conflict/facilitation and job satisfaction and work withdrawal. As such, employers would be well-advised to bolster efforts to increase work-family facilitation and decrease work-to-family and family-to-work conflict, such as by offering and making accessible, flexible scheduling options. Doing so would increase employee job satisfaction, decrease job absence, burnout, fatigue, job interruptions, tardiness, and intentions to leave the organization, which could potentially save employers significant resources in terms of productivity and employee replacement. Indeed, one study estimates that unscheduled absences from work alone cost employers approximately $1,760 for an employee who earns $40,000 per year (Halpern, 2005). This study also finds that the greater the number of flexible scheduling options available by an employer, the lower the costs to the employer in terms of employee absence, tardiness, and missed deadlines. Moreover, the greater the perceived need for flexible work scheduling policies, the greater the employee stress, the lower the commitment to the employer, and the greater the cost to the employer.

In conclusion, addressing work-life conflict is a win-win scenario: employees experience better health outcomes and satisfaction at work, and employers experience better work outcomes and fewer costs associated work-life stress.

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