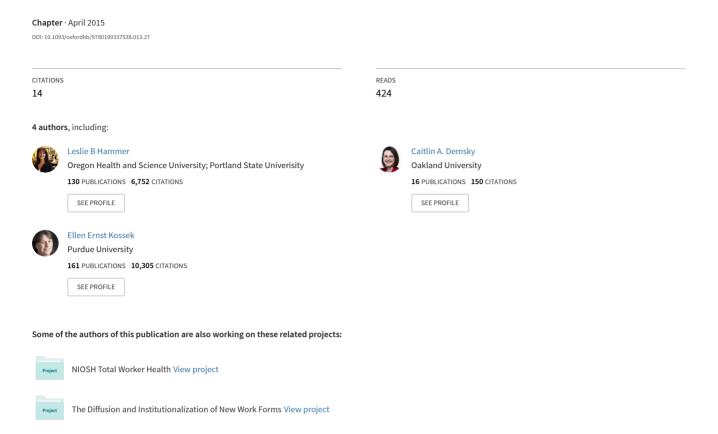
# Work-Family Intervention Research



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# Work-Family Intervention Research

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# Abstract and Keywords

This chapter reviews the literature on work–family interventions focusing on linkages to evidence-based employee health and well-being outcomes and on return on investment (ROI) in organizations. Work–family interventions include, but are not limited to, alternative work arrangements, family supportive supervisor behavior training, work redesign to increase schedule control, and the provision of dependent care supports. Work–family interventions have the goal of reducing work–family conflict and in turn increasing the health and well-being of employees and the organizations in which they work (Kossek, Hammer, Kelly, and Moen, 2014). Sixteen studies were identified that meet our criteria. The chapter provides a discussion of establishing the work–family intervention value proposition with a focus on ROI, concluding with a discussion of approaches and guidelines for future work–family intervention research and practice.

 $\label{lem:Keywords: work-family, interventions, work, well-being, health} Keywords: work-family, interventions, work, well-being, health$ 

#### Introduction

Despite the mounting evidence that decreased stress resulting from job stress interventions leads to improvements in both individual and organizational functioning (LaMontagne, Keegel, Louie, Ostry, & Landsbergis, 2007), very little research has examined work–family-specific workplace interventions and solutions (Kossek et al., in press). Countless national surveys (e.g., American Psychological Association, 2014) continue to point to work–family conflict as being one of the top stressors impacting workers' lives today. Unfortunately, evidence-based research on organizational strategies aimed at reducing work–family conflict is lacking, and most of what does exist is based on weak experimental designs or correlational relationships. This leaves organizational practitioners few options when seeking evidence-based work–family solutions that have proven effectiveness. This gap also limits the ability to deduce organizational return on investment (ROI) or fundamental impacts such as improvements in productivity, worker health, and well-being outcomes.

The goal of this chapter is to briefly review the work–family intervention literature focusing on linkages to evidence-based outcomes and ROI in organizations. Work–family interventions are those that are aimed at reducing work–family conflict and in turn increasing the health and well-being of employees and the organizations in which they work (Kossek, Hammer, Kelly, & Moen, 2014). Examples include alternative work arrangements, family supportive supervisor behavior training, work redesign to increase schedule control, and the provision of dependent care supports. We start by discussing some of the issues that need to be considered when conducting work–family intervention research. We then provide an overview of what is a work–family intervention, reviewing some of the different types of interventions. This is followed by a review of the outcomes of work–family intervention research. Finally, we discuss establishing the work–family intervention value proposition with a focus on ROI, concluding with a discussion of approaches and guidelines for future work–family intervention research and practice.

#### Issues to Consider When Conducting Work-Family Intervention Research

Below we briefly review issues that arise when conducting work–family intervention research including organizational resource limitations, uneven adoption leading to difficulties in evaluation, and the lack of evidence-based solutions. We then define types of work–family interventions and their associated outcomes.

When conducting work–family intervention research it is important for scholars to understand organizational resource limitations such as time demands and the level of commitment needed to be successful. For example, few organizations agree to be studied in such a way that requires extensive time from both management and line workers, and even fewer researchers have the resources to carry out what would be required in highly structured randomized studies that are designed to provide such solid evidence-based data. Firms especially tend to not see the relevance of such "marginal" work–life activities (Kossek, Lewis, & Hammer, 2010) as directly related to their bottom line, and thus are difficult to convince to consider such solutions.

Furthermore, work–family interventions tend to be adopted unevenly in firms, making their impact hard to assess across the workforce. For example, flexible work options tend to primarily be available to employees in professional level jobs and those employed by larger organizations, making access to employees in low-wage, hourly positions who are most in need of such policies extremely limited (Hammer, Van Dyck, & Ellis, 2013; Kossek & Distelberg, 2009). A solution to this would be to conduct research that is randomized with a control group, which is important when conducting evidence-based research (Kossek, Hammer, Kelly, et al., 2014).

Most critically, many workplace work–family solutions are often not evidence based. By this we mean that companies typically adopt programs that have not been scientifically validated as reducing work–family conflict and changing the organization leading to improved outcomes. For example, in both Europe and the United States, research demonstrating the beneficial effects of one of the most popular and often-cited work–family workplace interventions, flexible work arrangements, is lacking (de Menezes & Kelliher, 2011). Studies have also suggested that a reason for limited positive effects is due to the complexity of flexible work schedule options (Allen, Johnson, Kiburz, & Shockley, 2013) that are difficult to assess experimentally. Furthermore, such evidence-based information on specific workplace programs has not been the focus in many European countries (e.g., Sweden, Netherlands, France, United Kingdom) where support for work and family, as well as the health and well-being of workers more generally, has been regarded as a national responsibility leading to the public provision of child care and parental leave supports. Unfortunately, because the United States has failed to provide work–family supports at the national level compared to other industrialized nations, it has been critical to rely on the workplace for the provision of work–family solutions (Hammer, Cullen, & Shafiro, 2006; Kelly & Kalev, 2006); thus, there is a need for systematic evaluation to provide more evidence-based solutions.

As noted, most existing research evidence is cross-sectional, correlational-based, and thus, limited experimental research exists on the actual effects of the utilization of work–family interventions. Likewise, in their review of 150 studies of the relationship between work–life initiatives and work–family conflict, work–life enrichment, and business outcomes, Kelly and colleagues (2008) point out that "... few studies have been designed to actually assess the organization-level outcomes and cost-benefits associated with the implementation/adoption of work–family policies" (p.15). Furthermore, we know of at least five recent meta-analyses on the effects of work–life integration policies and organizational outcomes, consisting almost exclusively of correlational studies, thus offering little in the way of causal conclusions (i.e., Allen et al., 2013; Butts, Casper, & Yang, 2012; Byron, 2005; Gajendran & Harrison, 2007; Mesmer-Magnus & Viswesvaran, 2006; Michel, Kotrba, Mitchelson, Clark, & Baltes, 2011).

# What Is a Work-Family Intervention?

It is important to clarify, for the purposes of this chapter, what we are referring to as a work-family intervention and what research literature we are including. First, we focus on intervention research that is based on sound experimental designs that are either quasi-experimental (nonrandom assignment to intervention and comparison groups), naturally occurring quasi-experimental (naturally occurring intervention and comparison groups), or experimental studies that have a randomized element and assignment into intervention and comparison groups. Second, the intervention needs to be characterized as having the reduction of work-family conflict and/or improvement of work-family balance and health and well-being as a main goal.

Consistent with Kossek, Hammer, Kelly, et al. (2014) we define *work–family interventions* as comprehensive multifaceted organizational interventions designed to foster a healthy psychosocial work environment by preventing stressors in the organization of work that can lead to work–family conflict. This definition is based on several principles that we assume are critical for the effective design of work–family interventions including the provision that such interventions should take a primary prevention, multilevel (e.g., leaders, organization targets) approach to organizational change (Kossek, Hammer, Kelly, et al., 2014). They suggest that initiatives should ideally prevent work–family conflict from occurring in the organization of work structures and cultures.

Unfortunately, our literature search found few studies that met our criteria of (1) using quasi-experimental, naturally occurring quasi-experimental, or experimental designs, and (2) being focused on preventing work–family conflict or facilitating work–family balance via the organization of work. For example, Brough and O'Driscoll (2010) provide one of the most comprehensive reviews to date on work–family interventions, identifying a total of 15 studies. Describing four main types of interventions in their review, compressed work weeks, rotational systems and/or shiftwork, change in organizational culture, and action research, we found that only four of these initial 15 studies fit our more stringent definition of an intervention, characterized by an experimental or quasi-experimental design (i.e., Bailyn, Collins, & Song, 2007; Dunham, Pierce, & Castaneda, 1987; Pryce, Albertsen, & Nielsen, 2006; Wilson, Polzer-Debruyne, Chen, & Fernandes, 2007). Furthermore, outcomes of their review were quite broad, including job commitment, job satisfaction, job performance, perceptions of support, team cohesion, psychological health, physical health, work–life balance, work–family conflict, and well-being.

Based on our review of work–family intervention studies, we located 16 intervention studies that were primarily aimed at reducing work–family conflict in work organizations. Of these, 13 used natural or quasi-experimental designs and only three used randomized experimental designs (see Table 1). Furthermore, we categorize the work–family intervention focus as broadly (1) alternative work arrangements, (2) dependent care supports, (3) training: family supportive supervisor behaviors or health and well-being, (4) work redesign initiatives to increase schedule control, or (5) a combination of two of the above types.

Table 1 Work–Family-Related Outcomes of Reviewed Interventions							
Citation	Intervention Focus	Study Design	Significant Outcomes	Nonsignificant Outcomes			
Albertsen et al. (2014)	Alternative work arrangements (Self- Scheduling)	Quasiexperimental	Work–family conflict; work–family facilitation; marital conflicts; time spent with children				
Bailyn et al. (2007)	Alternative work schedules (Self- Scheduling)	Naturally occurring quasiexperiment	Need for flexibility; time for family; patient care quality				
Dunham et al. (1987)	Alternative work arrangements (CWW)	Quasiexperimental	Interference with family and friends	Interference with services and events; family attitude toward schedule; effects on transportation and personal security			
Hicks & Klimoski (1981)	Alternative work arrangements (FWH)	Quasiexperimental	Interrole conflict; opportunity for leisure	Leisure satisfaction; quality of life			
Hill et al.	Alternative	Quasiexperimental	Increased flexibility;	Main effects on WLB			

(1998)	work arrangements (Telework)		moderating effects of telework on WLB	
Kossek et al. (2006)	Alternative work arrangements (Telework)	Naturally occurring quasiexperiment	Family–work conflict	Work–family conflict
Lingard et al. (2007)	Alternative work arrangements (CWW)	Naturally occurring quasiexperiment	WLB	
Totterdell & Smith (1992)	Alternative work arrangements (CWW)	Quasiexperiment	Well-being; personal, social, and work disruption; sleep duration between night shifts	Fatigue after an afternoon shift; duration of sleep; rest days; quality of sleep
Kossek and Nichol (1992)	Dependent care supports	Naturally occurring quasiexperiment	Problems with care arrangements; attitudes toward managing child care responsibility	
Hammer et al. (2011)	FSSB training to reduce work– family conflict	Randomized controlled trial	Physical health, job satisfaction, turnover intentions	FSSB mediational effects on physical health
Wilson et al. (2007)	Health and well-being trainings for shift workers	Naturally occurring quasiexperiment	WFC; FWC	
Kelly et al. (2011)	Work redesign initiative to reduce work–family conflict and improve schedule control	Naturally occurring quasiexperiment	Schedule control; negative work–family spillover; work– schedule fit; work– family conflict; time adequacy	Work demands did not significantly moderate intervention effects
Pryce et al. (2006)	Work redesign initiative to reduce work–family conflict and improve schedule control	Quasiexperiment	Satisfaction; WLB; social support; sense of community	Self-rated health; vitality; behavioral symptoms; cognitive symptoms; somatic symptoms
Moen et al. (2011)	Work redesign initiative to reduce work-	Naturally occurring quasiexperiment	Intervention moderated the relationship hetween organizational	Turnover rates were not higher among women with children mothers of

(2011)	family conflict and improve schedule control	чины	tenure, negative home- to-work spillover, health symptoms, and job security and turnover intentions	preschoolers, mothers with several children, wives, wives married to employed husbands, or women more generally
Hammer et al. (2014)	FSSB training and work redesign to reduce work– family conflict and improve schedule control	Randomized controlled trial	Safety compliance; organizational citizenship behaviors	WFC, FWC, and schedule control were not significant outcomes of the intervention
Kelly et al. (2014)	FSSB training and work redesign to reduce work– family conflict and improve schedule control	Randomized controlled trial	FWC; family time adequacy; FSSB; hours of work at home; schedule control	WFC

*Note:* Due to space constraints, only work–family-related variables are reported in this table. CWW, compressed work weeks; FSSB, family supportive supervisor behaviors; FWH, flexible work hours; WLB, work–life balance.

#### **Alternative Work Arrangements**

Alternative work arrangements include flexible work schedules, telework, part-time work, and job sharing (see Bambra, Whitehead, Sowden, Akers, & Petticrew, 2008; Brough & O'Driscoll, 2010; de Menezes & Kelliher, 2011; Dunham et al., 1987; Hammer & Barbera, 1997; and Kossek & Michel, 2011 for reviews). Although most of the studies reported in these reviews were correlational, a few of the studies met our criteria of being a randomized experimental or quasi-experimental design with the aim of reducing work–family conflict (see Table 1). The most common alternative work arrangement intervention studies that we found in the literature include flexible work schedules, telework, and part-time and job sharing options.

#### Flexible work schedules.

Flexible work schedules are typically categorized as a set of workplace practices that increase flexibility in work schedules for workers and are generally easy and cost-effective to implement. They have been widely referred to as workplace flexibility practices by the Society for Human Resource Management (SHRM). Hicks and Klimoski (1981) implemented one of the first flexible work hour quasi-experimental designs and found that interrole conflict decreased and job control and opportunity for leisure increased. Although cross-sectional studies show these practices are linked to attraction and retention and job satisfaction (cf. Kossek, Hammer, Thompson, & Burke, 2014), little experimental evidence-based research has linked these practices to hard performance outcomes. Furthermore, Allen et al. (2013) note that meta-analyses have reported small effect sizes between flexible work arrangements and work-family conflict outcomes. Specifically, flexibility was significantly associated with work-to-family conflict, though not with family-to-work conflict. Flextime was more negatively related to work-to-family conflict than flexplace's association with family-to-work conflict. Flextime availability was also more negatively associated with work-to-family conflict and family-to-work conflict than flextime use, though neither effect size differed significantly from zero. Conversely, flexplace use was more negatively associated with work-to-family conflict than flexplace availability. Flexplace availability, on the other hand, was more negatively associated with

family-to-work conflict. However, once again these results must be viewed with the qualification that they did not assess actual use, nor did they account for unevenness in access by type of job or work group (Kossek, 2005).

Compressed work weeks are a special type of flexible work schedule and typically involve compressing a standard five-day 40-hour work week into four or three days (i.e., four 10-hour days; three 12-hour days). Bambra et al. (2008) conducted a review of 40 studies of compressed work weeks and concluded there were slight positive effects on health and seemingly beneficial effects on work-life balance. Again, many of these were correlational studies. Three exceptions included Lingard, Brown, Bradley, Bailey, and Townsend (2007), who found improvements in work-life balance after compressed work weeks were examined in a naturally occurring quasiexperiment. Furthermore, in two quasi-experimental studies, it was demonstrated that compressed work weeks have beneficial effects on reducing interference with family and friends, increasing well-being, alertness, and client service, and decreasing personal, social, and work disruption (Dunham et al., 1987; Totterdell & Smith, 1992; see Table 1).

#### Telework.

Telework involves flexibility in the location of work allowing workers to conduct their work at home for some time during the work week. An early example of a telework intervention implemented with IBM employees was described by Hill, Miller, Weiner, and Colihan (1998). Data were collected while IBM was in the process of transitioning certain employees to virtual offices, in which they would be able to work from home or other locations of their choosing. Qualitative results indicated a number of positive outcomes, including increased productivity, morale, and flexibility, and the ability to work longer hours. Quantitative results only partially supported qualitative findings, suggesting that telework was indeed associated with higher productivity and flexibility. However, no significant associations were found between telework and morale, teamwork, work–life balance, or work hours. A significant interaction between mobility and having an office door was found, with work–life balance being the highest for employees in a traditional office with a door, but lowest for employees in a virtual office with no door.

Formal use of telework does not always lead to lower work–life conflict. In a naturally occurring quasi-experimental study on telework using randomly selected samples, Kossek, Lautsch, and Eaton (2006) compared work–family conflict and other outcomes for formal users of telework with a control group of nonusers. Surprisingly, even though telework ostensibly changes the structure of work to reduce work–family conflict, telework users did not necessarily report lower work–family conflict than nonusers. However, an interaction effect existed such that only teleworkers who reported high psychological boundary control over when, where, and how they worked were more likely to report lower family-to-work conflict, lower depressive symptoms, and lower intention to turnover. Formal telework users were more likely to have higher performance ratings, which suggested that perhaps supervisors were more likely to allow access to telework to higher performers. Mothers who had access to formal telework also reported lower depressive symptoms. Overall, the study showed the importance of work–family intervention studies that examine not only participation or use of the formal work–life interventions, but also the psychological experiences of users of the intervention. Such an analysis ensures that structural work–life support is aligned with cultural and psychological support (in this case the ability to control work–life boundaries while teleworking).

#### **Dependent Care Supports**

In our search of the work–family intervention literature, only one study utilized a naturally occurring quasi-experimental design to examine the effects of providing dependent care supports for employees (Kossek & Nichol, 1992). Kossek and Nichol examined both supervisor ratings of performance and employee attitudes of a group of employees utilizing a provided child care center and employees on the waiting list for child care. Results indicated that the provision of child care was positively associated with employees' attitudes toward managing work and child care responsibilities, as well as benefit attractiveness. Users of the child care center were also likely to return to work after childbirth two months earlier than nonusers and had lower intentions to turnover and were more likely to recommend employment at the hospital to a friend. Child care was not related to performance ratings, and a negative "frustration effect" was found through the lowering of wait list employees' views on child care attractiveness and fairness. That is, waiting list employees had a need for the intervention (onsite child care) and felt it was not fair they were denied workplace support.

Training: Family Supportive Supervisor Behavior or Health and Well-Being

Several recent work–life intervention studies have focused on providing training for supervisors and employees regarding work–life balance. Hammer, Kossek, Anger, Bodner, and Zimmerman (2011) used a randomized field study to assess the effects of a training program aimed at increasing family supportive supervisor behaviors (FSSBs). They first conducted a workplace industry assessment to identify barriers to work–family conflict reduction and determined that supervisors needed more clarity on how to behave in a family supportive manner. They then validated FSSBs (Hammer et al., 2009; Hammer et al., 2014) and specifically designed an original training intervention with the goal of increasing FSSBs and transfer training to the workplace. Although the supervisor training intervention led to increased job satisfaction, decreased turnover intentions, and improved reports of physical health, these effects were moderated by work–family conflict, such that the intervention was beneficial only for those employees who had high levels of work–family conflict at baseline.

A 2007 study by Wilson and colleagues described the implementation of health and well-being training for manufacturing site shift workers. Work–family conflict decreased at all sites, though it decreased the most when family members (i.e., employee spouses) were involved in the training through their direct participation. Family-to-work conflict also decreased when family was included, though it increased when family was deliberately excluded from the intervention.

# Work Redesign Initiatives to Increase Schedule Control

Self-scheduling is a form of what we would call a work redesign initiative to increase schedule control. A recent intervention reported by Albertsen et al. (2014) introduced a self-scheduling system to both hospital and call-center employees. Work–family conflict was shown to decrease and work–family facilitation was shown to increase overall in the total intervention group. Other work–life-oriented self-scheduling interventions have demonstrated positive effects in terms of a decreased numbers of shift changes, time spent on schedule, scheduler annoyance, and need for control and flexibility, and increased satisfaction, work–life balance, social support, sense of community, time for family, and quality of patient care (Bailyn et al., 2007; Pryce et al., 2006).

In a series of studies examining the natural implementation of the Results Only Work Environment (ROWE), a facilitated team-based work redesign approach addressing increasing employee control over work time and manager focus on the results of work, Phyllis Moen and Erin Kelly found numerous beneficial effects on work–life balance and other positive employee outcomes (Kelly, Moen, & Tranby, 2011), as well as beneficial effects on turnover and turnover intentions among the employees in the ROWE departments compared to employees in traditional departments (Moen, Kelly, & Hill, 2011).

# Family Supportive Supervisor Behavior Training and Work Redesign Initiatives to Increase Schedule Control

Recently, efforts by the National Institutes for Health (NIH) and the Centers for Disease Control and Prevention (CDC) funded one of the nation's largest workplace work-family interventions aimed at reducing work-family conflict and improving both the health of workers and the health of the organizations in which they work (i.e., the Work, Family, and Health Network; see www.workfamilyhealthnetwork.com/). These intervention studies have focused on providing FSSB training to supervisors in organizations and increasing employee control over work hours using participatory approaches in both the extended care and information technology industries (Hammer et al., 2014; Kelly et al., 2014). Hammer et al. (2014) found that this work-family integrated intervention, when tested in a group randomized trial, buffered declines in both safety compliance and organizational citizenship behaviors among employees in extended care organizations. Furthermore, Kelly et al. (2014) found that the work-family integrated intervention (the same as used in Hammer et al., 2014 with nursing home workers), when implemented in a group randomized trial with information technology workers, led to reduced work-family conflict and improved family time adequacy, as well as increased reports of schedule control and FSSBs. Such interventions have been demonstrated to increase FSSBs, schedule control, family-time adequacy, and physical health, while decreasing reports of work-family conflict. More papers currently being prepared by the Network will expand these results to rigorously examine linkages to other key work and family outcomes from sleep, to health behaviors, to psychological distress.

#### **Outcomes Associated with Work-Family Interventions**

Overall, a number of work–family-related outcomes have been examined in connection with the intervention studies reviewed above (see Table 1 for a detailed overview of outcomes). As might be expected, our review indicates that work–family conflict and work–life balance are two of the most commonly examined outcomes of work–family interventions, with the majority of work–family interventions demonstrating positive effects on one or both of these variables. Specifically, evidence indicated that each category of interventions demonstrated positive effects on work–family conflict (e.g., Albertsen et al., 2014; Kelly et al., 2014; Wilson et al., 2007). Alternative work arrangements also appear to have positive effects on the amount of time employees have available to spend with family and friends and on leisure activities (e.g., Albertsen et al., 2014; Bailyn et al., 2007; Hicks & Klimoski, 1981). The single dependent care supports study we identified (Kossek & Nichol, 1992) showed positive effects on problems with care arrangements and attitudes toward managing child care responsibilities. Workplace trainings, both to increase FSSBs and improve employee health and well-being, were associated with increased family time adequacy and schedule control, and reduced work–family and family–work conflict. Work redesign initiatives demonstrated positive effects on schedule control, time adequacy, and work–family spillover, among others.

In addition to summarizing the significant findings of each of the reviewed intervention studies, it is also worthwhile to consider nonsignificant findings. Health outcomes of alternative work arrangement interventions are less frequently examined, with those few studies that included such measures finding nonsignificant relationships (e.g., self-rated health, vitality, fatigue, sleep duration; Pryce et al., 2006; Totterdell & Smith, 1992). Work redesign initiatives found similar nonsignificant outcomes (Kelly et al., 2011).

These nonsignificant findings should be carefully considered alongside those studies that do find significant moderating intervention effects (Hammer et al., 2011). For example, Hammer et al. (2011), Kelly et al. (2014), and Hezkiau-Ludwig & McCarthy (2014) found that the work–family intervention examined was more effective for those with high levels of work–family conflict or those who were generally more vulnerable to work–family conflict. It has been noted in the conservation of resources theory (COR; Hobfoll, 1989) that people are motivated to protect resources and that the value of our resources are based on our individual experiences (Halbesleben, Neveu, Paustian-Underdahl, & Westman, 2014). This clearly suggests that those individuals with higher levels of work–family conflict and, hence, higher levels of need for a work–family intervention, have more opportunity to benefit from such an intervention.

Furthermore, it has been argued that the more salient the resource, the more salient the loss of such a resource. Halbesleben et al. (2014) describe this resource loss as being one of the principal tenants of COR and that resource loss is more detrimental to people than is the benefit of resource gain. Thus, a work-family intervention in an environment that cannot support the increased resources may lead to more negative consequences due to the increased salience of the resource loss or perhaps the realization that a resource was not present to begin with, such as in the case of schedule control in the Hammer et al. (2014) intervention. It may be the case that implementing an intervention that made more salient for the workers in the extended care facility that they did not have adequate levels of control over work hours led to the workers feeling a sense of resource loss for the resource they did not have, namely schedule control. Hammer et al. (2014) found that baseline levels of individual reports of FSSBs and work–family culture moderated the intervention effectiveness such that the work–family intervention was more effective when the organization appeared to be ready and receptive to supportive supervisors and supported strong work–family cultures. Future intervention research should carefully consider the potential role of moderating variables when designing and implementing work–family interventions.

# **Establishing the Work-Family Intervention Value Proposition**

Evidence of the effectiveness of work–family interventions goes beyond traditional measures of outcome effectiveness in Industrial and Organizational Psychology and Organizational Behavior disciplines and is essential for the organizational adoption of such interventions. Increasingly, organizations require that such interventions have a positive value statement. Value statements can take many forms: from simple statements of cost to complex modeling of long-term ROI. The value statement needed to support the adoption of work–family interventions by any given organization is dependent on the context and needs of each organization.

In the following sections we discuss the elements of a value statement and the possible forms that such a

statement can take. There are many disciplinary frameworks within which to frame value statements, such as utility analysis used in Industrial and Organizational Psychology (Boudreau, 1983; Cabrera & Raju, 2001) or the cost-benefit framework used throughout economics (Layard, 1994).

#### Cost

Perhaps the simplest value statement is a declaration of cost, that is, the price of the intervention. For low cost, "out of the box" interventions, a simple, blanket purchase price may be sufficient for workplaces that are searching for an inexpensive intervention to address an already identified work-family concern. Workplaces that are considering a work-family intervention as part of a broader wellness or productivity improvement effort will likely need more detailed information on the cost of adoption and implementation. To date, formal cost studies are almost nonexistent in the work-family literature. The lone exception, to our knowledge, is a cost study conducted by Barbosa, Bray, Brockwood, and Reeves (2014) as part of the Work, Family, and Health Network. To guide their analysis, the authors first developed a comprehensive taxonomy of activities related to customization, start-up, and implementation that allowed the costs of the intervention to be separated from the cost of the accompanying research study. They found that the total cost of the study intervention was \$709,654, of which \$389,717 was labor costs and \$319,937 was nonlabor costs. Furthermore, they found that the key cost driver was employees' time spent participating in intervention activities. Although some workplace stakeholders may not view this forgone employee time as a cost of the intervention if they have a primarily salaried workforce, it is essential that the costs be articulated so that workplaces that do consider forgone employee time a cost can incorporate it in their decision process. Researchers and program advocates need to realize that cost embodies more than actual monetary expenditures, it also includes the value of all resources used to deliver the intervention in question. Economists refer to these costs as "opportunity costs" that reflect the value of a resource in its next best use (Henderson, 2008). Although basing program cost estimate on opportunity costs may overstate the actual financial outlays required of an adopting workplace, failure to include opportunity costs underestimates the resources necessary to implement the program as intended. Thus, we recommend that researchers report costs both in monetary terms and in resource use terms (e.g., labor hours, training room space required) so that potential adopters can better assess their expected cash outlays based on their ability to secure volunteer resources and on their own wage and input price structures.

# Cost-Benefit Analysis and Return on Investment (ROI)

In some cases a simple description of costs may be a sufficient value statement; however, more often workplaces will require that the value statement consider both costs and benefits to the workplace. The most common metric used in workplace studies is ROI. ROI is calculated as the monetary value of all benefits minus the cost of the intervention, divided by the cost of the intervention. ROI is distinct from a benefit—cost ratio, which is simply the monetary benefit divided by cost, and from net benefit, which is the monetary benefit minus the cost (not divided by cost).

Researchers often use ROI to convey the value of a workplace intervention because they assume that workplace decision makers view such interventions as a financial investment. Yet this is not always the case. As with other forms of a value statement, any articulation of benefits of the intervention must speak to the context within which the decision is being made. Thus, a simple net benefit statement from the perspective of the human resources department may be a more compelling value statement than ROI within some contexts.

## Cost-Effectiveness Analysis

Whereas cost–benefit analysis approaches such as ROI attempt to measure both outcomes and costs in monetary terms, a more nuanced approach that is often used in health economics relies on the concept of value for money to compare costs to outcomes in their natural units. This approach, called cost–effectiveness analysis (CEA), compares simultaneously the cost and the effectiveness of an intervention to those of one or more comparison programs using the incremental cost–effectiveness ratio (ICER). The ICER is the difference in costs between the intervention in question and comparison programs divided by the difference in effectiveness (Drummond, Sculpher, Torrance, O'Brien, & Stoddart, 2005). The ICER reveals how much more it costs to achieve one additional unit of outcome with the target intervention relative to the comparators.

Because CEA directly compares an intervention to its alternatives in terms of both costs and outcomes, it helps workplace decision makers choose among alternative options intended to address a common problem. For example, it can help decision makers choose between competing workplace safety programs in terms of the additional cost per additional workplace accident avoided. It can also help choose among alternative approaches to addressing a common problem, for example, in comparing a work–family intervention to a wellness program in terms of reducing absenteeism. For this reason, CEA may provide a useful value statement for workplace decision makers searching for the most cost-efficient way to address a specific problem.

To our knowledge, CEA has not yet been applied in the work-family literature but is being increasingly used in the workplace wellness literature, particularly among European studies. Recent studies have examined the cost-effectiveness of workplace interventions for a wide range of target health concerns, from nutrition and exercise (Robroek, Polinder, Bredt, & Burdorf, 2012) to cardiovascular disease prevention (Groeneveld et al., 2011) to depression (Phillips et al., 2013). The growing proliferation of CEA in the wellness literature highlights a feature of CEA that is both a strength and a limitation: because CEA compares one intervention to another on a common, specific outcome, it is useful in helping to choose among those alternatives but does not lend itself to global statements about workplace interventions in general.

To date, just as there are few evidence-based work–family interventions, there are even fewer, if any, peer reviewed studies on the cost, cost–benefit, or the cost–effectiveness of work–family interventions. Thus, reliance on traditional employee health, well-being, and organizational outcomes, as mentioned above, is mostly what we have to demonstrate the value of work–family interventions.

#### **Suggestions for Future Research and Practice**

Based on the extensive research conducted by this team and others in the field, we have identified several important considerations to help guide future work–family intervention research. These include drawing on Occupational Health Psychology and Total Worker Health (TWH<sup>TM</sup>) approaches, consideration of individual and organizational level interventions, and some specific information on tools and tips for future intervention research and practice.

Comprehensive interventions that integrate both organizational and individual approaches to reducing work–family conflict have been advocated in the field of Occupational Health Psychology (OHP; Hammer & Sauter, 2013; Quick & Tetrick, 2011), which has traditionally emphasized organizational over individual interventions to improving health, safety, and well-being. Work–family conflict is a psychosocial occupational hazard that organizational leaders should be concerned about limiting due to its relationships to detriments in worker health and well-being and ultimately decrements in organizational performance. Interventions that integrate system-wide changes such as improving schedule control and supervisor support for family and personal life have been shown to be effective and are characteristic of what the National Institute for Occupational Safety and Health would call TWH<sup>TM</sup> interventions. Based in the public health model of prevention, OHP offers a lens through which we can view work–family stress and the associated strains of work–family conflict, and extends the application of psychology to understand interventions that address the occupational safety and health of workers. Thus, OHP and TWH<sup>TM</sup> are complimentary, and both recognize the critical role of organizational interventions in prevention.

Future research needs to give additional consideration to individual-level work–family interventions, as well as to the potential moderators of effectiveness of both individual and organizational interventions. Although the focus in this chapter has mostly been on organizational/workplace work–family interventions, recent attention has been paid to the individual role in managing work–family conflict (Kossek, Noe, & DeMarr, 1999; Kossek et al., 2006). Assessments have been developed to help individuals understand their current approach to self-regulating work–life boundaries, given the increasing use of smartphones and being tethered to the workplace (Kossek, Ruderman, Braddy, & Hannum, 2012). Called the WorkLife Indicator or flexstyles (Kossek & Lautsch, 2012), these assessments help individuals diagnose their current level of boundary control and the alignment between their current work–life style and their values. Training and self-monitoring can then be used to improve work–life fit. Thus, there is a greater need for understanding the individual role in managing flexibility enactment (Kossek et al., 1999, 2006). The solution for effectively managing work and family should also consider individual preferences (and life constraints) for integration and segmentation and how individuals make choices and craft the boundaries between

work and nonwork (Kossek et al., 2012). Since individuals enact boundary preferences in a context of interacting with supervisors, co-workers, and clients, these individual assessments can then be used to facilitate discussions with work groups and leader–subordinate dyads to help change how boundary relations are co-managed.

Furthermore, a recent intervention found that a simple and inexpensive self-affirmation technique aimed at ameliorating work–family conflict and guilt and promoting efficacy and locus of control regarding work–family balance was a useful technique above general self-affirmation and positive affect, especially for individuals with higher levels of initial work–family conflict (Hezkiau-Ludwig & McCarthy, 2014). Furthermore, drawing on the job stress reduction literature (Richardson & Rothstein, 2008), there is promise in such individual-level interventions. Much research in the health promotion field focuses on worksite implementation of individual level wellness interventions such as smoking cessation, healthy eating, and exercise programs and are examples of successful behavioral interventions at the individual level that improve health and well-being (Goetzel & Pronk, 2010). Similarly, TWH<sup>TM</sup> strategies suggest that the most effective health and well-being results may actually come from an integration of organizational and individual approaches (Anger et al., 2015; Hammer & Sauter, 2013).

In addition to the individual and organizational approaches suggested above, specific tools and tips are available for the implementation of work–family interventions that are evidence based. Specifically, the Work, Family and Health Network has assembled a website that is publicly available and provides links and information to evidence-based tools including computer-based training protocols, supervisor self-monitoring protocols, and work redesign facilitation manuals and materials on a public website at www.workfamilyhealthnetwork.org (also see Kossek, Hammer, Thompson, et al., 2014 for a detailed description of these materials). Furthermore, the Society for Human Resource Management Foundation has made available for free download the report *Leveraging Workplace Flexibility: Fostering Engagement and Productivity* 

(http://www.shrm.org/about/foundation/products/pages/leveraging-workplace-flexibility.aspx). It is our hope that as work–life scholars make more evidence-based work–family interventions available, their use in organizations will increase, leading to improvements for individuals and their workplaces.

# Conclusions

This chapter reviewed the literature on work-family interventions. We found only 16 studies that fit our criteria of being based on sound experimental designs that included quasi-experimental (non-random researcher assignment to intervention and comparison groups), naturally occurring quasi-experimental (naturally occurring intervention and comparison groups), or experimental studies that have a randomized element and intervention and comparison groups. Additionally, to be considered a work-family intervention, the intervention needed to have as a main goal the reduction of work-family conflict and/or the improvement of work-family balance. Given our finding of only 16 studies meeting these criteria, and given the significant evidence of relationships between work-family conflict and decrements in health and well-being of workers, as well as decreased organizational outcomes, we suggest that there is a clear need for such work-family interventions. Kossek, Hammer, Kelly, et al. (2014) have outlined key intervention principles that should be considered in future work-family intervention research and Anger et al. (2015) further delineate the characteristics of comprehensive TWH<sup>TM</sup> interventions that integrate both organizational and individual aspects. Following recommendations outlined in both of these publications, along with our call for more experimentally rigorous interventions, will lead to more work-family interventions that have strong value propositions leading to increased organizational adoption. With increased adoption, we expect to see the continued movement of work-family interventions from the margins to the mainstream of organizational functioning leading to further improvements in employee health, well-being, and organizational outcomes.

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# Notes:

(1) For more information on flexible work arrangements also see Kossek and Thompson, this volume.

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