

WORK–FAMILY CONFLICT AND FLEXIBLE WORK ARRANGEMENTS: DECONSTRUCTING FLEXIBILITY

TAMMY D. ALLEN
University of South Florida

RYAN C. JOHNSON
University of South Florida

KAITLIN M. KIBURZ
University of South Florida

KRISTEN M. SHOCKLEY
Baruch College and The Graduate Center City University of New York

Workplace flexibility has been a topic of considerable interest to researchers, practitioners, and public policy advocates as a tool to help individuals manage work and family roles. In this study, meta-analysis is used to clarify what is known about the relationship between flexible work arrangements and work–family conflict by deconstructing the flexibility construct. We found that the direction of work–family conflict (work interference with family vs. family interference with work) and the specific form of flexibility (flextime vs. flexplace; use vs. availability) make a difference in the effects found. Overall, the significant effects were small in magnitude.

Workplace practices that can help reduce employee work–family conflict have become a topic of considerable interest to both researchers and practitioners (Hammer, Neal, Newsom, Brockwood, & Colton, 2005; SHRM, 2010a,b). Among various organizational practices, flexible work arrangements (FWA) in particular have been touted as key to helping employees manage work and nonwork responsibilities. FWA are generally defined as work options that permit flexibility in terms of “where” work is completed (often referred to as telecommuting or flexplace) and/or “when” work is completed (often referred to as flextime or scheduling flexibility) (Rau & Hyland, 2002). Such practices have become widespread within organizations and are often part of a central strategy to attract, motivate, and retain key talent (Hill et al., 2008; SHRM, 2010a,b).

This research was supported in part by the Sunshine Education and Research Center at the University of South Florida. The Center is supported by Training Grant No. T42-OH008438 from the Centers for Disease Control and Prevention/National Institute for Occupational Safety and Health (NIOSH).

Correspondence and requests for reprints should be addressed to Tammy D. Allen, University of South Florida, Department of Psychology, 4202 E. Fowler Ave., PCD 4118G, Tampa, FL 33620; tallen@mail.usf.edu.

The appeal of FWA has been fueled by the popular press and by policy advocates. These efforts are motivated, at least in part, based on the notion that FWA are an effective tool for alleviating work–family conflict. For example, in March of 2010, a White House Forum was held on increasing workplace flexibility (Jarrett, 2010). The White House report noted that flexibility in the workplace helps workers balance work and family responsibilities (Executive Office of the President Council of Economic Advisors, 2010).¹ On February 1, 2011 the Society for Human Resource Management and the Families and Work Institute announced a partnership intended to “transform the way organizations view and adopt workplace flexibility” (Miller, 2011). Further, suggesting that flexible workplace policies are a way to promote work–life balance, the Women’s Bureau of the U.S. Department of Labor is currently engaged in a *National Dialogue on Workplace Flexibility* (United States Department of Labor).

Because of the continued attention on flexibility initiatives within both the private and public sector, a more precise understanding of the relationship between flexibility and work–family conflict is needed. Work–family conflict is defined as “a form of interrole conflict in which the role pressures from the work and family domains are mutually incompatible in some respect” (Greenhaus & Beutell, 1985, p. 77). This research distinguishes the directionality of the conflict. Specifically, family interference with work (FIW) is viewed as a distinct construct from work interference with family (WIF). In this research, we use the term work–family conflict as an umbrella term that designates conflict between work and family roles that is not direction specific, FIW to designate family interference with work, and WIF to designate work interference with family.

Despite the recent attention and emphasis given to FWA, empirical studies examining their relationship with work–family conflict have produced inconsistent results. The heterogeneity associated with the research findings is underscored by the results reported in four different meta-analytic studies (see Table 1 for a summary). Across these four studies, the effect sizes associated with various forms of FWA and WIF have ranged from $-.01$ to $-.30$ and from $.05$ to $-.17$ for FIW. These sizable differences suggest a great deal of variation in the relationship between FWA and work–family conflict, bringing into question the effectiveness

¹ Although the media often refers to the interaction of work and family roles in terms of “balance,” there is no concise or generally agreed upon definition of what this entails in the academic literature (Greenhaus & Allen, 2011). Instead, the concept of work–family conflict has received the bulk of research attention.

TABLE 1
Previous Meta-Analytic Results Concerning Work–Family Conflict and Flexible Work Arrangements

Article	WIF			FIW			Conceptualization of FWA
	<i>k</i>	<i>N</i>	<i>r</i>	<i>k</i>	<i>N</i>	<i>r</i>	
Byron (2005) ^a	8	2,620	-.30*	8	2,620	-.17*	Schedule flexibility
Mesmer-Magnus & Viswesvaran (2006) ^b	5	1,571	-.01	4	1,226	.04	Flexibility of work location and schedule
Gajendran & Harrison (2007) ^b	7	1,248	-.16*	6	794	-.15*	Telecommuting use
Michel et al. (2011) ^b	31	13,045	-.07	19	7,099	.05	Schedule flexibility, flextime, telecommuting, shift work
This study ^b	58	112,834	-.11*	31	96,014	-.03	Availability and use of flextime and flexplace

Note. *k* = number of independent samples; *N* = total sample size; *r* = average correlation. ^aWeighted average corrected correlation (based on only studies that included both WIF and FIW); ^bsample size weighted mean observed correlation; *confidence interval did not include 0.

of FWA in terms of alleviating conflicts between work and family. With this in mind, the purpose of this study is to provide a more nuanced and precise understanding of the relationship between FWA and work–family conflict. We do this by teasing apart the flexibility construct and by giving careful consideration to the way in which work–family conflict is operationalized. As shown in Table 1, our analyses are based on almost double the number of independent studies included in previous meta-analyses.

In our review we account for four unique factors that may help to explain variation in the relationship between WFC and flexibility. One is the lack of clear and consistent differentiation between flexibility associated with location (referred to hereafter as flexplace) and flexibility associated with scheduling (referred to hereafter as flextime). The second is the lack of clear and consistent differentiation between flexibility use and flexibility availability. In their qualitative review of the literature, Allen and Shockley (2009) identified both of these issues as contributing to inconsistent results across studies. A third factor we believe may contribute to the inconsistent findings is the definitional criteria used for the work–family conflict construct. An issue of concern within the work–family literature is that the same labels are sometimes applied to different

constructs. For example, the term work–family conflict is interchangeably used to refer to nondirectional conflict (e.g., How much do your job and family life interfere with each other?), to work–family balance (e.g., How easy or difficult is it for you to balance work and personal/home life?), and to work interference with family (e.g., My work takes up time I'd like to spend with my family). In this research we excluded studies that were based on nondirectional measures of work–family conflict, those that were based on measures of work–family balance, and those in which WIF and FIW were combined into an overall composite measure of WFC. In doing so, we were careful to examine the content of the items to be sure they reflected WIF or FIW, regardless of the label applied in the primary study. This is important in that it permits analyses that can more clearly reveal differential relationships between FIW and WIF with FWA. A fourth factor that we consider is demographic characteristics. In order to further identify the boundary characteristics associated with the relationship between FWA and work–family conflict, we test gender, parental status, marital status, and weekly work hours as moderators.

By investigating possible reasons for the inconsistent findings that characterize the current state of the flexibility literature, we contribute to the advancement of work–family theory and research. It is important to distinguish flextime from flexplace, and use from availability, within a single meta-analytic study because these are different constructs with potentially unique relationships with work–family conflict. Identifying similarities and differences in patterns of associations will provide a more precise understanding of what aspects of flexibility are potentially more or less beneficial in alleviating work–family conflict. For example, if we know that flextime is more strongly related to both WIF and FIW than is flexplace, we can develop more nuanced theories concerning the FWA–work–family conflict relationship that capture these differences. In addition, our results can be used to help guide and inform practice. Given the rampant attention placed on the implementation of FWA within organizations, a more fine-grained understanding of flexibility seems critical to the advancement of human resource practice.

Theoretical Overview

The notion that FWA are effective for helping individuals manage work and family responsibilities is based on resource theory (e.g., Edwards & Rothbard, 2000; Goode, 1960). Work–family conflict is thought to occur when the demands of one role drain the resources needed to meet the demands of the other role (Grandey & Cropanzano, 1999; Greenhaus & Beutell, 1985). Time, attention, and energy are finite

resources for which both work and family compete. Flexibility ostensibly provides employees with discretion over when and/or where work is completed, thus enabling employees to determine the best way to allocate time, attention, and energy resources into one domain versus the other. For example, from a time-based perspective this discretion can permit employees to adjust their schedule in a way that allows them to better manage domestic and dependent care activities (e.g., attend school events with children during typical work hours), reduce time spent commuting to and from the workplace, and create an environment and/or a schedule that is conducive to personal productivity. Similarly, discretion over the timing and location of work can help reduce employee strain. For example, employees who know that they can tend to nonwork matters such as going to dental appointments or caring for an ill child at home as needed are released from the preoccupation and worry associated with how such nonwork affairs can be managed when flexibility is not an option. In sum, flexibility is thought to be a valued resource that provides employees with the control and autonomy needed to adapt to simultaneous work and family demands. However, as described in subsequent sections, the relationship between FWA and work–family conflict is unlikely to be equivalent across all forms of FWA and directions of work–family conflict.

Distinguishing the Direction of Work–Family Conflict

The relationship between FWA and the two directions of work–family conflict are likely to differ. Based on the domain specificity hypothesis, we can expect that as a work support, FWA are more highly associated with WIF than with FIW. The domain specificity hypothesis suggests that the predictors of WIF primarily reside in the work domain whereas the predictors of FIW primarily reside in the family domain (Frone, 2003). Rationale for this notion stems from the idea that factors related to an individual's job situation (e.g., hours at work, job stressors, work supports) directly impact activities and behaviors in the work domain. In turn, these work-related activities and behaviors are more likely to impact management of the work role and its intrusion on other life domains (WIF). Because workplace factors do not immediately impact the family domain itself, they should have a less direct relationship with the extent that the family domain is altered and interferes with work (FIW). We should expect the same pattern of results with regard to predictors on the family side (e.g., dependent care, family stressors, and family support), such that they are more strongly related to FIW than to WIF (Frone, Russell, & Cooper, 1992; Frone, Yardley, & Markel, 1997).

Although the work domain is thought to be a more proximal antecedent to WIF than to FIW, and the family domain is thought to be a more

proximal antecedent to FIW than to WIF, this is not to suggest cross-domain relationships do not exist. That is, workplace supports relate to FIW but not to the same degree as they do to WIF. FWA could still relate to FIW because the control that flexibility provides can help individuals better manage family responsibilities in a way that helps prevent FIW from occurring. For example, an employee who realizes that after school events often occur around 4 pm can adjust his/her work schedule to avoid situations in which he or she would have to miss work for these events, thus avoiding FIW. In addition, an employee who is able to work from home may be able to check on a sick child while conducting his/her work rather than miss the entire work day to stay home and care for the child.

The aforementioned pattern has generally been supported in the literature when role involvement and role stressors are examined as predictors of WFC (e.g., Byron, 2005; Michel, Kotrba, Mitchelson, Clark, & Baltes, 2011). Moreover, with regard to FWA, Shockley and Allen found support for this differential relationship in both their qualitative review and in a research study designed to provide a direct test of the relationship (Allen & Shockley, 2009; Shockley & Allen, 2007). However, meta-analytic studies that include FWA to date are inconsistent. Although Byron's (2005) findings are consistent with the hypothesis (flexibility more strongly related to WIF than to FIW), the other three meta-analytic studies have produced effect sizes across WIF and FIW similar in magnitude (Gajendran & Harrison, 2007; Mesmer-Magnus & Viswesvaran, 2006; Michel et al., 2011). One key way in which the Byron study differed from the other meta-analyses was that her inclusion criteria limited eligible studies to those that examined both WIF and FIW within the same study. As discussed previously, the term work–family conflict is sometimes used to refer to WIF and sometimes used to refer to nondirectional work–family conflict. Byron's inclusion criteria may have reduced the likelihood that measures of nondirectional work–family conflict were inadvertently included in estimates of WIF. In this study we include direction-specific measures of WIF and FIW and test each across each form of flexibility to determine if the direction of work–family conflict matters. By actively identifying and excluding effects associated with nondirectional measures, our findings may be more in line with those of Byron in terms of detecting a stronger relationship between FWA and WIF than between FWA and FIW, and further provide a clearer test of the domain specificity hypothesis. Accordingly, we pose the following:

Hypothesis 1a: FWA and WIF are negatively related.

Hypothesis 1b: FWA and FIW are negatively related.

Hypothesis 2: FWA is more negatively associated with WIF than with FIW.

Distinguishing Between Flexitime and Flexplace

As noted previously, the two major forms of FWA are flexibility in terms of time (flexitime) and flexibility in terms of location (flexplace). It has been suggested that flexplace may be less beneficial than flexitime in terms of alleviating work–family conflict because working from home may blur both the psychological and the physical boundaries that exist between work and family roles (Allen & Shockley, 2009; Kossek & Michel, 2011). These boundaries are thought to be important in that they inform individuals when to fulfill the family role versus when to fulfill the work role (Ashforth, Kreiner, & Fugate, 2000). Without such cues, the boundary between work and family roles becomes more permeable, potentially increasing opportunities for conflicts between work and family to occur (Kossek, Lautsch, & Eaton, 2006; Lapierre & Allen, 2006). In addition, rather than contribute to feelings of job control, blurred boundaries may result in the perception of less control or even create the need for greater self-control. For example, working from home can result in the need to resist the urge to turn on the television as a way to postpone an unattractive work task or overcome the distraction of knowing the laundry needs to be done (Schmidt & Neubach, 2007).

Distinguishing between flexplace and flexitime is important because the two forms of flexibility are not interchangeable, thus aggregating them into a single construct may mask differential effects. For example, individuals may have flexibility in scheduling but be required to complete all work onsite. Likewise, individuals may be able to complete all work from home but be required to follow a rigid schedule. The extent that flexitime has been distinguished from flexplace in previous meta-analyses is not completely clear. Gajendran and Harrison (2007) had a distinct focus on flexplace (i.e., telecommuting). Mesmer-Magnus and Viswesvaran (2006) labeled their variable “flexibility” and explicitly noted that it included “flexibility of work location and schedule” (p. 561). In Michel et al. (2011) the flexibility construct was labeled as “flexible working hours” but included schedule flexibility, flexitime, telecommuting, and shift work. Finally, Byron (2005) labeled the construct included in her analyses “schedule flexibility.” Notably, the strongest effects associated between flexibility and work–family conflict to date are those reported by Byron. This too lends indirect support to the notion that flexitime is more strongly related to work–family conflict than is flexplace. Based on theory and research to date, we predict the following:

Hypothesis 3a: Flexitime is more negatively associated with WIF than is flexplace.

Hypothesis 3b: Flexitime is more negatively associated with FIW than is flexplace.

Distinguishing Between Flexibility Use and Availability

Flexitime and flexplace can be further differentiated into investigations of availability versus use. In some studies, participants are asked to report if FWA are available and in others, participants are asked to report actual use of FWA. Although all users of FWA ostensibly have FWA available, not everyone who reports that FWA is available is a user. Moreover, the rationale linking use versus availability to work–family conflict differs.

It could be argued that the use of FWA should be more strongly associated with less work–family conflict than should the availability of FWA. The mere availability of FWA has been found to be associated with more positive job attitudes (e.g., Grover & Crooker, 1995). FWA availability is thought to influence positive attitudes because it symbolizes concern for employees by the organization (Batt & Valcour, 2003). Based on social-exchange theory, employees appreciate having flexibility available as a resource and respond with more favorable job attitudes toward the organization. The availability of FWA may also increase perceptions of psychological control, which can help alleviate work–family conflict (Kossek et al., 2006). However, FWA use should increase perceptions of psychological control as well as provide employees with tangible ways to enact role boundary management strategies (Kossek et al., 2006). Based on resource allocation theory, use of flexibility should enable employees to more readily and proactively plan and manage work and family responsibilities. Thus, FWA use should provide more protection against work–family conflict than FWA availability alone.

Although the distinction between availability and use is of both theoretical and practical import, it has yet to be explicitly teased apart in meta-analytic research. The nature of the Gajendran and Harrison (2007) meta-analysis suggests that all studies were based on use. However, the other three meta-analyses do not explicitly state whether the primary studies included are based on use, availability, or a combination thereof (Byron, 2005; Mesmer-Magnus & Viswesvaran, 2006; Michel et al., 2011). Based on theory delineating the differences between use and availability, we test the hypothesis that use is more highly associated with WIF/FIW than is availability.

Hypothesis 4a: Flexitime use is more negatively associated with WIF than is flexitime availability.

- Hypothesis 4b:* Flextime use is more negatively associated with FIW than is flextime availability.
- Hypothesis 5a:* Flexplace use is more negatively associated with WIF than is flexplace availability.
- Hypothesis 5b:* Flexplace use is more negatively associated with FIW than is flexplace availability.

Demographic Moderators

To further determine the boundary conditions associated with the relationships of interest, we explored additional moderators. Previous meta-analyses have tended to focus on individual difference moderators such as gender and parental status, finding limited evidence for moderation (e.g., Byron, 2005). Given our more fine-grained approach to the examination of flexibility and the theoretical relevance of these variables to the work–family literature, we thought continued investigation of demographic variables was merited on an exploratory basis.

The existing literature suggests that some individuals may be more likely to benefit from FWA than others (Shockley & Allen, 2007). Specifically, FWA may be a more valued resource for individuals predisposed to experience greater work–family conflict via greater work and/or family demands. FWA may be a greater resource for women than for men because women generally bear greater responsibility for domestic tasks than do men (Davis, Greenstein, & Marks, 2007). Similarly, individuals with greater family responsibility, such as those who are married and/or who are parents, also stand to benefit more from FWA than those with less family responsibility (Shockley & Allen, 2007). In addition to previously tested demographic factors, we investigate work hours as an indicator of greater work responsibility. Individuals who work longer work hours may benefit more from flexibility than those who work shorter hours in that flexibility provides greater freedom to squeeze more work hours in at the individual's discretion in terms of time and/or place.

Method

Literature Search

We searched the PsycINFO database using keywords that represented flexibility coupled with keywords that represented work–family conflict. Flexibility keywords included flexibility, flextime, flexplace, schedule flexibility, telecommuting, compressed work week, and telework. Work–family keywords included work–family conflict, work–family

balance, work–family interference, negative spillover, work–life conflict, work–life balance, work–nonwork conflict, and work–nonwork balance. We also reviewed the content of relevant conference programs from the last 5 years (e.g., Society for Industrial and Organizational Psychology, Academy of Management, Work, Stress & Health), conducted manual searches of reviews of the literature (e.g., Allen & Shockley, 2009; Kossek & Michel, 2011), and requested authors of the four previous flexibility meta-analyses to provide a list of their primary studies. Three did so.

Inclusion Criteria

To be considered for inclusion, the study had to examine the relationship between at least one of the two forms of flexibility (i.e., flexitime, flexplace) and at least one directional indicator of work–family conflict (i.e., WIF, FIW). Because our intent was to isolate and begin to deconstruct flexibility, effect sizes based on composite measures that included other benefits that often fall under the “family-friendly” umbrella (e.g., dependent care) were excluded. Also excluded were studies that isolated part-time work/reduced workloads as well as those that investigated satisfaction with flexibility. Studies based on self-focused management of time were excluded. Finally, we excluded studies that investigated organizational time demands (e.g., having to be on call after leaving the workplace).

The study also had to include the information necessary to calculate a correlation between the flexibility variable and work–family conflict. For studies that met the inclusion criteria but did not report usable statistics, we attempted to obtain relevant data by contacting the study authors. Care was taken to identify studies based on the same data set and to eliminate effects based on the same sample. When studies were based on the same sample, we used the study with the largest sample size and/or with usable data. Table 2 presents a list of studies excluded due to overlapping samples. To enable comparisons of our studies with those of previous meta-analyses, a list of studies included in three previous meta-analyses based on information provided to us by the authors is presented in the Appendix. We indicate whether or not each study was included in our analyses and if not the reason for the exclusion. We emphasize that the information provided in this table is not intended to be critical of the inclusion decisions made by other researchers. Rather, its purpose is to be transparent with regard to the decisions that form the database used in this study. A list of the complete references for excluded articles that appear in Table 2 and in the Appendix is available upon request.

A total of 61 independent samples from 58 articles met the inclusion criteria. These articles are designated in the Reference section by an

TABLE 2
Studies Excluded Due to Overlapping Samples

Excluded article	Common data set and/or sample
Barrah, Schultz, Baltes, & Stolz (2004)	1997 NSCW; Behson (2005) included
Cao (2005)	1997 NSCW; Behson (2005) included
Mennino, Rubin, & Brayfield (2005)	1997 NSCW; Behson (2005) included
Grotto & Lyness (2010)	2002 NSCW; Beutell (2010) included
Voydanoff (2005)	2002 NSCW; Beutell (2010) included
Cree (1998)	1996 IBM; Taveras (1998) included
Hill, Hawkins, Ferris, & Weitzman (2001)	1996 IBM; Taveras (1998) included
Hill, Ferris, & Martinson (2003)	2001 IBM; Hill, Martinson, & Ferris (2004) and Hill, Yang, Hawkins, & Ferris (2004) included
Martinengo, Jacob, & Hill (2010)	2004 IBM; Erickson et al. (2010) included
Silver (1993)	1977 QES; Pleck, Staines, & Lang (1980) included
Staines, & Pleck (1984)	1977 QES; Pleck, Staines, & Lang (1980) included
Voydanoff (1988)	1977 QES; Pleck, Staines, & Lang (1980) included
Lautsch, Kossek, & Eaton (2009)	Kossek et al. (2006) included
Madsen (2003)	Madsen (2006) included
Golden (2002)	Golden, Veiga, & Simsek (2006) included

Note. IBM = International Business Machines; NSCW = National Study of the Changing Workforce; QES = Quality of Employment Survey.

asterisk. The total sample size included in the primary analyses ranged from 12,853 to 112,834.

Study Variables

Work-family conflict. We coded studies that included a measure of WIF and/or FIW. When more than one dimension of WIF/FIW was measured (e.g., time, strain, behavior), but no higher level aggregate was included, we averaged the subdimensions using the formula provided by Hunter and Schmidt (1990) that takes into account intercorrelations among dimensions. Studies that were based on a global assessment of nondirectional work-family conflict, composites of WIF and FIW, or work-family balance were excluded. However, the term work-family balance was included in our initial search because some scholars use the term interchangeably with work-family conflict.

Flexible work arrangements. We included seven different assessments of flexibility. The four at the most fine-grained level of assessment are flexplace availability, flexplace use, flextime availability, and flextime use. These were “pure” measures of flexibility that concerned either time or place and either use or availability. To test Hypotheses 1 through 3, we formed aggregate measures of flexibility. Specifically, we created a flexplace (flexplace all) aggregate that averaged flexplace use and flexplace availability as well as any undifferentiated measures of flexplace. We did the same for flextime. Finally, we created an overall flexibility aggregate (flexibility all) that included the aforementioned measures as well as any undifferentiated assessments of flexibility (e.g., summed checklists of multiple forms of flexibility). In cases in which multiple measures of flexibility were included, we averaged the subdimensions using the formula provided by Hunter and Schmidt (1990).

Moderators. Gender was coded as the percentage of male participants from each sample. Parental status was coded as the percentage of parents from each sample. It should be noted that the way in which these data are presented varies somewhat from study to study. For example, some studies report the percentage of the sample with children, some report the percentage of the sample with children living at home, and some report percentage of the sample with children living at home with children under the age of 13. Marital status was coded as the percentage of married participants in the sample. Work hours was coded as the average weekly work hours of participants in the sample.

Coding of studies. Each study was independently coded by two of the study authors who recorded sample sizes, correlations, and moderator information. Coding discrepancies were resolved through discussion and reexamination of the data in consultation with the lead author.

Statistical procedures. Statistics were computed via the Comprehensive Meta-Analysis software package (Borenstein, Hedges, Higgins, & Rothstein, 2005; Pierce, 2008). The random effects model was used based on the correlation coefficient as the effect-size indicator.

Results

For each meta-analytic relationship, we report the total sample size across all studies (N), the total number of independent studies associated with the reported relationship (k), and the sample-weighted correlation (r_{xy}). The 95% confidence interval was used to determine whether effect sizes were statistically significant. Specifically, confidence intervals that did not include zero were deemed statistically significant. To assess if a single population of effect sizes could be assumed, we calculated the Q -value. A significant Q -value indicates greater than chance variation in

TABLE 3
Meta-Analytic Effect Sizes Between Flexibility Variables and WIF

<i>Flexibility variables</i>	WIF						
	<i>N</i>	<i>k</i>	R_{xy}	<i>Q</i>	τ^2	Lower CI	Upper CI
Flexibility (All)	112,834	58	-.11	814.98*	.008	-.14	-.08
Flexplace (All)	63,484	25	-.07	275.39*	.007	-.11	-.03
Flexplace (Availability)	47,528	9	-.05	92.62*	.008	-.11	.02
Flexplace (Use)	16,456	17	-.08	175.43*	.016	-.15	-.01
Flexitime (All)	80,075	39	-.12	1,091.87*	.019	-.16	-.07
Flexitime (Availability)	65,478	34	-.13	616.19*	.015	-.17	-.08
Flexitime (Use)	14,674	6	-.05	44.48*	.023	-.18	.09

Note. *N* = total sample size; *k* = number of independent samples; R_{xy} = uncorrected mean sample weighted correlation; *Q* = *Q* statistic; **p* < .05; τ^2 = between study variance; CI = 95% confidence interval.

TABLE 4
Meta-Analytic Effect Sizes Between Flexibility Variables and FIW

<i>Flexibility variables</i>	FIW						
	<i>N</i>	<i>k</i>	R_{xy}	<i>Q</i>	τ^2	Lower CI	Upper CI
Flexibility (All)	96,014	31	-.03	156.68*	.002	-.05	.00
Flexplace (All)	55,381	14	-.02	106.45*	.004	-.06	.03
Flexplace (Availability)	43,028	4	-.06	3.08	.000	-.07	-.04
Flexplace (Use)	12,853	11	-.01	40.85*	.006	-.07	.05
Flexitime (All)	69,091	22	-.01	221.93*	.005	-.05	.02
Flexitime (Availability)	54,714	18	-.02	125.31*	.005	-.06	.02
Flexitime (Use)	14,377	4	.01	4.83	.002	-.05	.07

Note. *N* = total sample size; *k* = number of independent samples; R_{xy} = uncorrected mean sample weighted correlation; *Q* = *Q* statistic; **p* < .05; τ^2 = between study variance; CI = 95% confidence interval.

effect sizes, implying the presence of moderators (Aguinis, Gottfredson, & Wright, 2011). Tau² (τ^2) was reported to indicate the degree of between study variance. The results for WIF are listed in Table 3, and those for FIW are in Table 4.

Hypotheses 1a and 1b stated that FWA negatively associates with WIF and with FIW, respectively. Hypothesis 1a was supported in that flexibility overall was negatively associated with WIF ($r_{xy} = -.11$, CI = $-.14$ to $-.08$). However, the relationship between flexibility overall and FIW was nonsignificant ($r_{xy} = -.03$, CI = $-.05$ to $.00$). Thus, Hypothesis 1b was not supported. Hypothesis 2 stated that FWA more negatively associates

with WIF than with FIW. This hypothesis was supported ($z = -18.31$, $p < .001$).

Hypothesis 3a stated that flextime more negatively associates with WIF than with flexplace whereas Hypothesis 3b stated that flextime more negatively associates with FIW than with flexplace. Overall flexplace effects were compared to overall flextime effects. Hypothesis 3a was supported ($z = 10.92$, $p < .001$). The relationship between flextime and WIF ($r_{xy} = -.12$, CI = $-.16$ to $-.07$) was stronger than the relationship between flexplace and WIF ($r_{xy} = -.07$, CI = $-.11$ to $-.03$). Hypothesis 3b was not supported. Although neither effect size was significantly different from zero, opposite to prediction, the relationship between flextime and FIW ($r_{xy} = -.01$, CI = $-.04$ to $.03$) was weaker in magnitude than was the relationship between flexplace and FIW ($r_{xy} = -.02$, CI = $-.06$ to $.03$; $z = -1.75$, $p = .04$).

Hypothesis 4 posed that flextime use more negatively associates with WIF (4a) and with FIW (4b) than does flextime availability. Hypothesis 4a was not supported. Opposite to prediction, we found that flextime availability ($r_{xy} = -.13$, CI = $-.18$ to $-.08$) was more negatively associated with WIF than was flextime use ($r_{xy} = -.05$, CI = $-.18$ to $.09$; $z = 8.83$, $p < .001$). Hypothesis 4b was not supported. Opposite to prediction, we found that flextime availability ($r_{xy} = -.02$, CI = $-.06$ to $.02$) was more negatively associated with FIW than was flextime use ($r_{xy} = .01$, CI = $-.05$ to $.07$; $z = -3.20$, $p < .001$), but neither effect size was significantly different from zero.

Hypothesis 5 stated that flexplace use more negatively associates with WIF (5a) and FIW (5b) than flexplace availability. Hypothesis 5a was supported. Flexplace use was more negatively associated with WIF ($r_{xy} = -.08$, CI = $-.15$ to $-.01$) than was flexplace availability ($r_{xy} = -.05$, CI = $-.11$ to $.02$; $z = 3.33$, $p < .001$). Hypothesis 5b was not supported. Opposite to prediction, we found that flexplace availability ($r_{xy} = -.06$, CI = $-.07$ to $-.04$) was more negatively associated with FIW than was flexplace use ($r_{xy} = -.01$, CI = $-.07$ to $.05$) ($z = -4.98$, $p < .001$).

Several additional observations regarding the above findings merit attention. First, with regard to WIF, five of the seven effects estimated were significant. The largest effect observed was between flextime availability and WIF ($r_{xy} = -.13$, CI = $-.17$ to $-.08$), which can be interpreted as small in magnitude (Cohen, 1988). With regard to FIW, only one significant effect was found (FIW and flexplace availability), and that effect size was very small in magnitude ($r_{xy} = -.06$, CI = $-.07$ to $-.04$). A review of the Q statistics observed is also informative. Of the 14 effects estimated, all but two Q statistics were significant. In support of the underlying premise of this study, the Q statistics were generally smaller as the assessment of FWA became more fine grained. In all cases, the estimates associated with

availability and use were more homogeneous than those associated with overall flextime and overall flexplace. These findings support the notion that more specificity with regard to type of flexibility leads to more precise estimates of relationships with work–family conflict.

Additional Analyses

Several of the effect sizes estimated are based on research conducted with large multi year samples of IBM employees. To determine whether these organization-specific samples had an undue influence on the findings, we conducted an additional set of analyses that excluded all IBM samples. Excluding the IBM studies had minimal impact on the effects and their interpretation (tables of these results are available upon request). However, it should be noted that with the IBM studies removed only one primary study remained that assessed the relationship between flexplace availability and FIW. Thus, the generalizability of this estimate should be viewed with caution.

Demographic Moderators

The regression approach based on the method of moments was used to test the demographic moderators. A relationship had to have a significant Q statistic and had to have been examined in a minimum of 10 independent samples to be included in the tests for moderation. Separate regression models were estimated using the proposed moderators as predictors. If the moderator variable is a significant predictor of the meta-analytic correlation coefficient examined, it indicates that the predictor (gender, parental status, marital status, or weekly work hours) moderates that particular relationship.

With two exceptions, no moderating effects were found. The percentage of parents in the sample moderated the relationship between overall flexplace and WIF. Specifically, as the percentage of parents in the sample increased, the negative relationship between flexplace and WIF became stronger. In addition, the percentage of married participants moderated the relationship between flextime all and FIW such that as the percentage of married participants in the sample increased, the negative relationship between FIW and flextime became stronger. Tables of these analyses are available upon request.

Discussion

In recent years flexibility has received a great deal of attention within both the scholarly literature and the popular press as a tool that can help

individuals manage work and family responsibilities. By isolating the unique components of flexibility, we provide the most comprehensive and precise estimates to date of the relationship between flexibility and work–family conflict. Our results help explain some of the inconsistent results found in previous research and demonstrate that both the direction of work–family conflict and the type of flexibility make a difference in the magnitude of observed relationships. By identifying the relationships between flexibility and work–family conflict that are significant as well as those that are not, our findings clarify the conclusions that should be drawn with regard to the potential for flexibility to be an effective tool for alleviating work–family conflict. Our findings also reveal several areas in need of further attention.

Key Findings and Theoretical Implications

One key finding of our study is that the direction of work–family conflict matters. Although we found a reliably different from zero relationship between WIF and overall flexibility, no similar relationship for FIW was detected. In fact, with the exception of a small effect associated with flexplace availability, there were no significant relationships between FWA and FIW. There are several possible explanations as to why FWA do not significantly relate to FIW. Research consistently shows that the prevalence of WIF is greater than the prevalence of FIW (Frone, 2003). The reduced variation associated with FIW may constrain the ability to detect relationships. Another possible explanation is that flexibility with regard to work may increase the amount of family responsibility that an individual assumes (Hammer et al., 2005; Silver & Goldscheider, 1994). The freedom gained from flexibility options may be used to engage in more family-related tasks.

This set of findings has several theoretical implications. First, the pattern of results lend further credence to the domain specificity hypothesis with regard to predictors of work–family conflict, suggesting that work domain variables are more proximal antecedents to WIF than to FIW (e.g., Frone et al., 1997). In this regard, our findings are consistent with the findings of Byron (2005). Although the overall flexibility effect associated with WIF was stronger than that associated with FIW, it should also be noted that the effect associated with WIF and overall flexibility was small in magnitude. As discussed in the literature review, flexibility may not have the intended effect of reducing work–family conflict due to increased exposure to work–family role blurring (Schieman & Young, 2010). This is particularly true for flexplace.

In addition, given the small effect sizes found overall in this study, alternative perspectives to that of resource theory are needed for

understanding the complex relationships between FWA and work–family conflict. Resource theory provides the basis for hypothesizing that FWA helps mitigate work–family conflict in that flexibility enables employees to allocate time, attention, and energy in more individually efficient ways. Self-regulation theory may offer a more viable theoretical lens that can help explain the attenuated relationships observed (Baumeister, Bratslavsky, Muraven, & Tice, 1998; Baumeister & Vohs, 2007).

Flexibility generally increases the number of choices and decisions that must be made by employees (however, we recognize that the degree of choice varies). These acts of volition draw upon ego resources, potentially undermining self-regulation (Baumeister et al., 1998). Other streams of research have discussed the peril associated with too much choice such as increased uncertainty and cognitive overload (Chua & Iyengar, 2006; Iyengar & Lepper, 2000). Flexibility may create additional resource allocation choices that can be difficult to manage. Moreover, an integration of individual differences research may be needed. Individuals may not possess the skills needed to allocate resources in a way that best helps avert work–family conflict (Lapierre & Allen, 2012). Similarly, as we noted in our literature review, it also seems possible that flexibility can create the opportunity for self-control demands (Schmidt & Neubach, 2007). Schmidt and Neubach (2007) identify three types of self-control demands (impulse control, resisting distractions, and overcoming inner resistances), and research suggests that individuals differ in their capacity for self-control (Muraven & Baumeister, 2000). Thus, although flexibility can serve as a resource, it may also deplete resources. In sum, a more nuanced theoretical view of resource allocation, coupled with integration of self-regulation and individual differences research may lead to greater insights into the link between FWA and work–family conflict.

A second key finding of this study is that the type of flexibility matters. Through the deconstruction of flextime and flexplace and both use and availability, our analyses revealed significant differences across all four possible comparisons. With regard to WIF, we found a stronger effect for flextime than for flexplace. In addition as expected, we found that flexplace use was a stronger predictor than was flexplace availability. The opposite was found for flextime. Specifically, flextime availability was more negatively associated with WIF than was flextime use. With regard to FIW, both flextime availability and flexplace availability were more negatively associated with FIW than were flextime use and flexplace use, respectively.

One explanation for the stronger effects associated with availability versus use lies in the psychological mechanisms that may link flexibility to reduced work–family conflict, namely through greater perceptions of

control. Although availability of flextime policies are likely to provide the employee with a sense of control (Kossek et al., 2006; Thomas & Ganster, 1995), actual use of policies may increase control or, in the case of involuntary use (e.g., being assigned to telecommute), decrease control. The assumption seems to be that being in a flexible work situation is desirable. However, given a choice some employees may prefer traditional work schedules and locations. The measures of use employed in most studies do not assess whether the employee is voluntarily or involuntarily using FWA. Involuntary cases of FWA use should ostensibly result in lower perceptions of control and produce a weaker relationship to work–family conflict, thus attenuating the use effects. One way to address these issues in future research is to include both employer and employee reported availability of FWA, as well as employee reports of availability, voluntary or involuntary use, and reports of perceived control.

A final key finding is that we found little support for the individual difference variables investigated as moderators. We theorized that those with greater family and work responsibility would benefit more from FWA as a resource than would those with less family and work responsibility. Considering our results along side those of previous meta-analytic studies that have investigated demographics (e.g., Byron, 2005), the most consistent finding suggests that individuals with greater parental responsibilities may stand to benefit more from FWA than individuals with less parental responsibility.

Implications for Practice

Our findings have several implications for practice. Overall, our results indicate that the potential for FWA to reduce work–family conflict may be limited. These findings are important in that there are benefits to practice when results are shared that demonstrate relationships among variables that are small as well as those that are large. Although FWA may be beneficial for work-related outcomes such as productivity and job attitudes (e.g., Gajendran & Harrison, 2007), the relationship with work–family conflict needs more evaluation. This is critical given the great deal of public policy attention currently focused on flexibility practices. Moreover, meta-analyses often serve as “go-to” sources of information to human resources practitioners with regard to the latest science. Practitioners reviewing previous meta-analyses with large effect sizes may have surmised that FWA are a highly effective tool to reduce work–family conflict, or if viewing all previous meta-analyses, they may have been confused by the inconsistent results. Our more fine-grained analyses provide a clearer picture of the relationship between FWA and work–family conflict.

The results of this study coupled with that of other recent meta-analyses suggest that organizational practices that focus on support may be more beneficial than FWA in reducing work–family conflict. For example, Kossek, Pichler, Bodner, and Hammer (2011) conducted a meta-analysis of the relationship between workplace support variables and WIF. Their research revealed a meta-analytic effect size of $-.25$ between WIF and supervisor work–family support and $-.36$ between WIF and perceived work–family organizational support. In other words, the effect sizes associated with the support variables are twice the size of those found in this research. Michel et al. (2011) reported similar effect sizes for organizational and supervisor support. This suggests a need for continued research on practice interventions such as family-supportive supervisor training (Hammer, Kossek, Anger, Bodner, & Zimmerman, 2011).

Limitations

We acknowledge several limitations associated with our study. One limitation stems from the nature of the primary studies that informed the analyses conducted. As our analyses became more fine grained, some of the relationships estimated were based on a small number of primary studies (i.e., flextime use, flexplace availability). The distribution of primary studies suggests an interesting pattern in that researchers investigating flexplace more frequently assess use whereas those investigating flextime more frequently assess availability. Additional primary research that focuses on flexplace availability and flextime use is needed. The fact that most of the primary studies included in our research were based on cross-sectional designs precludes the ability to make causal assertions regarding the nature of the relationships observed. The direction of the relationship between FWA use and work–family conflict in particular is uncertain in that it may be that individuals who use FWA may be those who begin with greater work–family conflict.

Directions for Future Research

Although our study takes a step forward in better understanding the relationship between FWA and work–family conflict and in identifying sources of variation in that relationship, our findings and review of the literature suggest several areas that are in need of additional research. Flexibility itself has been a somewhat poorly understood and ambiguously defined construct (Hill et al., 2008). Hill et al. adopt a definition that is based on when, where, and how long work is done. This paper focused on when and where, to the exclusion of how long. Flexibility has also been discussed with regard to allowing multiple entry and reentry points into

the workforce throughout the career life course (e.g., Moen & Roehling, 2005). Although we believe these other forms of flexibility are important to consider both in terms of research and practice, it should be noted that they are qualitatively different in that they involve a reduction or a stoppage in work hours. Such distinctions highlight the need for discussions of flexibility as they pertain to public policy, research, and intervention to be based on greater precision in terms of the specific type of flexibility under consideration.

Although our research provides the most fine-grained assessment of the relationship between FWA and work–family conflict to date, flexibility could be further disaggregated. All forms of flexibility do not necessarily produce the same degree of control. For example, flextime comes in several different forms, from compressed workweeks that require the same schedule of work hours each week to “results-only work environments” that involve complete employee control in that employees are permitted to work anytime as long as work is completed (Kossek & Michel, 2011). Moreover, flexplace may involve solely working from home or it may involve working at other remote locations. Further unpacking the various forms of FWA may help researchers better determine what is more or less effective in terms of helping alleviate work–family conflict. Similarly, research that can disentangle the different dimensions of work–family conflict may be informative. For example, it may be that flextime is more helpful in reducing time-based work–family conflict than it is in reducing strain-based work–family conflict. At this juncture in the literature, there are too few dimensional studies of work–family conflict to test these hypotheses. As previously noted, we took care to not include primary studies based on nondirectional measures of work–family conflict or balance. However, as research accumulates on constructs that reflect global interrole assessments of compatibility between work and family roles such as work–family balance (Greenhaus & Allen, 2011), their unique relationship with FWA merits attention.

Another issue for consideration involves the impact of measurement. In conducting our literature review, we found variation in how flexibility was operationalized. For example, some studies are based on a checklist format in which participants indicate yes or no with regard to whether or not the form of flexibility identified is available and/or has been used by the participant (e.g., Allen, 2001). Other studies are based on continuous modes of measurement that assess extent of use (e.g., Kossek et al., 2006; Shockley & Allen, 2010) or degree of agreement about flexibility availability (e.g., Hyland, 2000). There were an insufficient number of primary studies available for us to conduct meaningful analyses of these differences. Investigation of different forms of measurement

may yield greater insight into the flexibility and work–family conflict relationship.

Building on the theoretical self-regulation and resource allocation perspectives described earlier, individual difference variables that enable effective resource allocation may be beneficial to investigate as moderators. For example, Lapierre and Allen (2012) reported that planning behavior moderated the relationship between control at work and WIF such that the negative relationship was stronger when more rather than less planning behavior was used. Individuals who engage in greater planning behavior may be more adept at allocating time and energy resources when flexibility is available than are individuals who engage in limited planning behavior (Lapierre & Allen, 2012). That is, individuals who engage in greater planning behavior may be better able to translate high levels of control into desirable outcomes than those who do not engage in this behavior.

One final area for future study is the interplay between FWA and informal workplace support. For example, it may be that supervisors perceived to be supportive are those that facilitate the availability and use of flexible work options for employees. As noted by Kossek, Baltes, and Matthews (2011), employees may feel more comfortable asking for flexibility with a family-supportive supervisor. Investigation along these lines may also shed insight into our findings that indicated that the availability of flexibility is generally more highly associated with less work–family conflict than is the use of flexibility. Specifically, in nonsupportive work environments, users may find the lack of support or backlash from others, such as supervisors, serves as a stressor that contributes to work–family conflict.

Conclusion

During the past several decades, interest in the topic of work–family conflict and organizational policies that can alleviate it has flourished (Kossek et al., 2011). Among those policies, FWA have been the target of considerable interest. Advancing our understanding of the relationship between work–family conflict and flexibility has important implications for both theory and practice. Our results demonstrate that the relationship between FWA and work–family conflict may be smaller than assumed. By highlighting what we know and what areas are most in need of further research, we hope this study serves as a vehicle for stimulating further investigation into human resource and public policy practices that are effective in helping employees in managing work and family.

REFERENCES

References marked with an asterisk indicate studies included in the meta-analysis.

- Adams GA, Jex SM. (1999). Relationships between time management, control, work-family conflict, and strain. *Journal of Occupational Health Psychology*, 4, 72–77.
- Aguinis H, Gottfredson RK, Wright TA. (2011). Best practice recommendations for estimating interaction effects using meta-analysis. *Journal of Organizational Behavior*, 32(8), 1033–1043.
- *Allard K, Haas L, Hwang CP. (2007). Exploring the paradox: Experiences of flexible working arrangements and work-family conflict among managerial fathers in Sweden. *Community, Work and Family*, 10(4), 475–493.
- *Allen TD. (2001). Family supportive work environments: The role of organizational perceptions. *Journal of Vocational Behavior*, 58(3), 414–435.
- Allen TD, Shockley K. (2009). Flexible work arrangements: Help or hype? In Crane R, Hill J (Eds.), *Handbook of families and work: Interdisciplinary perspectives* (pp. 265–284). Lanham, MD: University Press of America.
- *Allen TD, Shockley KM, Poteat LF. (2008). Workplace factors associated with family dinner behaviors. *Journal of Vocational Behavior*, 73(2), 336–342.
- *Anderson SE, Coffey BS, Byerly RT. (2002). Formal organizational initiatives and informal workplace practices: Links to work-family conflict and job-related outcomes. *Journal of Management*, 28(6), 787–810.
- *Aryee S. (1992). Antecedents and outcomes of work-family conflict among married professional women: Evidence from Singapore. *Human Relations*, 45(8), 813–837.
- *Aryee S. (1993). Dual-earner couples in Singapore: An examination of work and nonwork sources of their experienced burnout. *Human Relations*, 46(12), 1441–1468.
- *Aryee S, Fields D, Luk V. (1999). A cross-cultural test of a model of the work-family interface. *Journal of Management*, 25(4), 491–511.
- Ashforth BE, Kreiner GE, Fugate M. (2000). All in a day's work: Boundaries and micro role transitions. *Academy of Management Review*, 25(3), 472–491.
- Barrah J. L., Schultz K. S., Baltus B., & Stolz H. E. (2004). Men's and women's eldercare-based work-family conflict: Antecedents and work-related outcomes. *Fathering*, 2(3), 305–330.
- *Batt R, Valcour PM. (2003). Human resources practices and predictors of work-family outcomes and employee turnover. *Industrial Relations: A Journal of Economy & Society*, 42(2), 189–220.
- Baumeister RF, Bratslavsky E, Muraven M, Tice DM. (1998). Ego depletion: Is the active self a limited resource? *Journal of Personality and Social Psychology*, 74(5), 1252–1265.
- Baumeister RF, Vohs KD. (2007). Self-regulation, ego depletion, and motivation. *Social and Personality Compass*, 1(1), 115–128.
- *Beham B, Drobnic S, Prag P. (2011). Work demands and resources and the family-interface: Testing a salience model on German service sector employees. *Journal of Vocational Behavior*, 78(1), 110–122.
- *Behson SJ. (2002). Coping with family-to-work conflict: The role of informal work accommodations to family. *Journal of Occupational Health Psychology*, 7(4), 324–341.
- *Behson SJ. (2005). The relative contribution of formal and informal organizational work-family support. *Journal of Vocational Behavior*, 66(3), 487–500.

- *Beutell NJ. (2010). Work schedule, work schedule control, and satisfaction in relation to work-family conflict, work-family synergy, and domain satisfaction. *Career Development International*, 15(5), 501–518.
- Borenstein M, Hedges L, Higgins J, Rothstein H. (2005). *Comprehensive Meta-analysis (Version 2) [Computer software]*. Englewood, NJ: Biostat.
- Burke R. J. (1988). Some antecedents and consequences of work/family conflict. *Journal of Social Behavior & Personality Special Issue: Work and family: Theory, research, and applications*, 3, 287–302.
- Byron K. (2005). A meta-analytic review of work-family conflict and its antecedents. *Journal of Vocational Behavior*, 67(2), 169–198.
- Cao F. (2005). *Exploring the relations among availability of temporal flexibility at work, work-to-family conflict, and job satisfaction*. Unpublished doctoral dissertation, East China Normal University.
- *Carlson DS, Grzywacz JG, Kacmar KM. (2010). The relationship of schedule flexibility and outcomes via the work-family interface. *Journal of Managerial Psychology*, 25(4), 330–355.
- *Carlson DS, Grzywacz JG, Ferguson M, Hunter E M, Clinch CR, Arcury TA. (2011). Health and turnover of working mothers after childbirth via the work-family interface: An analysis across time. *Journal of Applied Psychology*, 96(5), 1045–1054.
- Chua RYJ, Iyengar SS. (2006). Empowerment through choice? A critical analysis of the effects of choice in organizations. *Research in Organizational Behavior*, 27, 41–79.
- *Cinamon RG, Rich Y. (2002). Profiles of attribution of importance to life roles and their implications for the work-family conflict. *Journal of Counseling Psychology*, 49(2), 212–220.
- *Cinamon RG, Rich Y, Westman M. (2007). Teachers' occupation-specific work-family conflict. *The Career Development Quarterly*, 55(3), 249–261.
- *Clark SC. (2001). Work cultures and work/family balance. *Journal of Vocational Behavior*, 58(3), 348–365.
- Clark SC. (2002). Employees' sense of community, sense of control, and work/family conflict in Native American organizations. *Journal of Vocational Behavior*, 61, 92–108.
- Cohen J. (1988). *Statistical power for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Erlbaum.
- *Coveyduck DH. (1997). *Investigation of selected factors on job satisfaction among telecommuters*. Unpublished doctoral dissertation, Carleton University, Canada.
- Cree LH. (1998). *Work/family balance of telecommuters*. Unpublished doctoral dissertation, California School of Professional Psychology.
- Davis SN, Greenstein TN, Marks JPG. (2007). Effects of union type on division of household labor: Do cohabitating men really perform more housework? *Journal of Family Issues*, 28(9), 1246–1272.
- DeLay NL. (1995). *The effects of commuting and gender on work-family conflict and satisfaction*. Unpublished doctoral dissertation, Illinois Institute of Technology, Chicago.
- Diviney KP. (2001). *Antecedents and consequences of work restructuring*. Unpublished doctoral dissertation, George Mason University, Fairfax, VA.
- *Duxbury L, Higgins C, Neufeld D. (1998). Telework and the balance between work and family: Is telework part of the problem or part of the solution? In Igbaria M, Tan M (Eds.), *The virtual workplace* (pp. 218–255). Hershey, PA: Idea Group.
- Eagle BW. (1996). *A construct validity study of bidirectional measures of work-family conflict*. Unpublished Dissertation. Georgia State University, Atlanta, GA.

- Eagle BW, Icenogle ML, Maes JD, Miles EW. (1998). The importance of employee demographic profiles for understanding experiences of work-family interrole conflicts. *Journal of Social Psychology, 138*, 690–709.
- Edwards JR, Rothbard NP. (2000). Mechanisms linking work and family: Clarifying the relationship between work and family constructs. *Academy of Management Review, 25*(1), 179–199.
- *Eng W, Moore S, Grunberg L, Greenberg E, Sikora P. (2010). What influences work-family conflict? The function of work support and working from home. *Current Psychology, 29*(2), 104–120.
- *Erickson JJ, Martinengo G, Hill EJ. (2010). Putting work and family experiences in context: Differences by family life stage. *Human Relations, 63*(7), 955–979.
- Executive Office of the President Council of Economic Advisors (2010, March). *Work-life balance and the economics of workplace flexibility*. Retrieved from <http://www.whitehouse.gov/files/documents/100331-cea-economics-workplace-flexibility.pdf>.
- Frone MR. (2003). Work-family balance. In Quick JC, Tetrick LE (Eds.), *Handbook of occupational health psychology* (pp. 143–162). Washington, DC: American Psychological Association.
- Frone MR, Yardley, JK. (1996). Workplace family-supportive programmes: Predictors of employed parents' importance ratings. *Journal of Occupational and Organizational Psychology, 69*, 351–366.
- Frone MR, Russell M, Cooper ML. (1992). Prevalence of work-family conflict: Are work and family boundaries asymmetrically permeable? *Journal of Organizational Behavior, 13*(7), 723–729.
- Frone MR, Yardley JK, Markel KS. (1997). Developing and testing an integrative model of the work-family interface. *Journal of Vocational Behavior, 50*(2), 145–167.
- Gajendran RS, Harrison DA. (2007). The good, the bad, and the unknown about telecommuting: Meta-analysis of psychological mediators and individual consequences. *Journal of Applied Psychology, 92*(6), 1524–1541.
- *Galovan AM, Fackrell T, Buswell L, Jones BL, Hill EJ, Carroll SJ. (2010). The work-family interface in the United States and Singapore: Conflict across cultures. *Journal of Family Psychology, 24*(5), 646–656.
- *Geurts SAE, Beckers DGJ, Taris TW, Kompier MAJ, Smulders PGW. (2009). Worktime demands and work-family interference: Does worktime control buffer the adverse effects of high demands? *Journal of Business Ethics, 84*(2), 229–241.
- Golden TD. (2002). Telecommuting optimization: An investigation of influential factors during technology-reliant interactions. Unpublished Dissertation. The University of Connecticut, Storrs, CT.
- *Golden TD. (2006). The role of relationships in understanding telecommuter satisfaction. *Journal of Organizational Behavior, 27*(3), 319–340.
- *Golden TD, Veiga JF, Simsek Z. (2006). Telecommuting's differential impact on work-family conflict: Is there no place like home? *Journal of Applied Psychology, 91*(6), 1340–1350.
- Goode WJ. (1960). A theory of role strain. *American Sociological Review, 25*, 483–496.
- Grandey AA, Cropanzano R. (1999). The conservation of resources model applied to work-family conflict and strain. *Journal of Vocational Behavior, 54*(2), 350–370.
- Greenhaus GH, Allen TD. (2011). Work-family balance: A review and extension of the literature. In Tetrick L, Quick JC (Eds.), *Handbook of occupational health psychology* (2nd ed., pp. 165–183). Washington, DC: American Psychological Association.
- Greenhaus J, Beutell N. (1985). Sources and conflict between work and family roles. *Academy of Management Review, 10*(1), 76–88.

- Greenhaus JH, Parasuraman S, Granrose CS, Rabinowitz S, Beutell NJ. (1989). Sources of work/family conflict among two-career couples. *Journal of Vocational Behavior*, 34, 133–153.
- *Griffiths RF. (2003). *Time management in telework and other autonomous work environments*. Unpublished doctoral dissertation, Kansas State University, Kansas.
- Grotto AR, Lyness KS. (2010). The costs of today's jobs: Job characteristics and organizational supports as antecedents of negative spillover. *Journal of Vocational Behavior*, 76, 395–405.
- Grover SL, Crooker K. (1995). Who appreciates family-responsive human resource policies: The impact of family-friendly policies on the organizational attachment of parents and non-parents. *PERSONNEL PSYCHOLOGY*, 48(2), 271–288.
- Hammer LB, Allen E, Grigsby TD. (1997). Work-family conflict in dual-earner couples: Within-individual and crossover effects of work and family. *Journal of Vocational Behavior: Special Issue on Work and Family Balance*, 50, 185–203.
- Hammer LB, Kossek EE, Anger WK, Bodner T, Zimmerman KL. (2011). Clarifying work-family intervention processes: The roles of work-family conflict and family-supportive supervision behaviors. *Journal of Applied Psychology*, 96, 134–150.
- *Hammer LB, Neal MB, Newsom JT, Brockwood KJ, Colton CL. (2005). A longitudinal study of the effects of dual-earner couples' utilization of family-friendly workplace supports on work and family outcomes. *Journal of Applied Psychology*, 90(4), 799–810.
- *Harrison DA, Crockett D, Juban R. (2000, August). *Time, place and control: Organizational antecedents and individual outcomes of flexibility in the when and where of work*. Paper presented at the meeting of the Academy of Management, Toronto, Ontario, Canada.
- *Hartman RI, Stoner CR, Arora R. (1991). An investigation of selected variables affecting telecommuting productivity and satisfaction. *Journal of Business and Psychology*, 6(2), 207–225.
- *Hicks WD, Klimoski RJ. (1981). The impact of flexitime on employee attitudes. *Academy of Management Journal*, 24(2), 333–341.
- Hill EJ, Ferris M, Martinson V. (2003). Does it matter where you work? A comparison of how three work venues (traditional office, virtual office and home office) influence aspects of work and personal/family life. *Journal of Vocational Behavior*, 63, 220–241.
- Hill EJ, Grzywacz JG, Allen S, Blanchard VL, Matz-Costa C, Shulkin S, Pitt-Catsouphes M. (2008). Defining and conceptualizing workplace flexibility. *Community, Work & Family*, 11(2), 149–163.
- Hill EJ, Hawkins AJ, Ferris M, Weitzman M. (2001). Finding an extra day a week: The positive influence of perceived job flexibility on work and family life balance. *Family Relations*, 50(1), 49–58.
- Hill EJ, Hawkins AJ, Miller BC. (1996). Work and family in the virtual office: Perceived influences of mobile telework. *Family Relations*, 45, 293–301.
- *Hill EJ, Martinson V, Ferris M. (2004). New-concept part time employment as a work-family adaptive strategy for women professionals with small children. *Family Relations*, 53(3), 282–292.
- Hill EJ, Miller BC, Weiner SP, Colihan J. (1998). Influences of the virtual office on aspects of work and work/life balance. *PERSONNEL PSYCHOLOGY*, 51, 667–683.
- *Hill EJ, Yang C, Hawkins AJ, Ferris M. (2004). A cross-cultural test of the work-family interface in 48 countries. *Journal of Marriage and Family*, 66(5), 1300–1316.

- *Hornung S, Glaser J. (2009). Home-based telecommuting and quality of life: Further evidence on an employee-oriented human resource practice. *Psychological Reports*, 104(2), 395–402.
- *Hornung S, Glaser J, Rousseau DM, Angerer P, Weigl M. (2011). Employee-oriented leadership and quality of working life: Mediating roles of idiosyncratic deals. *Psychological Reports*, 108(1), 59–74.
- *Howland KL. (1998). *Interrole conflict: A scale development and construct validation study*. Unpublished doctoral dissertation, Kansas State University, Kansas.
- Huang YE. (2001). A model of antecedents of work-family conflict for dual-earner couples in the sandwiched generation: A longitudinal study. Unpublished Dissertation. Portland State University, Portland, OR.
- *Hughes D, Galinsky E, Morris A. (1992). The effects of job characteristics on marital quality: Specifying linking mechanisms. *Journal of Marriage and Family*, 54(1), 31–42.
- *Hughes EL, Parkes KP. (2007). Work hours and well-being: The roles of work-time control and work-family interference. *Work & Stress*, 21(3), 264–278.
- Hunter EJ, Schmidt FL. (1990). *Methods of meta-analysis: Correcting error and bias in research findings*. Newbury Park, CA: Sage.
- Hyland MM. (2000). *Flexibility in work arrangements: How availability, preferences and use affect business outcomes*. Unpublished doctoral dissertation, Rutgers University, New Jersey.
- *Hyland MM, Prottas DJ. (2010, August). *Testing relationships of work and home flexibility and permeability with cross-border spillovers*. Paper presented at the Annual Meeting of the Academy of Management, Montreal, Canada.
- Iyengar SS, Lepper MR. (2000). When choice is demotivating: Can one desire too much of a good thing? *Journal of Personality and Social Psychology*, 79(6), 995–1006.
- Jarrett V. (2010, April 1). A conversation on workplace flexibility. Retrieved from <http://www.whitehouse.gov/blog/2010/04/01/a-conversation-workplace-flexibility>
- Jex M., & Elacqua T. C. (1999). Time management as a moderator of relations between stressors and employee strain. *Work & Stress*, 13, 182–191.
- *Julien M. (2007). *Finding solutions to work-life conflict: Examining models of control over work-life interface*. Unpublished doctoral dissertation, Queen's University, Canada.
- *Kattenback R, Demerouti E, Nachreiner F. (2010). Flexible working times: Effects on employees' exhaustion, work-nonwork conflict and job performance. *Career Development International*, 15(3), 279–295.
- Kossek EE, Baltes BB Matthews RA. (2011). How work-family research can finally have an impact in organizations. *Industrial and Organizational Psychology: Perspectives on Science and Practice*, 4(3), 352–359.
- *Kossek EE, Lautsch BA, Eaton SC. (2006). Telecommuting, control, and boundary management: Correlates of policy use and practice, job control, and work-family effectiveness. *Journal of Vocational Behavior*, 68(2), 347–367.
- Kossek EE, Michel JS. (2011). Flexible work schedules. In Zedeck S (Ed.), *Handbook of industrial and organizational psychology: Building and developing the organization* (pp. 535–572). Washington, DC: American Psychological Association.
- Kossek EE, Pichler S, Bodner T, Hammer LB. (2011). Workplace social support and work-family conflict: A meta-analysis clarifying the influence of general and work-family specific supervisor and organizational support. *PERSONNEL PSYCHOLOGY*, 64(2), 289–313.

- *Kowalski KB. (1997). *A model of the antecedents and outcomes of work-family conflict as moderated by social support*. Unpublished doctoral dissertation, University of Rhode Island, Kingston, RI.
- *Lapierre LM, Allen TD. (2006). Work-supportive family, family-supportive supervision, use of organizational benefits, and problem-focused coping: Implications for work-family conflict and employee well-being. *Journal of Occupational Health Psychology, 11*(2), 169–181.
- Lapierre LM, Allen TD. (2012). Control at work, control at home, and use of planning behavior: Implications for work interference with family and family interference with work. *Journal of Management, 38*, 1500–1516. doi: 10.1177/0149206310385868.
- Lautsch BA, Kossek EE, Eaton SC. (2009). Supervisory approaches and paradoxes in managing telecommuting implementation. *Human Relations, 62*(2), 795–827.
- *Lu L, Kao S, Chang T, Wu H, Cooper CL. (2008). Work/family demands, work flexibility, work/family conflict, and their consequences at work: A national probability sample in Taiwan. *International Journal of Stress Management, 15*(1), 1–21.
- Mackie-Lewis SA. (1998). *Changing place and the time of work: The impact of telecommuting on employees' personal networks and psychological well-being*. Unpublished doctoral dissertation, University of Michigan, Ann Arbor.
- Madsen S. (2003). The effects of home-based teleworking on work family conflict. *Human Resource Development Quarterly, 14*(1), 35.
- *Madsen SR. (2006). Work and family conflict: Can home-based teleworking make a difference? *International Journal of Organization Theory and Behavior, 9*(3), 307–350.
- *Major VS, Klein KJ, Ehrhart MG. (2002). Work time, work interference with family, and psychological distress. *Journal of Applied Psychology, 87*(3), 427–436.
- Martinengo G., Jacob J. I., & Hill E. J. (2010). Gender and the work-family interface: Exploring differences across the family. *Journal of Family Issues, 31*, 1363–1390.
- *Masuda AD, Poelmans SAY, Allen TD, Spector PE, Lapierre LM, Cooper CL, . . . Fraile G. (2012). Flexible work arrangements availability and their relationship with work-to-family conflict, job satisfaction, and turnover intentions: A comparison of three country clusters. *Applied Psychology: An International Review, 61*(1), 1–29.
- *Matsui T, Ohsawa T, Onglatco M. (1995). Work-family conflict and the stress-buffering effects of husband support and coping behavior among Japanese married working women. *Journal of Vocational Behavior, 47*(2), 178–192.
- *McCarthy ME. (2001). *Exploring the impact of blurred boundaries in teleworkers*. Unpublished doctoral dissertation, Dalhousie University, Canada.
- McCloskey D. W. (2001). Telecommuting experiences and outcomes: Myths and realities. In N. J. Johnson (Ed.), *Telecommuting and virtual offices: Issues and opportunities* (pp. 231–246). Hershey, PA: Idea Group.
- Mennino SF, Rubin BA, Brayfield A. (2005). Home-to-job and job-to-home spillover: The impact of company policies and workplace culture. *The Sociological Quarterly, 46*, 107–135.
- Mesmer-Magnus JR, Viswesvaran C. (2006). How family-friendly work environments affect work/family conflict: A meta-analytic examination. *Journal of Labor Research, 27*(4), 555–574.
- Michel JS, Kotrba LM, Mitchelson JK, Clark MA, Baltes BB. (2011). Antecedents of work-family conflict: A meta-analytic review. *Journal of Organizational Behavior, 32*(5), 689–725.
- Miller, S. (2011, February, 1). Workplace flexibility partnership to 'move work forward.' Retrieved from <http://www.shrm.org/about/news/pages/fwpartnership.aspx>

- Moen P, Roehling P. (2005). *The career mystique: Cracks in the American dream*. Lanham, MD: Rowman & Littlefield.
- Muraven M, Baumeister RF. (2000). Self-regulation and depletion of limited resources: Does self-control resemble a muscle? *Psychological Bulletin*, 126(2), 247–259.
- Pal S., & Saksvik P. O. (2008). Work-family conflict and psychosocial work environment stressors as predictors of job stress in a cross-cultural study. *International Journal of Stress Management*, 15, 22–42.
- *Parasuraman S, Purohit YS, Godshalk VM, Beutell NJ. (1996). Work and family variables, entrepreneurial career success, and psychological well-being. *Journal of Vocational Behavior*, 48(3), 275–300.
- *Peters P, van der Lippe T. (2007). The time-pressure reducing potential of telehomeworking: The Dutch case. *International Journal of Human Resource Management*, 18(3), 430–447.
- Pierce CA. (2008). Software review: Borenstein M, Hedges LV, Higgins JPT, Rothstein JR. (2006). Comprehensive meta-analysis (Version 2.2.027) [Computer software]. Englewood, NJ: Biostat. *Organizational Research Methods*, 11(1), 188–191.
- *Pleck JH, Staines GL, Lang L. (1980). Conflicts between work and family life. *Monthly Labor Review*, March, 29–32.
- *Porter S, Ayman R. (2010). Work flexibility as a mediator of the relationship between work-family conflict and the intention to quit. *Journal of Management and Organization*, 16(3), 414–424.
- *Raghuram S, Wiesenfeld B. (2004). Work-nonwork conflict and job stress among virtual workers. *Human Resource Management*, 43(2–3), 259–277.
- Rau BL, Hyland MM. (2002). Role conflict and flexible work arrangements: The effects on applicant attraction. *PERSONNEL PSYCHOLOGY*, 55(1), 111–136.
- Schieman S, Young M. (2010). Is there a downside to schedule control for the work-family interface? *Journal of Family Issues*, 31(10), 1391–1414.
- Schmidt KH, Neubach B. (2007). Self-control demands: A source of stress at work. *International Journal of Stress Management*, 14(4), 398–416.
- *Shockley KM, Allen TD. (2007). When flexibility helps: Another look at the availability of flexible work arrangements and work-family conflict. *Journal of Vocational Behavior*, 71(3), 479–493.
- *Shockley KM, Allen TD. (2010). Investigating the missing link in flexible work arrangement utilization: An individual difference perspective. *Journal of Vocational Behavior*, 76(1), 131–142.
- SHRM Executive Roundtable on Workplace Flexibility. (2010, September). Society for Human Resource Management, Washington, DC. Retrieved online February 28, 2012. http://www.shrm.org/Research/FutureWorkplaceTrends/Documents/11-0013%20ExecRoundtableWorkFlex_FINAL.pdf.
- Silver H. (1993). Homework and domestic work. *Sociological Forum*, 8(2), 181–204.
- Silver H, Goldscheider F. (1994). Flexible work and housework: Work and family constraints on women's domestic labor. *Social Forces*, 72(4), 1103–1119.
- Society for Human Resource Management. (2010a). *2010 employee benefits: Examining employee benefits in the midst of a recovering economy*. Alexandria, VA: SHRM.
- Society for Human Resource Management. (2010b, September). SHRM Executive Roundtable on Workplace Flexibility. Washington, DC. Retrieved from http://www.shrm.org/Research/FutureWorkplaceTrends/Documents/11-0013%20ExecRoundtableWorkFlex_FINAL.pdf.

- Staines GL, Pleck JH. (1984). Nonstandard work schedules and family life. *Journal of Applied Psychology*, 69(3), 515–523.
- *Stevens DP, Kiger G, Riley PJ. (2006). His, hers, or ours? Work-to-family spillover, crossover, and family cohesion. *The Social Science Journal*, 43(3), 425–436.
- *Taveras LE. (1998). *The effects of telecommuting on attitudinal and behavioral characteristics of organizational culture*. Unpublished doctoral dissertation, University of Sarasota, Florida.
- Thomas LT, Ganster DC. (1995). Impact of family-supportive work variables on work-family conflict and strain: A control perspective. *Journal of Applied Psychology*, 80(1), 6–15.
- United States Department of Labor (n.d.). National dialogue on workplace flexibility. Retrieved from <http://www.dol.gov/wb/media/natldialogue2.htm#.UKkA6BxPjql>
- Voydanoff P. (1988). Work role characteristics, family structure demands, and work/family conflict. *Journal of Marriage and Family*, 50(3), 749–761.
- Voydanoff P. (2005). Consequences of boundary-spanning demands and resources for work-to-family conflict and perceived stress. *Journal of Occupational Health Psychology*, 10, 491–503.

APPENDIX
 TABLE A1
Cross Check of Primary Studies Included in Previous Meta-analyses

Study name	Study included in . . .				Reason for exclusion in this study
	Byron (2005)	Gajendran & Harrison (2007)	Michel et al. (2011)	This study	
Adams & Jex (1999)	X				Excluded because flexibility measure is perceived control of time
Anderson, Coffey, & Byerly (2002)			X	X	
Aryee (1992)			X	X	
Aryee, Fields, & Luk (1999)	X		X	X	
Behson (2002)			X	X	
Burke (1988)			X		Excluded because flexibility measure appears to be based on shiftwork
Cinamon & Rich (2002)	X		X	X	
Cinamon, Rich, & Westman (2007)			X	X	
Clark (2002)			X		Excluded because there is not a "clean" measure of WIF (measure includes at least one bidirectional item and one balance item)
Cree (1998)		X			Based on 1996 IBM shared with Taveras (1998), which was included instead
DeLay (1995)		X			Unable to locate
Diviney (2001)		X			Excluded because only includes a bidirectional measure of WFC
Duxbury, Higgins, & Neufeld (1998)		X		X	
Eagle (1996)			X		Unable to locate
Eagle, Icenogle, Maes, & Miles (1998)	X		X		Excluded because flexibility measure is measure of schedule demands (e.g., must be on call after leaving workplace)

continued

TABLE A1 (continued)

Study name	Study included in . . .				Reason for exclusion in this study
	Byron (2005)	Gajendran & Harrison (2007)	Michel et al. (2011)	This study	
Frone & Yardley (1996)			X		Excluded because flexibility measure assesses importance of family supportive programs not use or availability of such programs
Golden (2002)			X		Based on same data as Golden (2006), which was included instead
Golden (2006)		X	X	X	
Golden, Veiga, & Simsek (2006)		X	X	X	
Greenhaus, Parasuraman, Granrose, Rabinowitz, & Beutell (1989)			X		Excluded because only includes a bidirectional measure of WFC
Griffiths (2003)		X	X	X	
Hammer, Allen, & Grigsby (1997)			X		Excluded because only includes a bidirectional measure of WFC
Hammer, Neal, Newsome, Brockwood, & Colton (2005)			X	X	
Harrison, Crockett, & Juban (2000)		X		X	
Hartman, Stoner, & Arora (1991)		X		X	
Hill, Ferris, & Martinson (2003)		X			Based on 2001 IBM data shared with other studies, which were included instead (Hill, Martinson, & Ferris, 2004; Hill et al., 2004)
Hill, Hawkins, & Miller (1996)		X			Excluded because outcome is work-family balance rather than WFC
Hill, Miller, Weiner, & Colihan (1998)		X			Excluded because outcome is work-family balance rather than WFC
Huang (2001)			X		Excluded because items do not represent a "clean" measure of flextime availability, and flextime use data are shared with Hammer et al. (2005), which was included instead

continued

TABLE A1 (continued)

Study name	Study included in . . .				Reason for exclusion in this study
	Byron (2005)	Gajendran & Harrison (2007)	Michel et al. (2011)	This study	
Hughes, Galinsky, & Morris (1992)	X			X	Excluded because flexibility measure is perceived control of time
Jex & Elacqua (1999)	X				
Kossek et al. (2006)		X		X	Excluded because a measure of WFC could not be found within the study Based on same data as Madsen (2006) which was included instead
Kowalski (1997)			X	X	
Lu, Kao, Chang, Wu, & Cooper (2008)			X	X	
Mackie-Lewis (1998)		X			
Madsen (2003)		X			Excluded because only includes a bidirectional measure of WFC Excluded because only includes a bidirectional measure of WFC
Major, Klein, & Ehrhart (2002)			X	X	
Matsui, Ohsawa, & Onglatco (1995)	X		X	X	
McCarthy (2001)		X		X	
McCloskey (2001)		X			Excluded because only includes a bidirectional measure of WFC Excluded because only includes a bidirectional measure of WFC
Pal & Saksvik (2008)			X		
Parasuraman, Purohit, Godshalk, & Beutell (1996)			X	X	Excluded because the study assesses attraction to organizations with flexibility rather than use or availability
Raguram & Wiesenfeld (2004)	X		X	X	
Rau & Hyland (2002)		X			
Shockley & Allen (2007)			X	X	Based on 2002 NSCW data shared with Beutell (1998) which was included instead
Taveras (1998)			X	X	
Voydanoff (2005)		X			

Note. WFC = Work-Family Conflict; NSCW = National Study of the Changing Workforce.

Copyright of Personnel Psychology is the property of Wiley-Blackwell and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.