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Measurement Development and Validation of the Family Supportive Supervisor Behavior Short-Form (FSSB-SF)

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Abstract

Recently, scholars have demonstrated the importance of Family Supportive Supervisor Behaviors (FSSB), defined as behaviors exhibited by supervisors that are supportive of employees' family roles, in relation to health, well-being, and organizational outcomes. FSSB was originally conceptualized as a multidimensional, superordinate construct with four subordinate dimensions assessed with 14 items: emotional support, instrumental support, role modeling behaviors, and creative work-family management. Retaining one item from each dimension, two studies were conducted to support the development and use of a new FSSB-Short Form (FSSB-SF). Study 1 draws on the original data from the FSSB validation study of retail employees to determine if the results using the 14-item measure replicate with the shorter 4-item measure. Using data from a sample of 823 information technology professionals and their 219 supervisors, Study 2 extends the validation of the FSSB-SF to a new sample of professional workers and new outcome variables. Results from multilevel confirmatory factor analyses and multilevel regression analyses provide evidence of construct and criterion-related validity of the FSSB-SF, as it was significantly related to work-family conflict, job satisfaction, turnover intentions, control over work hours, obligation to work when sick, perceived stress, and reports of family time adequacy. We argue that it is important to develop parsimonious measures of work-family specific support to ensure supervisor support for work and family is mainstreamed into organizational research and practice.

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Keywords

FSSB; Supervisor Support; Measurement Development; Work-Family

In recent years, extensive changes have come about in employee and family roles and in the relationship between work and family domains. Evidence of these changes includes the increasing percentage of families supported by dual incomes, growing numbers of single parents in the workforce, and greater gender integration into organizations (e.g., Hammer & Zimmerman, 2011). These labor market shifts have been coupled with a corresponding trend toward greater organizational adoption of formal family supportive policies; however, scholars suggest that the existence of such policies is a necessary, but insufficient, condition to alleviate workers' rising work and family demands and needs for greater flexibility (e.g., Allen, 2001; Kossek, Lewis, & Hammer, 2010). The organizational behavior literature also suggests there is much to be learned regarding how to make these formal supports work well, and how to increase their usability (Eaton, 2003; Salzar & Beaton, 2000). We argue that most workplaces offer supports related to work hours, scheduling, and flexibility based on the informal discretion of supervisors who are considered the "linking pins" (Hammer, Kossek, Zimmerman, & Daniels, 2007, p. 169) between such formal supports and the informal culture or climate related to work-family support. Thus, research on supervisor support for managing work and family roles is an important area of study in occupational health psychology, and is needed to improve supervisor behaviors that facilitate the integration of work and family for employees (Hammer, Kossek, Yragui, Bodner, & Hanson, 2009; Kossek, Pichler, Bodner, & Hammer, 2011).

Importance of FSSB and Need for an FSSB-Short Form (FSSB-SF)

Family Supportive Supervisor Behaviors (FSSB), defined as behaviors exhibited by supervisors that are supportive of employees' family roles (Hammer et al., 2009), are a critical link in the work-family support—employee outcome chain. In their FSSB measurement development study, Hammer et al. (2009) found FSSB was significantly negatively related to work-to-family conflict, turnover intentions, and significantly positively related to work-to-family positive spillover and family-to-work positive spillover, as well as to job satisfaction, over and above the effects of general supervisor support. And more recently, Odle-Dusseau, Britt, and Greene-Shortridge (2012) found significant relationships over time between employee perceptions of FSSB and reduced turnover intentions, increased job satisfaction, and increased supervisor ratings of employee job performance. Interestingly, Odle-Dusseau et al. (2012) found that while work-family enrichment was a significant mediator of the effects of FSSB on the outcomes over time, work-family conflict failed to mediate any of the effects over time.

In a randomized controlled study, Hammer, Kossek, Anger, Bodner, and Zimmerman (2011) developed and evaluated an FSSB training intervention in which supervisors received both face-to-face and computer-based training. For employees with high levels of family-to-work conflict, the FSSB training led to improved reports of physical health, job satisfaction, and decreased turnover intentions among the employees of those supervisors who were in the training condition. The effects of the training were mediated by employee reports of FSSB,

confirming that the training of supervisors lead to increased employee perceptions of FSSB which, in turn, were related to improved job satisfaction and decreased turnover intentions. Further, the main effects of the FSSB training were significant over time on health outcomes although FSSB was not a mediator of the effects of the training on reports of physical health. Finally, meta-analytic literature reviews show that work-family specific supervisor support has consistently been shown to be more strongly linked to work-family conflict than general support, and that supervisor support is the pathway through which employees develop organizational support perceptions (Kossek et al., 2011). Taken together, these findings suggest that the FSSB construct has both theoretical, as well as practical implications for work-life researchers and practitioners. The only validated published measure of FSSB is based on a 14-item tool (Hammer et al., 2009), which has limited use for researchers and practitioners who need abbreviated assessments. As a way to pre-empt researchers and practitioners from using inconsistent and potentially unreliable short forms of the FSSB, the focus of the present study is to develop and validate an FSSB-SF.

Conceptually, the critical importance of FSSB is based in social support theory, suggesting that psychological and instrumental support from significant people in an individual's role space is critical to providing resources. Such resources enable individuals to better cope with stressors, leading to improved health and well-being outcomes. These relationships have been shown repeatedly with respect to general social support (e.g., Cohen & Willis, 1985), as well as with respect to other various sources of social support such as spouses, friends, coworkers, and even supervisors. The role of supervisor support has been documented in the workplace/organizational literature and more specifically, the role of work-family specific supervisor support has been demonstrated above and beyond general levels of supervisor support in reducing work-family conflict and improving well-being (e.g., Hammer et al., 2009; Kossek et al., 2011). In a recent work-family conceptual model presented by King and colleagues (2013), perceived supervisor support for family plays a major role, along with perceived schedule control, in impacting health and well-being of workers. Additionally, Straub (2012) recently delineated a theoretically based multi-level conceptual framework of the antecedents and outcomes of FSSB to guide future research. Thus, the development of a measure to facilitate further conceptual work in the area of supervisor support for work and family is important.

Hammer et al. (2009) developed the initial FSSB 14-item instrument in response to concerns that prior measures (e.g., Thompson, Beauvais, & Lyness, 1999) confounded the constructs of supervisor support for work and family with organizational work-family culture. Hammer and colleagues argued that providing prescriptive information, or tools, to managers concerning the actual behaviors that were important to enact when being family supportive would be helpful to organizational practitioners. The original FSSB measure was developed to assess four dimensions originally conceptualized by Hammer et al. (2007) (i.e., emotional support, instrumental support, role modeling behaviors, and creative work-family management). We believe that while assessing separate dimensions of FSSB is important, identifying an overall global construct that can be measured with four, instead of 14 items, will be more practical and less costly for researchers to include in their survey instruments. It will also provide a standardized short measure for the field. Indeed, results from the 2009 validation study showed that the four dimensions loaded on one main factor, suggesting this

construct operates as a gestalt of the combination of these behaviors into a general perception of family specific supervisor support. Although this prior research was important and contributes to both research and practice, an independent validation of a short form of the FSSB instrument is also needed.

Validating a short form of the FSSB measure would also make it more likely that researchers would include the FSSB measure in future studies (either as a primary or secondary/exploratory variable), leading to increased organizational implications for the training of managers on family supportive behaviors. It is also argued that employees in organizations have been over-surveyed and in turn are less likely to respond to lengthy surveys (e.g., Rogelberg & Luong, 1998). Thus, it is important to develop parsimonious measures of work-family specific support in order to ensure managerial work-family support is mainstreamed into organizational studies.

As part of the FSSB training intervention developed and evaluated by Hammer et al. (2011), the FSSB is used as an assessment tool that is then fed back to supervisors to help motivate transfer of training. The motivation comes from learning that supervisors consistently tend to rate themselves as more supportive than do employees. This information is critical feedback during the FSSB training for the supervisors. Thus, an effort to minimize the number of survey items by developing shorter, psychometrically sound measures could benefit the researcher as well as the practitioner (Stanton, Sinar, Balzer, & Smith, 2002).

Perhaps the most compelling evidence solidifying why a short form of FSSB is important comes from a recent meta-analysis conducted by Kossek et al. (2011) that demonstrates the significant effects of family-specific support in predicting work-family conflict outcomes over more general forms of social support. These effects were evident for both supervisor and organizational level support. That is, family-specific measures of supervisor and organizational support were stronger predictors of work-family conflict outcomes than were general measures of supervisor and organizational support.

It should be mentioned that, to our knowledge, only two other measures of supervisor support for family exist in the literature (i.e., Clark, 2001; Thompson et al., 1999), however both are limited in their application, and neither was psychometrically validated. First, the Clark (2001) measure is only three items and not multidimensional, only capturing the emotional support component of supervisor support for family. Second, the Thompson et al. (1999) measure has been widely used as a more general measure of work-family culture, but has items that confound perceptions of organizational and managerial support for family. Additionally, this measure is 11 items and assesses only emotional and instrumental support, but not the additional two dimensions of support, role modeling and creative work-family management, found by Hammer et al. (2009). See Table 1 for a list of each of the measures and the items for comparison purposes.

Additionally, the development of the FSSB-SF will enable better integration of the work-family and leadership research areas (Major & Cleveland, 2007). For example, building on research on the relationship between leader member exchange (i.e., LMX) and work-family conflict (e.g., Major, Fletcher, Davis, & Germano, 2008), a general measure of how

individuals and groups of subordinates rate the family supportiveness of leaders provides valuable diversity climate feedback. Studies show that a positive work-family climate (Kossek, Colquitt, & Noe, 2001) is critical for employee well-being and performance as a group level rating, which can be easily monitored over time.

Below we report on two studies conducted to support the development and use of a new FSSB-SF. Study 1 draws on the original data from the Hammer et al. (2009) study to determine if the results using the 14-item measure of FSSB replicate with the four-item FSSB-SF measure. Study 2 extends the validation of the FSSB-SF to a new sample of professional workers and new outcome variables important to occupational health psychology, in addition to the originally studied variables. Before doing so, we discuss some challenges of short form validation work.

Challenges of Short-Form Development and Validation

Smith, McCarthy, and Anderson (2000) provide a review of the challenges of short-form development, divided into two general and nine specific “sins,” as well as remedies. These sins are discussed in terms of their foundations in psychometric theory and their prevalence is demonstrated using a sample of 12 published short-form development and validation articles in top psychology journals. Below we draw on Smith and colleagues’ research to examine the strengths and limitations of our short-form validation of FSSB. We introduce relevant sins and recommendations in this article as substantively appropriate and summarize our results relative to this framework in the Discussion Section of this paper.

FSSB-SF Development

In Smith et al. (2000), a prominent theme reflecting several “sins” relates to a potential and unintended shift in the content or construct domain between the long- and short-form measures. Hence, the manner in which items are chosen from the long-form measure for inclusion in the short-form measure is of paramount importance. Indeed, blindly selecting only items with the largest item-total correlations or factor loadings may result in an unintended narrowing of the content or construct domain (Little, Lindenberger, & Nesselrode, 1999; Smith et al., 2000). Thus, Smith et al. (2000) recommend the use of both quantitative information and qualitative expert review to mitigate the likelihood of such shifts. We adopted this approach in our selection of items for the FSSB-SF.

Our purpose was to create a short-form measure of the overall FSSB construct rather than its sub-domains because the primary validity evidence presented in Hammer et al. (2009) focused on the overall FSSB construct. One important decision involved the importance of the sub-domains when selecting items. Smith et al. (2000) describe, and are critical of, the development of a short-form NEO-Five-Factor Inventory (Costa & McCrae, 1992) in which the study authors opted to initially ignore the facet information when constructing the short-form measure for each personality dimension. Viewing the FSSB sub-domains as facets, we chose to use these sub-dimensions explicitly in our selection of items to maintain the breadth of the conceptual FSSB domain. Thus, we thought it important to retain one item from each of the theoretically motivated sub-dimensions of the original FSSB (Hammer et al., 2009).

To select the items for the short form, we relied on the content of the items (i.e., based on the item wording), as well as on the first-order factor loadings and error variances (i.e., within each sub-domain), all of which was available in Table 2 of Hammer et al. (2009). We first computed the item information statistic (i.e., squared unstandardized factor loading divided by the error variance; McDonald, 1999) for each item. Within each FSSB sub-dimension we identified the two items with the largest item information statistics. Using the item content information and conceptual definitions of the FSSB sub-domains, we chose the item as the one that was most reflective of its conceptual sub-domain. The selected items were Items 3, 7, 9, and 11 reported in Table 2 of Hammer et al. (2009).

Study 1: Replicating FSSB Results with FSSB-SF

If the FSSB-SF is a sufficiently reliable and valid measure of FSSB, we should be able to replicate the psychometric and validity results on the sample used in the original FSSB development and evaluation article (Hammer et al., 2009). Smith et al. (2000) are rightly critical of basing short-form validation efforts exclusively on samples used to validate the long-form of a measure. We do, however, see this replication of results with these data as important. Indeed, failure to replicate these results on the same sample would certainly be damaging to any claims to the validity of the FSSB-SF. This concern motivated our approach in Study 1. We discuss the limitations of this approach at the end of this section; some of these limitations motivate Study 2 presented later. We therefore see replication of these prior results in Study 1 as being informative but not necessarily conclusive regarding the validity of the FSSB-SF.

Method

Sample and Procedure

Data used to develop the original measure were collected in 12 stores of a grocery chain in the Midwestern United States (see Hammer et al., 2009 for procedures). A total of 360 employees and 79 supervisors participated in the study. Seventy-three percent of the sample of employees were female and 27% were male. Ninety-two percent of the employees were white, the average age was 38 years, 55% identified as married or cohabitating, 41% had children living at home, 16% reported providing care to an adult and another 9% reported providing care to a child and an adult.

Measures

Family supportive supervisor behaviors (FSSB)—The FSSB is a multidimensional scale consisting of 14 items that assess emotional support, instrumental support, role modeling, and creative work-family management (see Hammer et al., 2009 for results of scale validation). Items were rated from 1 (strongly disagree) to 5 (strongly agree). Reliability for the overall scale was $\alpha = .94$ and reliability estimates for the subscales were α s = .90, .73, .86 and .86, respectively, for the emotional support, instrumental support, role modeling behavioral and creative work-family management scales. The FSSB-SF is a four item short form consisting of one item from each subscale of the FSSB (see Table 1 for validated short form scale). Reliability for the FSSB-SF was $\alpha = .82$.

Work-family conflict—The construct of work-family conflict was assessed in both directions (work-to-family and family-to-work) using 10 items (Netemeyer, Boles, & McMurrin, 1996). Reliability for work-to-family conflict was $\alpha = .87$ and family-to-work conflict was $\alpha = .85$. A sample item is, “Your job produces strain that makes it difficult to fulfill your family or personal duties.” Responses ranged from 1 (strongly disagree) to 5 (strongly agree).

Work-family positive spillover—The construct of work-family positive spillover was assessed in both directions (work-to-family and family-to-work) using eight items evaluating the transfer of positive affect between domains (Hanson, Hammer, & Colton, 2006). Reliability for work-to-family spillover was $\alpha = .86$ and family-to-work spillover was $\alpha = .92$. Responses ranged from 1 (strongly disagree) to 5 (strongly agree). A sample item is, “Being in a positive mood at work helps you to be in a positive mood at home.” Higher scores indicated greater levels of work-family affective positive spillover.

Job satisfaction and turnover intentions—Job satisfaction was measured with a three-item scale (Hackman & Oldman, 1975) assessing global satisfaction with job. A sample item is, “In general, you like working at your job.” Responses ranged from 1 (strongly disagree) to 5 (strongly agree). Reliability for job satisfaction was $\alpha = .80$. Employee intention to quit their job was assessed through two items (Boroff & Lewin, 1997). Reliability for turnover intentions was $\alpha = .87$. A sample item is, “You are seriously considering quitting (your company) for another employer.” Responses ranged from 1 (strongly disagree) to 5 (strongly agree).

General supervisor support and supervisor support behaviors—General supervisor support was measured with a three-item scale (Yoon & Lim, 1999). A sample item is, “My supervisor is willing to listen to my job-related problems.” Responses ranged from 1 (strongly disagree) to 5 (strongly agree). Reliability for this scale was $\alpha = .82$. Supervisor support behaviors were assessed with a nine-item scale (Shinn, Wong, Simko, & Ortiz-Torres, 1989). A sample item is, “Switched schedules (hours, overtime hours, vacation) to accommodate my family responsibilities.” Responses ranged from 1 (never) to 5 (often). Reliability for this scale was $\alpha = .73$.

Control variables—Hours of work per week was assessed through a single open-ended item that asked, “How many hours do you actually work per week?” Number of children in the home was assessed through a single open-ended question that asked, “How many children (including stepchildren) do you have living in the home?”

Analysis Strategy

Multilevel modeling techniques helped to account for the hierarchical nature of the data structure (i.e., employees nested within supervisors). The data were analyzed using Mplus 4.2 (Muthen & Muthen, 2007), which can account for both non-response and non-normality issues. We used a multilevel confirmatory factor analysis, as we were interested in confirming a single-factor structure for the four FSSB-SF items. Convergent validity was assessed through within-supervisor correlations between scores on the FSSB-SF, scores on

the original measure of FSSB, and on measures of general supervisor support. Criterion-related validity was assessed through multilevel regression analyses, which predicted the importance to work-family outcomes (work-family conflict, work-family positive spillover, job satisfaction, intention to quit). Incremental predictive validity was assessed through the same multilevel regression analyses but also controlling for the measures of general supervisor support and supervisor supportive behaviors.

Results and Discussion

Multi-level Confirmatory Factor Analysis

Intraclass correlations for the four FSSB-SF items ranged from .08 to .11. Therefore, a multilevel confirmatory factor analysis (Hox, 2010; Muthen & Muthen, 2007) was conducted on the four FSSB-SF items to evaluate the hypothesis that a single factor underlies these items both at the between- and within-supervisor levels of analysis. The overall fit of the model to the data was good, $\chi^2(8) = 8.11, p = .42, CFI = .99, RMSEA = .006$. Furthermore, the fit of the between-supervisor ($SRMR_{\text{between}} = .04$) and within-supervisor ($SRMR_{\text{within}} = .02$) portions of the model indicated adequate fit of a single-factor model at both levels. Table 2 presents the factor loadings and standard errors for the model parameters.

Reliability

As reported in the Method section, the Cronbach's alpha reliability estimate for the FSSB-SF was .823; in contrast, the Cronbach's alpha reliability estimate for the original FSSB was .94. Although this is quite a drop in reliability, it is to be expected given the well-known relationship between the number of items in a scale and the reliability of a scale for a given average inter-item correlation (e.g., the Spearman-Brown prophecy formula) (Also see Nunnally & Bernstein, 1994).

Smith et al. (2000) note that a large increase in the average inter-item correlation between short- and long-forms is indicative of a *narrowing* of a construct's domain. The average inter-item correlations for the original FSSB and the FSSB-SF were .528 and .538, respectively. Indeed, using the Spearman-Brown prophecy formula using the average inter-item correlation for the original FSSB 14-item scale, the prophesied reliability coefficient for the four-item scale is .817 which is very close to the actual value. This evidence suggests that the construct domain underlying the FSSB-SF was not unintentionally narrowed from our item selection approach. Furthermore, the reliability estimate for the FSSB-SF is at a level deemed acceptable for use in research.

Convergent Validity

Table 3 displays the within-supervisor correlations between the short- and long-form FSSB scores and their respective correlations with two other measures of supervisor support. The within-supervisor correlation between the four-item FSSB-SF scale and 14-item FSSB scale scores was $r = .94, p < .001$. Thus, little information appears to be lost in FSSB ratings when the short form is used. FSSB-SF scores also correlated positively and significantly with Yoon and Lim's (1999) measure of general supervisor support ($r = .69, p < .001$) and the

Shinn et al. (1989) measure of supervisor support behaviors ($r = .62, p < .001$). These correlations are substantively similar to the correlations between the long-form FSSB scores and these measures reported in Hammer et al. (2009). These results demonstrate the convergent validity of the FSSB-SF.

Criterion-Related Validity

Tables 3 and 4 display results to evaluate the criterion-related validity of the FSSB-SF. Table 3 displays the within-supervisor correlations between short- and long-form FSSB scores and other criterion variables; we note that the correlations between the short- and long-form FSSB scores and these criterion variables are quite similar. Table 4 displays selected parameters and their 95% confidence intervals from multilevel regression analyses to assess the criterion-related validity of FSSB-SF scores on work-family conflict, work-family positive spillover, job satisfaction, and turnover intentions after controlling for the number of hours worked per week and the number of children at home. In these models, FSSB-SF scores significantly predicted work-to-family conflict ($\beta = -.28, p < .001$, pseudo- $R^2 = .05$), work-to-family positive spillover ($\beta = .12, p < .01$, pseudo- $R^2 = .02$), family-to-work positive spillover ($\beta = .21, p < .001$, pseudo- $R^2 = .05$), job satisfaction ($\beta = .37, p < .001$, pseudo- $R^2 = .18$), and turnover intentions ($\beta = -.35, p < .001$, pseudo- $R^2 = .06$), but not family-to-work conflict ($\beta = -.01, p = .84$, pseudo- $R^2 < .01$). As mentioned above, we also provide in Table 4 these same parameter estimates and their 95% confidence intervals for the analyses using the original FSSB long form to facilitate comparison of model results between the short- and long-form FSSB instruments. We note that in each analysis (i.e., with the long- or short-form) the parameter estimates are quite similar and the confidence intervals overlap substantially. These results suggest that the same substantive results are obtained with the long- and short-form instrument. Thus, the criterion-related validity for the original FSSB measure appears to hold for the FSSB-SF.

Incremental Validity

To assess the incremental validity of FSSB-SF scores over and above the predictive utility of Yoon and Lim's (1999) measure of general supervisor support and the Shinn et al. (1989) measure of supervisor support behaviors, these prior supervisor support scale scores were added as predictors to the multilevel regression analyses. Of interest was whether FSSB-SF scores remained a statistically significant predictor of the outcomes. Indeed in these models, as with the original FSSB scores, FSSB-SF scores significantly predicted work-to-family conflict ($\beta = -.26, p < .01$, pseudo- $R^2 = .02$), family-to-work positive spillover ($\beta = .17, p < .02$, pseudo- $R^2 = .02$), job satisfaction ($\beta = .32, p < .001$, pseudo- $R^2 = .06$), but not family-to-work conflict ($\beta = -.01, p = .84$, pseudo- $R^2 < .01$) or work-to-family positive spillover ($\beta = .09, p = .26$, pseudo- $R^2 < .01$). In contrast with prior FSSB results reported in Hammer et al. (2009), FSSB-SF scores did not significantly predict turnover intentions ($\beta = -.16, p = .20$, pseudo- $R^2 < .01$) when general supervisor support and supervisory support behaviors were controlled for.

Limitations

Our approach to validate the FSSB-SF in Study 1 has several limitations. As Smith et al. (2000) note, the correlation between long- and short-form scores could likely be upwardly biased when the same item responses contribute to both the long- and short-form scale scores. Ideally to reduce this potential bias, participants would complete the long-form and then elsewhere in a survey packet or at another time complete the short-form scale. Despite this possible upward bias, we are reassured that the correlation is as strong as it is. Furthermore, we are also reassured that most of the validation results using the long-form replicate using the short-form. Indeed, Smith et al.'s (2000) General Sin #1 states that the researcher assumes that the validation evidence for the long-form automatically applies to the short form. These results provide some evidence that this assumption has merit.

This evidence notwithstanding, we sought to adopt the Smith et al. (2000) recommendation to assess the psychometric properties of the FSSB-SF on an independent sample. To the degree that the psychometric results presented above replicate in an independent sample will bolster the validity of the FSSB-SF. This concern motivated Study 2.

Study 2: FSSB-SF Validation

Further validation of the FSSB-SF was conducted using a new sample of professional information technology employees from a large U.S. firm, which adds to the generalizability of the measure, as the original measure was validated using a low-wage, hourly workforce. These data were from the baseline assessment of a larger study by the Work, Family, and Health Network on the impact of work conditions on work, family, and health outcomes of workers. We included the same outcome variables that were part of the Hammer et al. (2009) validation study (i.e., work-to-family conflict, family-to-work conflict, work-to-family positive spillover, job satisfaction, and turnover intentions), with the exception of family-to-work positive spillover, which was omitted from the newer study but was part of the first study.

Consistent with the multilevel conceptual framework for FSSB research proposed by Straub (2012), we included four additional theoretically-driven outcomes which enabled us to assess the FSSB-SF's ability to also predict control over work hours, obligation to work when sick, perceived stress, and reports of family time adequacy. Especially for professionals, a key behavior critical to being family supportive is giving employees more control over work hours (Kossek, Latusch, & Eaton, 2006). In addition, we expect that when a supervisor is supportive of family, he/she is more likely to place less pressure on employees to work when they are sick given they understand the need for self-care in addition to family care, resulting in lowered reports of employees feeling obligated to work when sick. This expectation is also consistent with research by Moen, Kelly, Tranby, and Huang (2011) who found when professionals felt more in control of their work hours they were less likely to work when they themselves were sick. Likewise, we expect that the increased supervisor support for family will be negatively related to perceived stress and positively related to perceptions that one has an adequate amount of family time, consistent with social support theory (Cohen & Willis, 1985) and the conservation of resources theory (COR; Hobfoll, 1989). This suggests that social support at work provides employees with

more resources to participate in the family role outside of work. This expectation is consistent with previous research showing that increased organizational cultural support for family is positively related to employee reports of family time adequacy (Kelly, Moen, & Tranby, 2011). Therefore, we hypothesize the following:

Hypothesis 1

Employee reports of FSSB-SF will be significantly positively related to work-to-family positive spillover, job satisfaction, control over work hours, and reports of family time adequacy.

Hypothesis 2

Employee reports of FSSB-SF will be significantly negatively related to work-to-family conflict, family-to-work conflict, turnover intentions, obligation to work when sick, and perceived stress.

Method

Sample and Procedure

The current study focused on a sample of managers and employees from multiple sites within the information technology division of a large Fortune 500 firm. Individual employees and managers at these sites consented voluntarily to participate in the data collection. Managers and employees in the company were eligible to participate if they were located in the two cities where data collection occurred and were classified as employees (rather than as independent contractors).

Trained field interviewers administered surveys via face-to-face Computer Assisted Programmed Interviews (CAPI) with managers and employees beginning in September 2009 and ending in September 2010. Managers and employees completed these 60-minute interviews at the worksite and received a \$20 incentive. In all, 256 managers were eligible to complete the CAPI and 221 did so, for an 86.3% response rate. Additionally, 1,182 employees were eligible to complete the CAPI, with 823 doing so for a 69.6% response rate.

For the current validation analysis, we analyzed groups of employees supervised under the respondent's most direct manager. This allowed for the inclusion of random effects at the team level, even though the focus of our analysis was on individual level variables. The analysis was based on 823 employees nested within 219 direct supervisors. Two of the original 221 supervisors were excluded from the analysis because they did not have any directly-reporting employees who completed the survey. Thus, no employees could be linked with these two supervisors in the multilevel analyses. Managers supervised between one and 16 employees. Sixty-one percent of the employees were male and 39% were female. Seventy-one percent were White, the average employee age was 46 years ($SD = 8.38$), 79% were married or cohabitating, 56% had children living in the home, and 13% responded they provided care to a child and an adult.

Measures

Study 1 measures—We used many of the same measures from Study 1 to replicate those results on an independent sample. We included the measures of work-to-family conflict ($\alpha = .91$), family-to-work conflict ($\alpha = .83$), work-to-family positive spillover ($\alpha = .82$), job satisfaction ($\alpha = .86$), and intentions to quit ($\alpha = .86$). Descriptions of these measures are available in Study 1. Reliability estimates reported here are from Study 2.

Family supportive supervisor behaviors (FSSB-SF)—The FSSB-SF evaluated in Study 1 is a four-item scale with each item tapping one of the four construct domains underlying FSSB, (i.e., emotional support, instrumental support, role modeling, and creative work-family management). These items are listed in Table 1. Response options followed a 5-point Likert-type scale; items were coded for analysis such that higher scores indicated higher FSSB. Reliability for the FSSB-SF was $\alpha = .88$.

Obligation to come to work while sick—A single item assessed whether employees felt that they were obligated to come to work when sick, “When you are sick, you still feel obligated to come into work.” Responses ranged from 1 (strongly disagree) to 5 (strongly agree).

Control over work hours—Eight items were used to assess the degree to which employees felt that they could control the arrangement of the hours that they worked (Thomas & Ganster, 1995). A sample item is “How much choice do you have over when you begin and end each work day?” Item responses ranged from 1 (very little) to 5 (very much). Responses were averaged to create the scale score ($\alpha = .79$) with higher scores indicating greater control over work hours.

Family time adequacy—Family time adequacy items were taken from the Family Resource Scale-Revised (Van Horn, Bellis, & Snyder, 2001) and revised to reflect a focus on control over work time to attend to family responsibilities. The scale is comprised of two items. A sample item is, “To what extent is there enough time for family to be together?” Item responses ranged from 1 (never) to 5 (all of the time). Responses were averaged to create the scale score ($\alpha = .53$) with higher scores indicating greater family time adequacy.

Perceived stress—Perceived stress was measured using the Perceived Stress Scale (Cohen, Karmack, & Mermelstein, 1983). Four items asked employees to rate their overall stress. A sample item is “During the past 30 days, how often have you felt that you were unable to control the important things in your life?” Item responses ranged from 1 (never) to 5 (very often). Responses were averaged to create the scale score ($\alpha = .76$) with higher scores indicating greater perceived stress.

Respondent characteristics and control variables—Respondent characteristics of gender, age, and marital status were assessed. In addition, the control variable of hours of work per week was assessed through a single open-ended item that asked, “How many hours do you actually work per week?” Number of children in the home was assessed through a

single open ended question that asked, “How many children (including stepchildren) do you have living in the home?”

Results

To handle occasional missing values in the items underlying each scale, we created mean scale scores only if 75% or more of the scale item responses were observed; otherwise, the scale scores were set to missing. Using this method, missing scale score data were sparse for the variables under study, ranging from no missing data to 20 cases (2.4% of total) with missing values for the Family Time Adequacy scale. Analyses were conducted using Mplus 4.2 (Muthen & Muthen, 2007) using the multi-level add-on package and using maximum likelihood estimation permitting estimation accounting for missing data. In the analyses that follow, $\alpha = .05$ was used to define statistical significance. Table 5 provides within-supervisor employee descriptive statistics for the study variables.

Multi-level Confirmatory Factor Analysis

Intraclass correlations for the four FSSB-SF items ranged from .13 to .20. Therefore, a multi-level confirmatory factor analysis (Hox, 2010; Muthen & Muthen, 2007) was conducted on the four FSSB-SF items to evaluate the hypothesis that a single factor underlies these items both at the between- and within-supervisor levels of analysis. Although the chi-square test of exact fit suggested significant differences between the model and the data, the model fit indices suggest that the model is an adequate approximation to the data structure, $\chi^2(8) = 19.69, p = .01, CFI = .99, RMSEA = .04$. Furthermore, the fit of the between-supervisor ($SRMR_{\text{between}} = .07$) and within-supervisor ($SRMR_{\text{within}} = .01$) portions of the model indicated adequate fit of a single-factor model at both levels of the model. Table 2 presents the estimated factor loadings and standard errors for the model parameters.

FSSB-SF Scores with Respondent Demographic and Control Variables

A series of multi-level regression analyses were conducted to explore whether the respondent characteristics of gender, age, and marital status and our control variables of hours worked per week and number of children at home were predictive of FSSB-SF ratings. None of these variables were significantly related to FSSB-SF scores. Respondent age was negatively but not significantly related to FSSB-SF ratings, $\gamma = -.01, p = .07$. Female respondents provided lower ratings than male respondents, but not significantly so, $\gamma = -.11, p = .10$. Married respondents or respondents with significant others provided higher FSSB-SF ratings than non-attached respondents, $\gamma = .09, p = .22$, but not significantly so. Hours worked per week was negatively, but not significantly, related to FSSB-SF ratings, $\gamma = -.01, p = .21$; number of children living at home was not significantly related to FSSB-SF ratings, $\gamma = -.005, p = .85$.

Replication of Prior FSSB Validation Results

To replicate the results of Hammer et al. (2009) on the same variables using a new sample, multilevel regression analyses were conducted to assess the criterion-related validity of FSSB-SF scores on work-family conflict and work-family positive spillover, job satisfaction, and turnover intentions after controlling for the number of hours worked per

week and the number of children at home. Unfortunately, however, we were unable to assess the incremental validity in the new sample because we did not include a measure of general supervisor support. In these models, FSSB-SF scores significantly predicted work-to-family conflict ($\gamma = -.41, p < .001$, pseudo- $R^2 = .12$), job satisfaction ($\gamma = .38, p < .001$, pseudo- $R^2 = .12$), and turnover intentions ($\gamma = -.45, p < .001$, pseudo- $R^2 = .14$). In contrast with prior results, here FSSB-SF scores significantly predicted family-to-work conflict ($\gamma = -.11, p < .001$, pseudo- $R^2 = .02$) but did not significantly predict work-to-family positive spillover ($\gamma = .05, p = .16$, pseudo- $R^2 = .006$). As presented in Table 4, these parameter estimates are similar to and their 95% confidence intervals overlap considerably with those found in Study 1. These results bolster the validity of the FSSB-SF.

New FSSB-SF Validation Results

Several variables, not available in the original study, were available in the current dataset to further assess the criterion-related validity of the FSSB-SF scores: control over work hours, obligation to work when sick, family time adequacy, and perceived stress. As before, multilevel regression analyses were conducted to assess the criterion-related validity of FSSB-SF scores on these outcomes after controlling for the number of hours worked per week and the number of children at home. In these models, FSSB-SF scores were significantly and positively related to control over work hours ($\gamma = .30, p < .001$, pseudo- $R^2 = .10$) and family time adequacy ($\gamma = .22, p < .001$, pseudo- $R^2 = .07$) and significantly and negatively related to obligation to work when sick ($\gamma = -.35, p < .001$, pseudo- $R^2 = .05$) and perceived stress ($\gamma = -.21, p < .001$, pseudo- $R^2 = .06$). Taken together, these results support Hypotheses 1 and 2.

Discussion

Drawing on the work of Smith et al. (2000), we believe our approach has addressed many of the “sins” of short-form validation. We used both qualitative and quantitative analysis to select items in developing the short form to prevent an unintended “narrowing” of the construct domain between long and short forms. We used a new sample to cross-validate the short form results in Study 2. Finally, we believe that use of the FSSB-SF offers a substantial decrease (i.e., 10 items or 71%) in survey space and administration time. The net result is a four-item scale that behaves much like the original 14-item scale when the focus is on the overall FSSB construct. It is clear from our development and analysis of the FSSB-SF that the new measure demonstrates significant reliability and validity and offers both researchers and practitioners a more succinct assessment of this critical concept for future use.

The scientific contributions of our paper’s findings add to the nomological network and generalizability of FSSB by demonstrating its significant relationship not only with work-family conflict, work-family positive spillover, job satisfaction, and turnover intentions, as was done by Hammer et al. (2009), but also by extending the outcomes to control over work hours, obligation to work when sick, perceived stress, and reports of family time adequacy. More specifically, employees who rate their supervisors high on FSSB-SF, indicate that they have more control over their work hours, less obligation to work when they are sick, lower

perceived stress, and higher reports of family time adequacy. In addition, the findings of this study extend the generalizability of the FSSB assessment to a professional sample of high-technology workers. These results are important particularly for future research as many studies either, examine work-family issues in a very specific sample or job type, or a massive general population survey. We believe our approach of building on the study of work-family supervisor support in specific job contexts and samples is a great method for researchers to see if constructs are replicable across work contexts and job occupations. We showed that FSSB could be captured in a shortened conceptual form across low-income retail worker and in higher income information technology worker samples.

In addition to our own validation findings, Odle-Dusseau et al. (2012) demonstrated that a measure of FSSB was a predictor of critical well-being outcomes, and even more importantly, it was a predictor of supervisory ratings of employee performance over time. These findings suggest that employee reports of FSSB are not only related to employee reports of job attitudes and well-being over time, but the potential beneficial effects of FSSB extend to non-same source performance ratings. Very few studies have linked work-family programs or supports, informal or formal, to employee performance outcomes (for an exception see, Kossek et al., 2001). Furthermore, our findings, and those of most work-family studies to date, have limited ability to draw causal conclusions. There is a need for longitudinal studies and randomized experiments to explore the causal relations among the FSSB-SF and health, well-being, and performance outcomes.

This study, and specifically the development and validation of the FSSB-SF, opens up great potential for future research using multi-level modeling. Straub (2012) offers a multilevel framework linking individual and contextual level factors to FSSB, which in turn is linked to both individual and team level outcomes. Future research should include the FSSB-SF and include ratings from supervisors and employees. Studies can use multi-level modeling of the supervisor level and characteristics to predict individual employee attitudes and behaviors. Group level context studies can also be conducted to assess variation in the family supportiveness of work groups, as most work-family policies are enacted at the work group level. Cross-organizational studies can be conducted to assess variation in family specific supervisor supportiveness as an important construct in general organizational behavior, psychological, and management research.

Not only are the theoretical and research implications significant for the continued examination of the FSSB construct that is only enhanced by the availability of a short-form version of the measure, but the practical implications are noteworthy. As can be seen in the Hammer et al. (2011) randomized controlled study, training was developed based on enhancing supervisor FSSB, and this training led to increased employee perceptions of FSSB and in turn increased employee job satisfaction, physical health, and decreased turnover intentions for those employees with high levels of family-to-work conflict. Additionally, we would expect that future FSSB training has the potential of impacting employee performance, as suggested by Odle-Dusseau et al. (2012), as well as the additional family and well-being outcomes examined in the present validation study (i.e., work-family conflict, work-family positive spillover, control over work hours, obligation to work when sick, perceived stress, and reports of family time adequacy). Given that the suggested

training by Hammer et al. (2011) involves an assessment of supervisor and employee FSSB, the FSSB-SF provides a more practical assessment instrument for organizational practitioners in the future.

Limitations

We have fallen short of two areas in the Smith et al. framework, which serve as limitations of our work. First, we have not retained and validated the sub-factor structure of the FSSB domains. Given our focus on the overall FSSB construct and the empirical replications across short- and long-form scales demonstrated in Studies 1 and the empirical replications across Studies 1 and 2 for the short-form scales, we do not view this limitation as a major concern. Second, we have not assessed the relationship between the long- and short-form scores based on separate assessments of these measures. Thus our estimated correlation between the original and short-form measures presented in Study 1 is likely upwardly biased. Again we do not view this as a major concern given the replication of results across studies.

Further, while we have provided conceptual, empirical, and practical arguments for the development of an FSSB-SF measure, we were unable to assess the incremental validity in the new sample of professional workers because such a measure of general supervisor support did not exist. Thus, we are not certain that FSSB-SF scores have incremental predictive utility over general support, as was demonstrated with the original 14-item FSSB measure by Hammer et al. (2009). We do know, however, as mentioned earlier, that the FSSB-SF and the original longer FSSB form scores are highly correlated ($r = .94$) based on the Hammer et al. (2009) sample. We actually expect this additional predictive utility for the FSSB-SF to exist given the original validation paper, as well as the Kossek et al. (2011) meta-analysis, but future research should verify this claim.

Conclusions

While much research has confirmed the negative effects of work-family conflict and stress on both individual and organizational outcomes (e.g., Allen, 2001; Kossek & Ozeki, 1998), very little has focused on practical ways of reducing such negative effects. We identify FSSB as a potential critical mechanism for addressing work-family integration from both a research and practical perspective. We argue that our FSSB-SF will facilitate such needed research and practice, leading to a better understanding of ways of providing supervisors with critical tools and training for work-family support.

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Table 1

Item Comparison of Short Form Measures

Scale & Item	Emotional Support	Role Modeling	Instrumental Support	Creative Work-Family Management
FSSB-SF				
<ul style="list-style-type: none"> Your supervisor makes you feel comfortable talking to him/her about your conflicts between work and non-work 	*			
<ul style="list-style-type: none"> Your supervisor demonstrates effective behaviors in how to juggle work and non-work issues 		*		
<ul style="list-style-type: none"> Your supervisor works effectively with employees to creatively solve conflicts between work and non-work 			*	
<ul style="list-style-type: none"> Your supervisor organizes the work in your department or unit to jointly benefit employees and the company 				*
Clark (2001)				
<ul style="list-style-type: none"> My supervisor understands my family demands 	*			
<ul style="list-style-type: none"> My supervisor listens when I talk about my family 	*			
<ul style="list-style-type: none"> My supervisor acknowledges that I have obligations as a family member 	*			
Thompson et al. (1999)				
<ul style="list-style-type: none"> In general, managers in this organization are quite accommodating of family-related needs. 			*	
<ul style="list-style-type: none"> Higher management in this organization encourages supervisors to be sensitive to employees' family and personal concerns. 	*			

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Scale & Item	Emotional Support	Role Modeling	Instrumental Support	Creative Work-Family Management
FSSB-SF				
<ul style="list-style-type: none"> Middle managers and executives in this organization are sympathetic toward employees' child care responsibilities. 	*			
<ul style="list-style-type: none"> In the event of a conflict, managers are understanding when employees have to put their family first. 	*			
<ul style="list-style-type: none"> In this organization employees are encouraged to strike a balance between their work and family lives. 	*			
<ul style="list-style-type: none"> Middle managers and executives in this organization are sympathetic toward employees' elder care responsibilities. 	*			
<ul style="list-style-type: none"> This organization is supportive of employees who want to switch to less demanding jobs for family reasons. 			*	
<ul style="list-style-type: none"> In this organization it is generally okay to talk about one's family at work. 	*			
<ul style="list-style-type: none"> In this organization employees can easily balance their work and family lives. 			*	
<ul style="list-style-type: none"> This organization encourages employees to set limits on where work stops and home life begins. 	*			
<ul style="list-style-type: none"> In this organization it is very hard to leave during the workday to take care of personal or family matters. (R) 			*	

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Table 2

Parameters of a Multilevel Confirmatory Factor Analysis of the FSSB-SF on a Sample of Grocery Workers (Study1) and High Technology Workers (Study2)

Dimension	Item	Within-Supervisor						Between-Supervisor*	
		Loading (SE)		Stand. Loading		Error Variance (SE)		Loading (SE)	
		Study1	Study2	Study1	Study2	Study1	Study2	Study1	Study2
Emotional support	Your supervisor makes you feel comfortable talking to him/her about your conflicts between work and non-work	1.00	1.00	.66	.77	.51 (.06)	.32 (.03)	1.00	1.00
Instrumental support	Your supervisor works effectively with employees to creatively solve conflicts between work and non-work	1.05 (.10)	1.08 (.06)	.76	.86	.31 (.03)	.19 (.03)	.83 (.28)	1.39 (.16)
Role modeling	Your supervisor demonstrates effective behaviors in how to juggle work and non-work issues	1.14 (.09)	1.02 (.06)	.81	.77	.26 (.04)	.33 (.03)	.98 (.28)	1.48 (.26)
Creative work-family management	Your supervisor organizes the work in your department or unit to jointly benefit employees and the company	.98 (.12)	.87 (.07)	.71	.66	.38 (.04)	.46 (.03)	.77 (.32)	1.25 (.29)

*The residual 221) variances of the indicators for the between-supervisor factor model are set to zero (see Muthen & Muthen, 2007, p. 221)

Table 3

Within-Supervisor Correlations Between FSSB Short- and Long-Form Scores and Study 1 Variables

	FSSB (Short Form)	FSSB (Long Form)
FSSB (Short form)	1.00	0.94
FSSB (Long form)	0.94	1.00
General Supervisor Support	0.69	0.74
Supervisor Supportive Behaviors	0.62	0.68
Work-Family Conflict	-0.21	-0.22
Family-Work Conflict	0.02	0.04
Work-Family Positive Spillover	0.08	0.06
Family-Work Positive Spillover	0.23	0.22
Job Satisfaction	0.39	0.41
Turnover Intentions	-0.20	-0.24
Number of Children Home	0.00	-0.02
Hours Worked	-0.14	-0.13

Notes: Other variable correlations for Study 1 are available in Table 3 of Hammer et al. (2009). *N*s range from 358 to 360. All correlations greater than .12 in absolute value are significant at the $\alpha = .05$ level.

Table 4

Estimates and 95% Confidence Intervals for Parameters Relating FSSB Long- and Short-Form Scale Scores to Study 1 and 2 Outcomes (Criterion-Related Validity)

Outcomes	Study 1				Study 2	
	FSSB Long-Form		FSSB Short-Form		FSSB Short-Form	
	Estimate	95% CI	Estimate	95% CI	Estimate	95% CI
Work-to-Family Conflict	-.31*	(-.44, -.19)	-.28*	(-.42, -.15)	-.41*	(-.49, -.34)
Family-to-Work Conflict	-.01	(-.10, .07)	-.01	(-.09, .07)	-.11*	(-.17, -.05)
Work-to-Family Positive Spillover	.10*	(.01, .19)	.12*	(.03, .21)	.05	(-.01, .11)
Family-to-Work Positive Spillover	.19*	(.10, .28)	.21*	(.10, .31)	NI	
Job Satisfaction	.42*	(.33, .51)	.37*	(.26, .49)	.38*	(.30, .44)
Intention to Quit	-.46*	(-.62, -.30)	-.35*	(-.53, -.17)	-.45*	(-.55, -.35)
Obligation to Work when Sick	NI		NI		-.35*	(-.46, -.24)
Control over Work Hours	NI		NI		.30*	(.24, .36)
Perceived Stress	NI		NI		-.21*	(-.28, -.15)
Family Time Adequacy	NI		NI		.22*	(.16, .29)

* $p < .05$. NI = Variable not included in study. Analyses controlled for hours worked per week and the number of children at home.

Table 5

Within-Supervisor Descriptive Statistics for Study 2 Variables

	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. FSSB-SF	3.83	0.73	1.00													
2. Work-Family Conflict	3.08	0.85	-0.33	1.00												
3. Family-Work Conflict	2.12	0.60	-0.12	0.33	1.00											
4. Work-Family Positive Spillover	4.11	0.56	0.07	0.12	0.00	1.00										
5. Job Satisfaction	3.96	0.73	0.35	-0.30	-0.22	0.02	1.00									
6. Turnover Intentions	2.24	1.05	-0.31	0.31	0.21	0.05	-0.55	1.00								
7. Obligation To Work When Sick	3.30	1.12	-0.21	0.36	0.10	0.06	-0.16	0.14	1.00							
8. Control Over Work Hours	3.59	0.62	0.32	-0.34	-0.12	-0.04	0.28	-0.25	-0.23	1.00						
9. Perceived Stress	1.97	0.61	-0.24	0.30	0.23	0.01	-0.38	0.27	0.16	-0.23	1.00					
10. Family Time Adequacy	3.35	0.69	0.27	-0.52	-0.21	-0.10	0.21	-0.19	-0.31	0.38	-0.32	1.00				
11. Number of Children Home	0.99	1.05	0.00	0.03	0.14	0.05	0.01	0.09	0.04	0.03	0.08	-0.10	1.00			
12. Hours Worked	45.47	5.30	-0.04	0.35	0.03	0.04	-0.04	0.12	0.18	-0.12	0.08	-0.14	-0.08	1.00		
13. Age	45.75	8.38	-0.08	0.03	-0.09	-0.08	0.09	-0.17	0.06	0.12	-0.05	0.08	-0.15	0.03	1.00	
14. Married	0.74	0.43	0.09	-0.01	0.08	-0.03	0.09	-0.03	-0.05	0.01	-0.04	-0.04	0.28	-0.01	0.05	1.00
15. Female	0.39	0.45	-0.06	0.09	-0.02	0.06	-0.01	-0.11	0.08	0.04	0.11	-0.08	-0.06	-0.06	0.08	-0.19

N = 823, *r*s > |.09| are significant at *p* < .05.