

Work-Team Contexts of Work-Family Conflict, Stress, and Psychological Distress:
A Multilevel Analysis

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Abstract

Most research on the demographic characteristics, work conditions, and family responsibilities associated with work-family conflict and other measures of mental health uses the individual employee as the unit of analysis. We argue that work conditions are both individual psychosocial assessments *and* objective characteristics of the proximal work environment, necessitating multilevel analyses of both individual- and team-level work conditions on mental health. Drawing on baseline data on from the Work, Family, and Health Network research project, we examined information technology (IT) workers in a large U.S. firm (N=515 employees in 84 work teams) to investigate the distribution and “groupness” of key work conditions. We theorized three dimensions of the proximal work environment (structural, contextual, and managerial) to be associated with employees’ mental health, including work-family conflict. Results show that contextual (aggregated) team-level work conditions are associated with both team-level and employee-level measures of work-to-family conflict, but that fewer team work conditions are linked to employees’ family-to-work conflict, perceived stress, and psychological distress. We found some heterogeneous effects by gender and family stage, as well as by team function.

Keywords: work-family conflict, multilevel, team-level, work conditions, stress, psychological distress, mental health

The Psychosocial Contexts of Work Teams

Occupational health psychologists, sociologists and social epidemiologists (c.f. Berkman & Kawachi, 2000; House, 2002; Kawachi & Berkman, 2003; Krieger, 2011; Oakes & Kaufman, 2006; Quick, 1999; Quick & Tetrick, 2011) have theorized social structures and contexts – more than individual attributes – as key to individual health and well-being, generating an emphasis in the interdisciplinary public health literature on the social causes of health and well-being. Some have keyed in on specific nonwork social environments shaping stress and well-being, studying individuals embedded in networks (Christakis & Fowler, 2007; 2008), schools (Aveyard, Markham, & Cheng, 2004) and residential neighborhoods (Sampson, Morenoff & Gannon-Rowley, 2002). But most adults spend most of their waking hours on the job, meaning that the majority of social interactions with those outside of one's family are with coworkers, not neighbors or friends (Dahlin, Kelly, & Moen, 2008). Arguably the most potent forces affecting the stress and well-being of workers lie within the proximal social environments of paid work, a key context that can offer important insights into the distribution of work conditions shown to predict mental health in the form of low work-family conflict, stress, and psychological distress.

However, most work-family conflict, stress process, and health research remains at the individual level of analysis. Work conditions (e.g., Karasek, 1979; Landsbergis et al., in press) have frequently been measured as employees' perceptions (such as perceived job control) or else as attributes of occupations. Regarding the latter, research has shown that professionals have more job autonomy than blue-collar workers (Baltes, Briggs, Huff, Wright, & Neuman, 1999). Multiple aspects of the work context can influence wellness and health behavior outcomes (Sorensen et al., 2011). However, rarely have autonomy and other conditions been measured at

the team level as key contexts of individual well-being (exceptions include Blair-Loy & Wharton, 2002; Cruz & Pil, 2011; O'Neill et al., 2009; Van Yperen & Snijders, 2000).

Individual-Level Research on Work Conditions and Well-Being

There is considerable evidence using individuals as the unit of analysis that psychosocial work conditions (especially job demands, job control and support) matter for employees' perceived well-being as well as for "harder" health outcomes, including mortality. Consider the large body of work on the impacts of job control, defined by Karasek (1979, p. 290) as an employee's "potential control over his tasks and his conduct during the working day." Building on Karasek and Theorell (1990), scholars have theorized the importance of individual-level job control for health, demonstrating empirically that job control (i.e. control over how work is done) has both direct and buffering effects in promoting health and well-being (e.g., de Lange, Taris, Kompier, Houtman, & Bongers, 2003; Hausser, Mojzisch, Niesel, & Schulz-Hardt, 2010, including work-family conflict and strain (Thomas & Ganster, 1995). There is ample evidence in the occupational health literature linking individuals' perceptions of job control with health and well-being (see also Van Der Doef & Maes, 1999).

Scholars have recently extended understanding of the psychosocial work conditions affecting well-being in two important ways. First, researchers – particularly those attuned to work-family conflict – have elaborated *schedule control* as a distinct form of control at work. While earlier research focused on employees' control over *how* they perform their work (cf Hackman & Oldham, 1980), many employees are stressed because they do not have control over their *working time*. In particular, "time cages", the norms and regulations of work scheduling (Sennett 1998), dictate when, how long, and where employees work, limiting their ability to juggle job, family, and personal obligations, thereby fostering work-family conflict and

perceived stress. Flexible work conditions that offer employees greater schedule control, that is, the ability to decide when (and sometimes where) they do their jobs, may be especially important in reducing the distress of contemporary employees, given the increasing time pressures, time speed-ups, and time conflicts most are experiencing. Schedule control appears to be related to, but distinct from, traditional measures of job control (Moen, Kelly, & Huang, 2008) and has been linked to lower work-family conflict and better reported health in cross-sectional (Moen et al., 2008; Thomas & Ganster, 1995), longitudinal (Grzywacz, Casey, & Jones, 2007), and recent quasi-experimental studies (Kelly, Moen, & Tranby, 2011; Moen, Kelly, Tranby, & Huang, 2011). While high status jobs offer greater control, employees in these positions are also faced with the pull of interesting work and pressures to perform in order to maintain or improve their position or that of their employer. These pulls and pressures may promote greater work-family conflict. Thus some studies (Roeters et al., 2010; Schieman, Milkie, & Glavin, 2009) raise the issue of whether greater job and schedule control might be detrimental for work-family conflict because they heighten the demands and pressures of work and blur work-life boundaries (Blair-Loy 2009; Kossek, Lautsch, & Eaton, 2006). Greater flexibility in work schedules may also lead to greater family demands and pressures, culminating in higher levels of work-family conflict (Hammer, Neal, Newsom, Brockwood & Colton, 2005).

Second, scholars have integrated social support into occupational health models, considering both supportive organizational climates and support from managers in particular. Employees who perceive their organization to be supportive of family responsibilities report less work-family conflict (e.g. Allen, 2001). Understanding of concrete ways that supervisors support employees' family and personal lives has been advanced with new measures of "family-supportive supervisor behaviors" (Hammer, Kossek, Yragui, Bodner, & Hanson, 2009) and

through meta-analysis of the contributions of family-supportive supervisor support as compared to more general measures of supervisor support (Kossek, Pichler, Bodner & Hammer, 2011).

Theorizing Team-Level Conditions and Well-Being

With a few important exceptions, what has not been accomplished to date is the linking of employees' mental health with their embeddedness in the structural and social conditions at work, although there have been important contributions in this direction (c.f. Blair Loy & Wharton, 2002; Cruz & Pil, 2011; Hammer, Saksvik, Nytrø, Torvatn, & Bayazit, 2004; O'Neill et al., 2009; Van Yperen & Snijders, 2000). And yet recognition of the value of multilevel theory and analysis and methodological advances (Bliese & Jex, 2002; Klein & Kozlowski, 2000) suggest the importance of moving beyond individual-level models. Accordingly, in this paper we investigate whether team-level work conditions are associated with employees' work-family conflict, perceived stress, and psychological distress, and whether any such links occur net of individual employees' own perceptions of these work conditions. In other words, we are looking at the psychological associations of team-level social conditions, on their own as well as net of the psychosocial assessments by employees of these conditions. As shown in Figure 1, we theorize and assess the associations with mental health of three types of team conditions: structural, contextual, and supervisory, recognizing that there are as well other potential impacts at other levels. Along all three dimensions, work teams may share stress (suggesting stress contagion or crossover [cf. Westman & Etzion, 1999] as the mechanism by which negative team conditions affect individual well-being). Or team members may benefit from shared resources, suggesting joint access to positive work conditions as the mechanism shaping individual well-being. We also investigate potential work and family moderators of these relationships – whether, for example, gender and/or family status or else being in a core IT versus support team

might be associated with greater or lesser team-level effects on employees' mental health.

Following Bhawe, Kramer, and Glomb (2010), we expect stronger team-level associations with work-family conflict than with other more general measures of perceived stress and psychological distress, since the more general outcomes may be exacerbated by many other factors (such as family conditions).

Structural Team Conditions. We include in our models structural characteristics such as team size, percent female, and team core IT function (distinguishing teams of software developers from teams engaged in other business functions). These are called integral variables (Bliese & Jex, 2002; Susser, 1994), in that they relate to the team and cannot be reduced to characteristics of individual team members. We theorize that larger teams may be able to share work more effectively and back each up other when family demands conflict with work. For those reasons, employees nested in larger teams may report less work-family conflict, stress, and distress. Teams with a higher proportion of women may be more attuned to work-family and diversity challenges; thus employees in more heavily female teams may be more supportive of each other and report less work-family conflict, stress, and distress. Such linkages between gender work-group demography and a supportive context for diversity have been found in university settings (Kossek & Zonia, 1993). Note that in the models reported below, we consider percent female and supportive organizational climate simultaneously; the implied mediation (where higher percent female fosters more support which affects work-family conflict) is not assessed directly. We also expect that teams performing core IT work will feel more pressure and be under greater scrutiny from top management since they engage in revenue-generating software development. In contrast, support teams are less central to the revenue raising function of the company and have primary functions such as quality assurance, operations, and project

management. We expect employees in core teams to report more work-family conflict, stress and perhaps greater psychological distress, even net of any greater job or schedule control they may have (Blair-Loy & Wharton, 2004; Roeters, Van der Lippe, & Kluwer, 2010; Schieman, Whitestone, & Van Gundy, 2006; Schieman et al., 2009). In particular, to the extent that work is more stressful for core IT teams, employees in such teams may report greater work-to-family and family-to-work conflict in light of the high demands of their work (as suggested by the stress of higher status argument; Schieman et al., 2006).

Hypothesis 1: Structural team conditions (size, gender composition, core IT function) are associated with employees' mental health, particularly their reports of work-family conflict (in both directions – from work to family and from family to work).

Contextual Team Conditions. Control, demands, support and other conditions may well vary systematically across teams (Cruz & Pil, 2011). Moreover, these team conditions may constitute risk factors for employee work-family conflict, stress and well-being over and above the individual employees' own psychosocial perceptions. We assess means of aggregated (team-level) reports of the social environment of work to consider how team climate is associated with individual well-being outcomes. These are called *contextual* variables since they are based on the aggregation of responses by individual group members (Bliese & Jex, 2002; Susser, 1994). Bliese and Jex (2002) note that “the group-level measure by virtue of being a shared perception can be considered more of an objective rating of the environment than can the individual-level assessment” (pp 271-272), with individual-level psychosocial variables capturing the more subjective assessments of individuals.

We developed these contextual measures of central tendencies based on team means of work conditions that have been linked to these outcomes in previous individual-level studies (cf

Bhave et al., 2010), hypothesizing that teams' high average levels of job demands (Karasek & Theorell, 1990) will be associated with higher work-family conflict, stress, and distress, while teams' high average levels of job control (Baltes et al., 1999), schedule control (Thomas & Ganster, 1995), and family-supportive supervisor behaviors (Hammer et al., 2009; Kossek et al., 2011) will be linked to lower work-family conflict, perceived stress, and psychological distress, as will a supportive organizational work-family climate (Kossek et al., 2011). We supplement the analysis of common measures of job demands and resources with several variables that may capture variation in how much employees reporting to the same manager (work teams) actually function as a "team." Two measures of this are teams with higher task interdependence (how much the work requires employees to work closely with each other; Pearce & Gergersen, 1991) and organizational citizenship behaviors, reports of how much employees help their coworkers (Bragger, Rodriguez-Srednicki, Kutcher, Indovino, & Rosner, 2005). Additionally, we consider team-level aggregated job insecurity (Burgard, Brand & House, 2009; Ferrie et al., 2001) as a source of stress; teams reporting greater mean job insecurity may be working less effectively together as a team (since anxiety about losing one's job may push employees to prioritize their own situations rather than contributions to a team goal).

Hypothesis 2: Contextual (aggregated) team-level conditions related to job demands and control are associated with employees' mental health, especially their reports of work-family conflict (in both directions).

Manager Characteristics. Finally, we examine how supervisors' attributes might be associated with employees' work-family conflict and other indicators of mental health. These too are integral variables (Bliese & Jex, 2002; Susser 1994), in that they are characteristics of teams. Employees in teams with women supervisors and supervisors with children under 18 at

home may find their supervisors more supportive of work-family issues than those headed by men and those who are not themselves raising children. Being a woman manager or a manager in the active childrearing phase may lead to greater managerial support for employees wrestling with work and family responsibilities or it may mean that these supervisors are more stressed themselves and therefore contributing to a more stressful proximal work environment. Some of the limited multilevel research to date suggests that *male* managers may feel more able to create flexible work environments that may reduce work-family conflict, because their authority is more secure within the organization (Blair-Loy & Wharton, 2002). We also include the manager's own assessment of his or her willingness to pitch in and help co-workers (i.e. organizational citizenship behaviors), expecting that employees whose managers are more helpful in practical ways will feel less stress and work-to-family conflict themselves.

Hypothesis 3: Supervisor characteristics are associated with employees' mental health, particularly work-family conflict.

Family and Work Contexts as Moderators. Research suggests that the effects of job conditions may well differ across subgroups. For example, Evans and Steptoe (2002) argue that gender differences in stress need to be more closely examined. We theorize gender, parental and caregiving status as key markers of different conditions at work and at home, proposing that team-level conditions may be differentially associated with work-family conflict and other well-being outcomes for women and men at different family stages. There may also be heterogeneous effects for employees in core IT teams (engaged in software development) versus teams with a support function.

Hypothesis 4: Relationships between team conditions and employees' mental health vary by gender and family stage, as well as by team-level core IT business function.

Methods

Research Design Overview

As part of the larger Work, Family and Health Network (WFHN) Study, we focused on teams of information technology employees in a large U.S. firm (which we call “Tomo”). We are particularly interested in these professional and technical workers because their jobs represent both the promise (in terms of new technologies) and the perils (in terms of global off-shoring) of white-collar employment in the twenty-first century. The WFHN study at Tomo seeks to promote understanding of the impact of working conditions on work, family life, and health outcomes (see Bray et al., 2011 and King et al., 2011) using a range of methods to collect data at multiple levels. At the core of the design are a survey of employees nested in teams and an additional survey of their managers, providing data for the investigation reported here. Tomo was selected based on its size, its large IT workforce, and the ability to logistically support data collection. Because of the centralized organizational structure of the firm, recruitment to the study involved discussions and agreements with top leadership over all work units in this division. Managers of a particular work unit were then informed of their unit’s participation and questions were answered, but the presumption was that their teams would participate in the study.

Participants and Procedure

Employees and supervisors were eligible to participate in the study if they were located in the two metropolitan areas where data collection occurred (the two principal locations of Tomo) and were classified as employees (rather than as independent contractors).

Over a thousand (1182) employees were eligible to complete the baseline computer-assisted personal interview (CAPI), with 823 doing so for a 69.6% response rate. Additionally,

256 managers were eligible to complete the CAPI and 221 did so, for an 86.3% response rate. Because we are interested in group-level characteristics, our analytic sample includes only teams with four or more CAPI respondents for whom we also obtained matched CAPI data on their managers; these restrictions further limited our sample size to 532 employees. We also restricted our sample to respondents who did not have missing values for any of our covariatesⁱ. In total, these restrictions resulted in an analytic sample of 515 employees in 84 teams.

Measures

The outcome variables are well-established scales; detailed questions are shown in Appendix A and briefly described below.

Work-Family Conflict. We consider work-family conflict as a measure of mental health because role strain, “the felt difficulty in fulfilling role obligations” [Goode, 1960: 483], is experienced as a chronic stressor (see also Frone, 2000; Frone, Russell, & Barnes, 1996). Work-to-Family Conflict and Family-to-Work Conflict outcomes are measured using scales developed and validated by Netermeyer, Boles and McMurrian (1996). Each is designed to reflect the degree to which role responsibilities from one domain are incompatible with the other. Both are used with scale “scores” as means of individual items measured on a five point scale, ranging from 1 (*Strongly Disagree*) to 5 (*Strongly Agree*). Examples of questions in the work-to-family conflict scale include “The demands of your work interfere with your family or personal time” and “Due to your work-related duties, you have to make changes to your plans for family or personal activities.” Examples of questions for family-to-work conflict include “The demands of your family or personal relationships interfere with work-related activities” and “Family-related strain interferes with your ability to perform job-related duties.”

Perceived Stress. Perceived Stress is a well-known scale by Cohen, Kamarck, and Mermelstein (1983). It predicts many mental and physical health outcomes (Cohen & Williamson, 1988). We use four-items with responses ranging from *Very Often* to *Never* on a five-point scale. Two items are reverse coded, with higher values equated with higher perceived stress. This scale is additive, and theoretical values range from 4 to 20. An example item: “During the past 30 days, how often have you felt confident about your ability to handle your personal problems?”

Psychological Distress. Psychological Distress is a widely used scale for mental health screening (the K6) which has been extensively clinically validated (Kessler et al., 2003). It is a six-item additive scale, with a possible range from 6 to 30, with higher scores indicating greater psychological distress. Individual question responses range from 1 (*None of the time*) to 5 (*All of the time*). Two questions in the scale are: “During the past 30 days, how much of the time did you feel so sad nothing could cheer you up?” and “During the past 30 days, how much of the time did you feel nervous?”

Independent Variables. The independent variables in this analysis include individual demographic and family characteristics and individual reports of psychosocial work conditions, as well as the focal team-level variables. *Sociodemographics* include gender, marital status, race/ethnicity, whether the respondent cares for an adult relative for 3 or more hours per week, and a five-category life course stage variable constructed by combining age of respondent with the presence and age of youngest child. Individual-level psychosocial work conditions (and corollary aggregated team conditions) are derived from established scales or measures. Appendix A provides references for each of these constructs, along with the questions comprising each scale. A brief description of each construct is below.

Job Demands. Job Demands is a subscale of the Karasek and Theorell (1990) demands and control model of psychosocial work conditions scale. The subscale we use is a three item scale, with responses to each question ranging from 1 (*Strongly Disagree*) to 5 (*Strongly Agree*). Sample questions include: “You do not have enough time to get your job done” and “Your job requires very fast work.”

Job Control. Job Control is also a subscale of Karasek and Theorell (1990) demands and control model of psychosocial work conditions. The subscale is designed to measure the decision authority dimension of job control. It is a three item scale, with responses to each question ranging from 1 (*Strongly Disagree*) to 5 (*Strongly Agree*). Sample questions include: “Your job allows you to make a lot of decisions on your own” and “You have a lot of say about what happens on your job.”

Organizational Work-Family Climate. Organizational Work-Family Climate assesses the work climate for making family sacrifices for the sake of work; it was developed by Kossek, Colquitt, and Noe (2001). As used here, it is a three item scale, with responses to each question ranging from 1 (*Strongly Disagree*) to 5 (*Strongly Agree*). Example questions include: “In your workplace, employees are generally expected to take time away from their family or personal lives to get their work done” and “In your workplace, employees are expected to make work their top priority.”

Schedule Control. Schedule Control is designed to measure the degree to which employees control the arrangement of hours that they work. It is an eight item scale, with responses to each question ranging from 1 (*Very Little*) choice over, for example, when you take vacations or days off, and 5 (*Very Much*) choice. A full example question is “How much choice do you have over when you begin and end each workday?” Other questions ask about how much

choice you have over when you can take time off, do work at another location, take work home, or make personal calls at work. Our 8-item scale was modified from the 14 item scale used by Thomas and Ganster (1995).

Family Supportive Supervisor Behaviors. Family Supportive Supervisor Behaviors (FSSB) is designed to measure employee perceptions of supervisors' behavioral support for integrating work and non-work. It is a separate construct from general supervisor support, in that some supervisors are supportive of employees doing their job, but not of employee family or other non-work concerns. As used here, FSSB is a 4-item scale, with one question from each of four dimensions: emotional support, instrumental support, role modeling, and creative management from the original measure developed by Hammer et al. (2009); this FSSB short form measure has been validated by Hammer et al. (2011). Responses range from 1 (*Strongly Disagree*) to 5 (*Strongly Agree*), and a sample question is: "Your supervisor works effectively with employees to creatively solve conflicts between work and non-work."

Typical Weekly Hours Worked. Typical Weekly Hours Worked is measured with a single question: "About how many hours do you work in a typical week in this job?"

Job Insecurity. Job Insecurity is measured with a single question "Thinking about the next 12 months, how likely do you think it is that you will lose your job or be laid off?"

Responses range from 1 (*Not at all likely*) to 4 (*Very likely*).

Task Interdependence. The Task Interdependence measure comes from Pearce and Gregersen (1991), asking: "How often does your job require you to work closely with others when doing your work?" Responses range from 1 = "Never" to 5 = "All of the time".

Inter-Role Helping. Inter-Role Helping is one dimension of organizational citizenship behavior. It assesses the degree to which employees report willingness to help out coworkers.

This measure has been used previously by Kossek and Berg (2008), as adapted from Lambert (2000). This four-item scale includes items such as: “To what extent do you help your coworkers when they have too much to do?” with responses ranging from 1 (*Never*) to 5 (*All of the time*).

Team-Level Variables. We use several team-level variables to capture structural aspects of teams; their size, the mean percent female, and whether the team is involved in a core IT vs. other business function for the organization – all obtained via administrative records from Tomo, so they include information on all members of a team, rather than only information from members participating in the CAPI survey. Team-level condition variables for each team are the mean scores of the aggregated measures for members within each team. For example, the *individual-level* variable for schedule control is the mean of respondents answers to the eight questions that comprise that scale (described in Appendix A; also see Thomas & Ganster, 1995), while *team-level* schedule control is the within team mean of scale scores for members of each team. We also include several manager characteristics (derived from the survey of managers): each team manager’s gender, parental status (presence of children age 18 or under in the home), and the manager’s own response to the inter-role helping dimension of organizational citizenship behaviors scale (the questions on this scale are the same as those listed for employees in Appendix A).

Analysis Plan

To test the association of team-level characteristics with employee work-family conflict and psychological health requires data on both individuals and teams, along with the ability to capture any larger organizational forces that might be shaping team environments in distinctive ways. For example, Tomo announced a merger with another company during the study period,

and we include a variable for whether an individual was surveyed before or after that merger was announced. Most (316) in our analytic sample were surveyed before the merger announcement, with 199 surveyed afterwardsⁱⁱ. Integral team-level variables capturing structure (team size, gender dispersion, business function) were constructed from administrative data and supervisor variables (supervisor's gender, presence of children in the home, citizenship behavior) from CAPI responses completed by managers. Contextual variables of work demands, control and support were constructed as team means and standard deviations to capture team variability. To understand whether work conditions are patterned at the work team level, we first computed intraclass correlation coefficients (ICCs) and other descriptive statistics. Because work-to-family conflict had a high degree of groupness (meaning that within-team variance is far higher than would be expected if there were no patterning by team membership – an ICC of .201), we estimated a team-level model of work-to-family conflict. We then estimated mixed models that include both individual- and team-level characteristics to predict employees' work-to-family conflict, family-to-work conflict, perceived stress, and psychological distress using three sets of independent variables: work-team conditions, employees' sociodemographics, and employees' (individual-level) psychosocial conditions. We tested a number of team-level variables (such as team size and team percent female), manager characteristics (such as the supervisor's gender and whether she/he is actively raising children), as well as measures of team dispersion (standard deviation of work conditions) on the four mental health outcomes but, given their lack of statistical significance, we excluded them from the final models.

In simplest notation, the mixed models are of the format:

$$Y_{ij} = \alpha + \beta_1 X_{1ij} + \beta_2 X_{2j} + \zeta_j + \epsilon_{ij}$$

Y_{ij} is the outcome for an individual i in work team j , α is the intercept, $\beta_1 X_{1ij}$ is the vector of individual conditions and characteristics for an individual i in team j . $\beta_2 X_{2j}$ is the vector of work team conditions for team j . ζ_j is the random intercept and remains constant for all members of the team and represents the combined effects of omitted work team characteristics (or unobserved work team heterogeneity) and ϵ_{ij} is the individual specific error component that varies between individuals and work teams.

To examine whether the effects are heterogeneous for different subgroups of employees (hypothesis 4), we estimated additional models separately by gender and presence of children, as well as for four groups defined by presence of children and whether providing care for adults. We also tested models separately by team function (performed core IT software development versus other business function), using Chow tests to assess whether subgroup differences are statistically significant.

A model capturing the multiple levels theoretically shaping mental health outcomes is presented in Figure 1. While we are directly examining two levels (work teams and individual employees), we are aware of and at least incorporate some factors related to both family and organizational levels.

Results

Descriptive Assessments of “Groupness” of Variables

As shown in Table 1, the average team size (number of employees) is 10.94, with a standard deviation of 5.48. About 40% of the front-line managers (supervisors) are women, and 55% are actively raising children.

Central to our argument, many measures of work conditions have high intraclass correlation coefficients (ICCs). ICCs measure the proportion of the variance in a variable that is

between the level 2 units (here, between work teams), as compared to the total variance in that variable (usually thought of as the sum of the level 1 and level 2 variance). Given that ICCs are a proportion, they theoretically can range from 0 to 1 (see Raudenbush & Bryk, 2002). Thus, high intraclass correlations for a variable correspond to a high share of the total variance for that variable being explained by work-team membership. In other words, a high ICC means that there is a patterned “groupness” of that measure, that work-team members share some commonality regarding it.

A number of work condition measures have ICCs above .15, including organizational work-family climate, family supportive supervisor behaviors, schedule control, and job demands. As is to be expected, the ICCs for sociodemographic measures are generally quite low; for example, it makes sense that whether one employee has a child at home of a certain age is not necessarily related to whether one of their team members also has a child of that same age. Overall, these ICCs show that much of the variability in work conditions can be accounted for by work-team membership. This supports our theoretical emphasis on the influence of team environments on individual stress-related outcomes.

Among the mental health outcomes, the ICC for work-to-family conflict is .201, which indicates that one-fifth of the total variance for work-to-family conflict is explained by team membership, with the rest being explained by individual characteristics (including both those we measured and other unmeasured factors). This suggests that work-to-family conflict, often treated as a characteristic of individuals, also varies across teams, with important implications for policy development. By contrast, the ICCs for the other outcomes are much lower, which is to be expected, as family and other non-work factors might better predict whether individuals experience perceived stress, psychological distress, and even family-to-work conflict. We test

multilevel models on all outcomes, seeking to understand whether, and if so what team-level variables matter for each. There is, not surprisingly, a high correlation between individual-level and team-level measures, making it difficult to parse out the distinctive contributions of each. The correlations of individual psychosocial work condition variables with their respective team-level contextual variables are all between .43 and .57. This highlights that these are two different but related ways of “framing” work conditions – at the individual or group level.

Team-Level Model

We first estimated a team-level (ecological) model of work-to-family conflict (with both work-family conflict and independent variables measured at the team level – see Table 2). While no measures of structural characteristics of teams are significant, several team-level contextual variables are significantly positively (job demands and typical weekly hours worked) and negatively (organizational work-family climate and schedule control) associated with team-level work-to-family conflict. One manager variable also matters: being in a team whose manager is raising children is positively associated with the team’s aggregated level of work-to-family conflict. Note that a very large portion of the variance in the team mean of work-to-family conflict is explained by the team-level covariates in the model ($R^2=.82$).

Multilevel Models

Hypothesis 1 proposed that structural team characteristics and Hypothesis 3 proposed that manager characteristics would be associated with employees’ mental health outcomes. We found no supporting evidence for these two hypotheses and therefore excluded both structural and manager characteristics from the final models shown in Table 3.

We do find however, in support of Hypothesis 2, several aggregated team-level work conditions to be significantly related to employees’ work-family conflict in the expected

direction. Specifically, (Model 1, Table 3) team-level averages of organizational work-family climate ($b=-.462$, $p=.000$) and schedule control ($b=-.349$, $p=.009$) are associated with individuals reporting less work-to-family conflict, while team-level job demands ($b=.434$, $p=.001$) and average weekly hours worked ($b=.045$, $p=.002$) are both linked with higher work-to-family conflict. The inclusion of individual-level work conditions (Model 2) reduces the effects of team-level schedule control, job demands, and hours worked to non-significance, even as the coefficients of these measures at the individual level become significant in the expected direction, as are two other individual measures – employees' perceptions of family supportive supervisor behaviors and job control. Note that both team-level *and* individual-level measures of the organizational climate are associated with less work-family conflict, while, after controlling for individual-level job control (which is associated with lower work-to-family conflict), net team-level job control is associated with higher work-to-family conflict (Table 3, Model 2), which may reflect the fact that these two measures are highly correlated (.500).

We find two statistically significant team-level contextual predictors of conflict from family to work (Table 3, Model 3); employees in teams with high schedule control ($b=-.255$, $p=.006$) and high inter-role helping ($b=-.263$, $p=.016$) are more apt to report lower levels of family-to-work conflict, although the inclusion of individual work conditions in the model reduces the effects of inter-role helping to non-significance (Model 4). This provides limited support of Hypothesis 2.

Team-level measures are less apt to be associated with the two more general measures of perceived stress and psychological distress. In estimating perceived stress (Table 3, Model 5) only team-level inter-role helping is (negatively) associated with perceived stress (Model 5; $b=-.996$, $p=.034$). Similarly, only one team-level condition -- job demands -- is positively associated

with psychological distress ($b=.923, p=.043$). Once individual-level job conditions are included (Model 6 and Model 8), these team-level coefficients lose their statistical significance. However, individual-level psychosocial measures capturing employees' own perceptions of the organizational climate, job control, schedule control, job demands, and inter-role helping are associated with perceived stress (Table 3, Model 6), with psychosocial measures of job control, job demands, and job insecurity linked with psychological distress in the expected direction (Table 3, Model 8). Thus the hypotheses of aggregated team-level contextual effects (Hypothesis 2) are supported for work-family conflict outcomes, but less so for more general measures of mental health. Note also that individual sociodemographic measures capturing family circumstances *are* related to family-to-work conflict, perceived stress, and psychological distress but not discussed here because of space considerations.

Subgroup Analyses

To test whether there are heterogeneous effects of team-level measures for different subgroups (Hypothesis 4) we estimated models separately by employees' combined gender and family status and their combined caregiving and parental status, as well as by whether teams engaged in core IT versus other business functions. We found (in support of Hypothesis 4) a number of team-level effects were moderated by these conditions and present some illustrative results as figures. All of the coefficients described below are net of individual-level sociodemographics and psychosocial perceptions of working conditions.

Gender and Family Status as Moderators. We estimated models separately for women without children, men without children, women with children, and men with children, since we theorized that team-level conditions may be differentially associated with work-family conflict and other outcomes when the sample is divided by these key markers of different experiences at

work and at home (note: without children means not living with children age 18 or under at least 4 or more days/week). Results suggest the importance of some team conditions for the mental health of working mothers, in particular. Figure 2 shows that being in teams with higher inter-role helping is linked to women with children reporting significantly lower levels of work-to-family conflict ($b=-1.663$, $p=.000$), again net of individual work conditions and characteristics (Figure 2). In addition, women with children in teams working higher hours on average report slightly less work-to-family conflict ($b=-.089$, $p=.025$). As expected, mothers with children still at home in teams with high job demands report higher *work-to-family* conflict ($b=.823$, $p=.007$), while women with children report lower *family-to-work* conflict when in teams with lower job insecurity on average ($b=-.766$, $p=.015$) and fewer average hours worked ($b=-.086$, $p=.031$). But there are anomalous findings as well, such that working mothers in teams typically working long hours report lower levels of *perceived stress* ($b=-.341$, $p=.025$) as well as lower levels of *psychological distress* ($b=-.540$, $p=.006$).

There is suggestive evidence that the stress of higher status argument may also relate in particular to men who are not currently raising children. Such childfree men working in teams with high job demands report higher levels of work-to-family conflict ($b=.563$, $p=.004$), family-to-work conflict ($b=.462$, $p=.003$), and perceived stress ($b=1.557$, $p=.030$). They also report higher family-to-work conflict ($b=.273$, $p=.017$) when in teams with family supportive supervisors. But against the stress of higher status argument, childfree men working in teams with high levels of schedule control are apt to report lower levels of family-to-work conflict ($b=-.459$, $p=.001$) and perceived stress ($b=-1.397$, $p=.036$). We found no statistically significant associations for team-level variables in among women without children or men with children.

Parental and Adult Caregiving Status as Moderators. We also tested whether team-level work conditions may be differentially associated with mental health outcomes for parents with or without children at home (age 18 or under) and who are or are not caregivers for an adult relative. Due to the small number of employees with children and caregiving responsibilities (N=50), we estimated reduced form models to make these comparisons. Models included aggregated organizational work-family climate, schedule control, job demands, and job control, along with the core IT business function, and controls for being surveyed after the merger announcement. Because the moderators are linked to the sociodemographic variables included in earlier models, we reduced these to gender and a three category race variable. Individual-level psychosocial work conditions included organizational work-family climate, family supportive supervisor behaviors, schedule control, job demands, job control, typical weekly hours worked, and task interdependence.

Using these reduced form models, we find employees who are both caregivers and parents in teams having high job demands on average report lower levels of work-to-family conflict for ($b=-1.830$, $p=.005$), net of the high individual job demands coefficient for this group ($b=1.781$, $p=.000$) and the high correlation between individual-level and team-level measures (.563). Employees who are parents but not caregivers in teams with high levels of job control report higher levels of work-to-family conflict ($b=.582$, $p=.001$, $N=186$; see Figure 3). Those same parents who are not caregivers also report lower levels of work-to-family conflict when they work in teams with a supportive organizational work-family climate ($b=-.294$, $p=.041$) and teams with high levels of schedule control ($b=-.482$, $p=.011$).

Family-to-work conflict is somewhat different; we mainly find statistically significant associations for those who are caregivers and not parents and those who are neither, rather than

those who are parents as above. Employees who are caregivers but do not have children at home (N=70) tend to report lower family-to-work conflict if they are working in teams with high levels of schedule control ($b=-.660$, $p=.006$), but more family-to-work conflict ($b=.856$, $p=.001$) when working in teams with high levels of job control. In addition, being in teams doing core IT development work is associated with significantly higher family-to-work conflict for those who are both caregivers and parents ($b=.608$, $p=.002$) as well as those who are neither caregivers nor parents ($b=.171$, $p<=.023$).

Other findings also suggest the need for more subgroup analyses when theorizing the stress of higher status. For example, in our study, workers who are members of the sandwich generation (caring for both children and older adults) are more apt to report higher levels of perceived stress when in teams with high levels of schedule control on average ($b=2.867$, $p=.020$), and those who are neither parents nor caregivers in teams with high job control report higher levels of perceived stress ($b=1.628$, $p=.020$).

Core IT versus Other Business Function Teams as Moderators. A number of distinctions are evident when estimating models separately for teams with core IT (N=208) versus other business functions (N=307). Employees working in core IT teams with high levels of job control report higher levels of work-to-family conflict ($b=.559$, $p=.006$), but employees in core IT teams with high average levels of inter-role helping report lower levels of work-to-family conflict ($b=-.459$, $p=.045$) and lower perceived stress ($b=-1.785$, $p=.026$). Employees in core IT teams recounting higher average levels of family supportive supervisor behaviors (FSSB) report more perceived stress ($b=1.436$, $p=.002$) and psychological distress ($b=1.262$, $p=.035$). By contrast, employees in teams with other (non-core IT) business functions but also high levels of FSSB tend to report less perceived stress ($b=-1.152$, $p=.012$; see Figure 4).

Employees in teams with other business functions but also high average levels of schedule control report both less work-to-family conflict ($b=-.332$, $p=.023$) and less family-to-work conflict ($b=-.280$, $p=.025$). Why employees in non-core IT teams with high levels of average task interdependence report more family-to-work conflict ($b=.214$, $p=.032$) or the other core IT versus other business function effects require future investigation, but these results suggest the need to examine the possibility of heterogeneous effects for teams situated differently in the organizational structure.

Discussion and Conclusions

Taken together, the results in this paper suggest the potential value of moving beyond individual-level attributes to theorize and test multilevel models of team conditions for understanding the influence of the proximate work environment on the mental health of employees, and especially employees' degree of work-to-family and family-to-work conflict. Work conditions traditionally measured at the individual level can be fruitfully framed as *team* characteristics, that is, shared group properties held in common by team members. Overall, these findings suggest that when modeling mental health outcomes, and especially work-family conflict, both properties of the social environment of work as well as the psychosocial conditions filtered through the eyes of individual workers may well matter. The evidence also suggests it is important to consider possible moderators.

Team effects. Most robust in predicting lower work-to-family conflict for the full analytic sample is the collective team-level assessment of the organizational work-family climate. The team assessment of work-family climate remains statistically significant even after adjusting for individual-level assessments of this same scale (which is also linked to lower work-to-family conflict). Family-to-work conflict is consistently lower when teams report higher

mean values of schedule control. Our findings generally support conclusions from a meta-analysis of over 60 studies that the antecedents of work-family conflict depend greatly on directionality (i.e. work-to-family or family-to-work). Byron (2005) found that work domain variables, including supportive colleagues and supervisors, schedule flexibility and job stress, tend to be more important predictors of work-to-home conflict and that family characteristics, such as marital status and age of the youngest child, may be more relevant to family-to-work conflict. Our evidence lends some suggestive support to this distinction, although schedule control is a work domain associated with family-to-work conflict.

Noteworthy too is our finding that work-to-family conflict itself varies across teams, and that over 80% of its team-level variation can be explained by a wide range of team-level structural conditions, contextual conditions, and supervisor characteristics we include in our analysis (Table 2). The high ICC for work-family conflict together with the group level analysis of work-family conflict points to the need for further analysis of the way what is normally considered as a measure of individual stress -- work-family conflict -- is patterned across work groups and organizations. This is important since work-family conflict also matters for other health and life quality outcomes (Greenhaus, Allen, & Spector, 2006; Hammer & Zimmerman, 2011). In nationally representative samples, work-family conflict has been associated with a number of poor health outcomes, including mood, anxiety, and substance disorders (Frone, 2000), as well as worse mental health and poorer self-rated health (Beutell, 2010). WFC has also been shown to have significant crossover effects within marital dyads (Hammer, Allen & Grisby, 1997). Additionally, the effects of husbands' work-to-family conflict cross over to their wives' reports of depressive symptoms (Hammer, Cullen, Neal, Shafiro, & Sinclair, 2005). Research also reveals that work-family conflict is related to self-reported chronic disease and obesity, all-

cause sickness and sickness absence in France (Sabbath, Melchior, Goldberg, Zins, & Berkman, 2011), musculoskeletal disorders in Switzerland (Hämmig, Knecht, Läubli, & Bauer, 2011) and indicators of poor health, including high cholesterol, body mass index and physical stamina, in the Netherlands (Van Steenbergen & Ellemers, 2009).

Moderating effects. Findings about gender and parental status, combined parental and caregiver status, and team function as potential moderators point to the need to further contextualize employees and work teams in order to capture heterogeneity in the factors predicting well-being. We have outlined some evidence as to the experiences of working mothers, the potential stress of higher status among men not raising children, the sandwich generation of workers caring for both children and aging family members, and workers engaged in core IT business function versus support functions. These are suggestive findings that affirm the need for close contextual examination of employees in their teams.

Implications. There are several implications for future research. First, team conditions are more strongly associated with work-to-family and family-to-work conflict than with perceived stress or psychological distress in this IT workforce. More research is needed on different outcomes in different organizational contexts. Second, team-level structural factors (team size, percent female, business function) and managerial characteristics (gender, family status, inter-role helping) were generally *not directly* associated with the four mental health outcomes we considered, although business function had some moderating effects.

Finally, it is analytically difficult to unravel the effects of the same measure – such as schedule or job control, job insecurity, job demands – at the individual- and team-levels, since they are invariably highly correlated and interdependent. But the evidence showing both aggregated team-level and individual-level measures of a supportive organizational climate are

associated with work-family conflict reinforces their theoretical and conceptual distinctiveness. The significance of these two measures of an organizational attribute also points to the promise of examining higher units of analysis in addition to more proximate teams, such as division-level or organizational-level attributes.

We view this study as an important complement to the analysis of more representative samples identifying those who experience more work-family conflict, stress, and psychological distress (e.g. Galinsky, Bond, & Friedman, 1996; Schieman et al., 2009) and document the associations between work-family conflict and health outcomes. Not only job control and job demands, but also, work hours, time pressures, supervisor and workplace support and employees' control over their time (measured at the individual level) have been shown to predict both stress -- in the form of work-family conflict -- and other well-being outcomes (e.g., Hammer et al., 2009; Kelly et al., 2011; Kossek, Pichler, Bodner, & Hammer, 2011; Moen et al., 2008; Moen et al., 2011; Moen, Kelly, & Lam, 2011).

The body of evidence to date using the individual as the unit of analysis offers important insight as to the distribution of both psychosocial work conditions and well-being across individuals (who are themselves often in different types of jobs located in a wide range of organizational contexts), but it cannot promote understanding as to what types of proximal work environments appear optimal, i.e. what contexts predict employees' experience of low work-family conflict and high subjective well-being. To be sure, the social environments of work teams are inextricably bound with the attributes of their members through processes of selection, allocation, and socialization. We contribute evidence that social conditions of work matter for mental health, and that more multilevel studies are needed in the organizational sciences literature (e.g., Bliese & Jex, 2002; Hammer et al., 2004). Clearly, multilevel modeling locating

employees within the multiple social contexts of their lives at work can be an important new research direction.

Of course, in cross-sectional studies such as this, we can only discuss associations with outcome variables, and cannot make causal inferences or parse out team-level versus individual-level effects (but see Bliese & Jex, 2002). Experimental or quasi-experimental designs introducing change in team environments are really necessary to do so, given issues of selection and interdependence. However, considering team-level conditions has important research and policy implications, moving the focus to ways of *changing the social environments of work* rather than differences across individuals (c.f. Kelly et al., 2011; Moen et al., 2011).

Krieger (2011, p31) argues that "...to the extent there is spatiotemporal and/or social variation in the age-specific patterns of any particular health outcome, it suggests modifiable causes are at play, whose mechanisms could presumably be altered by informed action." Identifying team-level factors related to mental health is the first step in identifying ways of promoting mental health. This is potentially a key policy issue for employers as well as governments, especially in light of the fact that reports of work-family conflict and stress have expanded over time, for men as well as women (Bond, Thompson, & Prottas, 2002; Eby, Casper, Lockwood, Bordeaux, & Brinley, 2005; Sorensen et al., 2011).

Thus the real test of organizational- or team-level effects is whether *changes in them* predict changes in health outcomes. Intervention studies investigating the impacts of changes in the social environment of work are key to understanding these social processes, opening up new horizons in the study of work and health.

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Tables and Figures

Levels of analysis

ORGANIZATIONAL WORK SITE:

Timing of Merger Announcement

WORK TEAM:

- Structural:** Team Size, % Women, Core (vs support) function
- Aggregated Psychosocial:** Organizational work-family climate, Family Supportive Supervisor Behaviors, Inter-role helping, job control, job demands, job insecurity, schedule control, task-interdependence, typical weekly hours worked
- Manager:** Gender, Parental Status, Inter-role helping

EMPLOYEE:

- Sociodemographics (Race/ethnicity, Gender)
- Psychosocial job conditions
- Psychological health (work-to-family conflict, family-to-work conflict, perceived stress, psychological distress)

FAMILY:

Spouse/Partner:

Married/partnered

Caregiving

Family Life stage, Caring for ailing relative

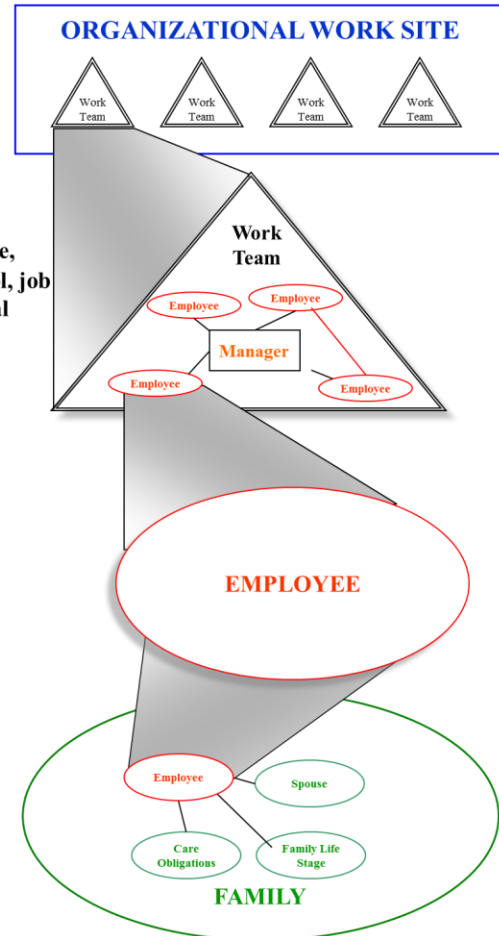


Figure 1: Conceptual Model of Multiple Levels of Analysis

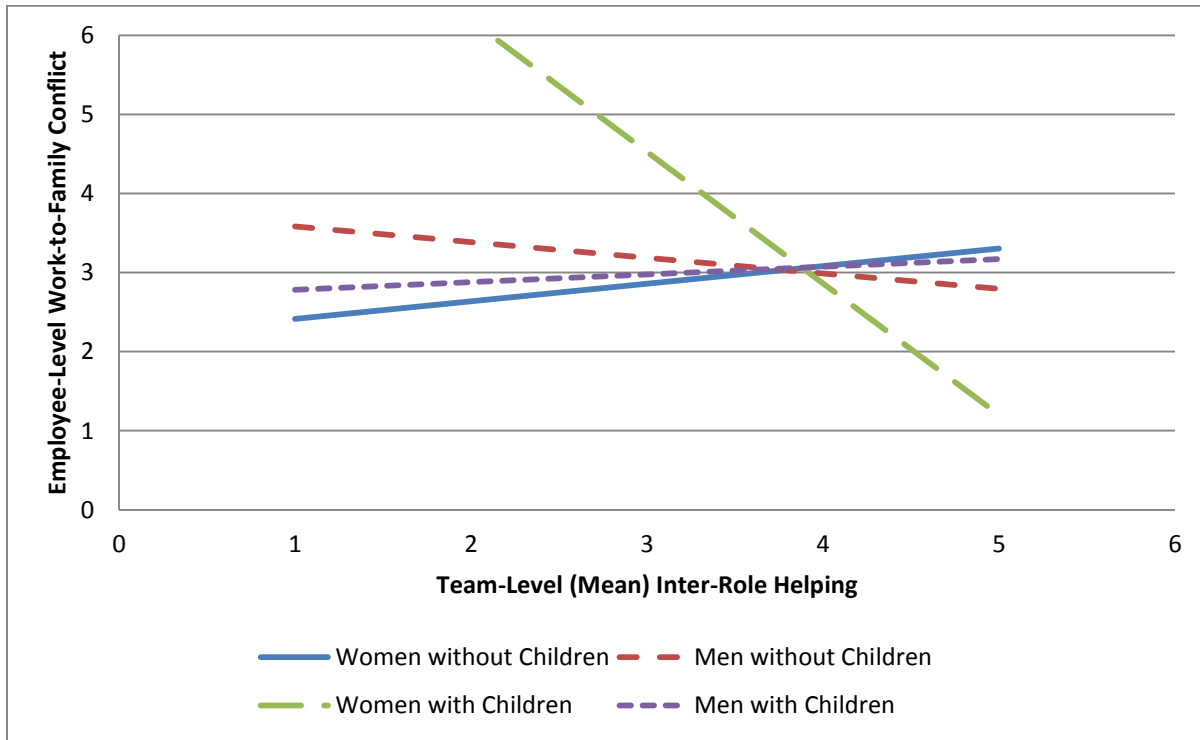


Figure 2. Predicted Values for Work-to-Family Conflict by Team-Level Inter-Role Helping and Employees' Gender/ Parental Status

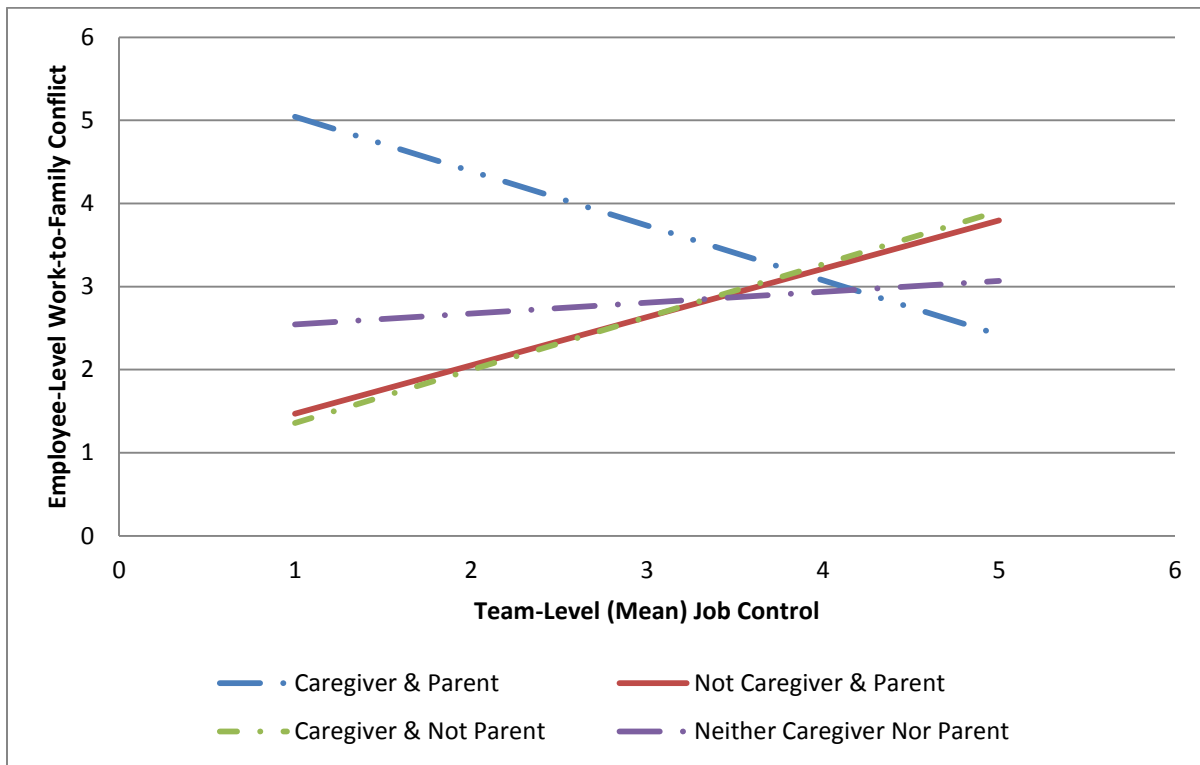


Figure 3. Predicted Values for Work-to-Family Conflict by Team Job Control and Employees' Caregiving/Parental Status

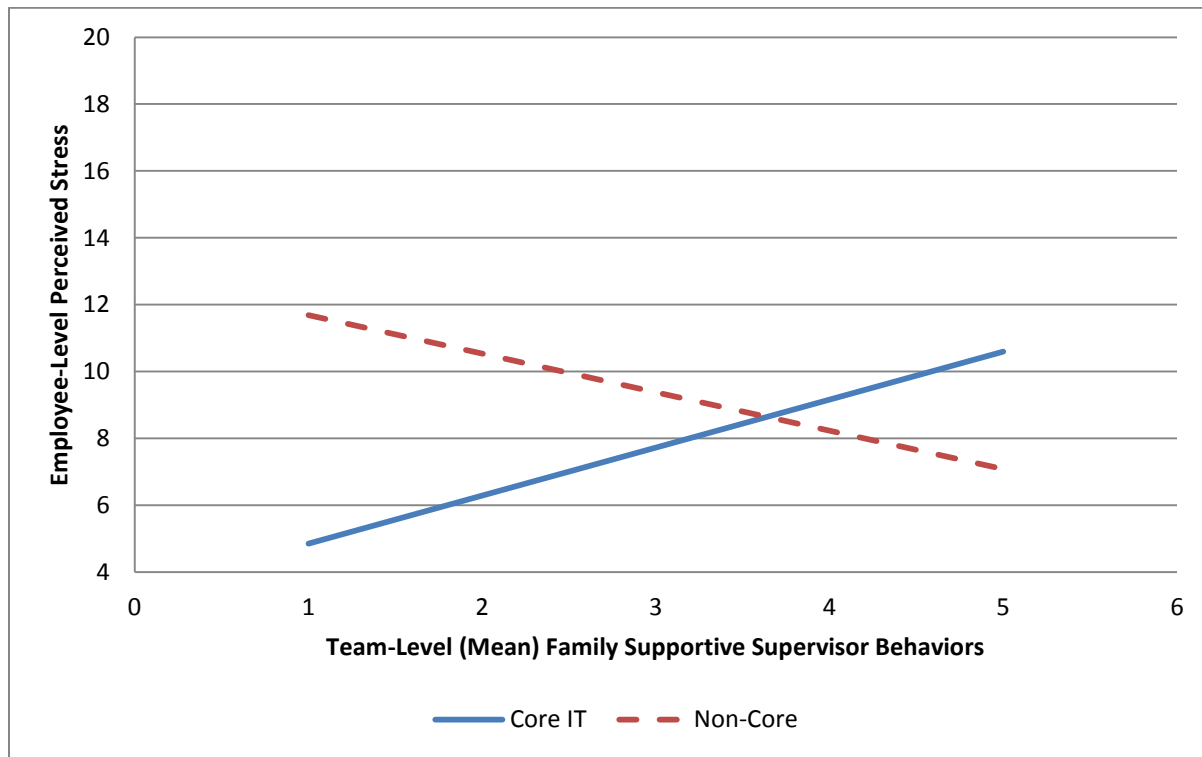


Figure 4. Predicted Values for Perceived Stress by Team Mean FSSB and Core IT vs Other Business Function

Table 1: Individual-and Work Team-Level Descriptive Statistics for Baseline

	N	Mean	StdDev	Median	Min	Max	ICC
Work Team Conditions							
<i>Structural Conditions</i>							
Team Size	84	10.94	5.48	10	4	27	
Team Percent Female	84	0.38	0.22	0.33	0	0.90	
Core IT versus Other Business Functions	84	0.38	0.49	0	0	1	
<i>Contextual Conditions</i>							
Team Mean Organizational Work-Family Climate Scale (5=less family sacrifices for sake of work)	84	2.72	0.52	2.75	1.73	3.92	
Team Mean FSSB	84	3.78	0.49	3.81	2.38	4.63	
Team Mean Schedule Control	84	3.57	0.41	3.54	2.66	4.52	
Team Mean Job Demands Scale (Job Strain: Psychological Job Demands)	84	3.60	0.41	3.58	2.73	4.58	
Team Mean Job Control Scale (Job Strain: Decision Authority)	84	3.83	0.37	3.83	2.67	4.67	
Team Mean Weekly Typical Hours Worked	84	45.50	3.21	45.00	35.50	52.50	
Team SD Weekly Typical Hours Worked	84	5.22	2.85	4.47	1.92	20.36	
Team Mean Job Insecurity (likely to lose job or be laid off in next 12 months = 4)	84	2.23	0.34	2.24	1.50	2.90	
Team Mean Task Interdependence (5=job requires working closely w/others "all of the time"; 1= "never")	84	4.09	0.40	4.17	3.20	5	
Team Mean Inter-Role Helping	84	3.73	0.27	3.71	3.05	4.31	
<i>Supervisor Characteristics</i>							
Manager Female	84	0.41	0.49	0	0	1	
Manager has any children age 18 or under living at home	84	0.55	0.50	1	0	1	
Manager Inter-Role Helping	84	3.78	0.50	3.75	2.75	5	
Individual Conditions and Characteristics							
<i>Organizational Attributes</i>							
CAP1 after merger announcement	515	0.39	0.49	0	0	1	0.86
<i>Sociodemographics</i>							
Under Age 40, No Children	515	0.10	0.30	0	0	1	0.04
Youngest Child at Home is Age 0 to 5	515	0.19	0.39	0	0	1	0.08
Youngest Child at Home is Age 6 to 18	515	0.27	0.45	0	0	1	0.01
Youngest Child at Home is Age 19 or Over	515	0.09	0.29	0	0	1	0.03
Empty Nesters and Over Age 40 with No Children	515	0.35	0.48	0	0	1	0.00
Female	515	0.38	0.49	0	0	1	0.09
Married (or living with romantic partner)	515	0.80	0.40	1	0	1	0.00
Caregiver (at least 3 hours of care per week for adult relative within the last 6 months)	515	0.23	0.42	0	0	1	0.00
Asian Indian	515	0.16	0.37	0	0	1	0.11
Other Asian and Other Pacific Islander	515	0.07	0.26	0	0	1	0.06
Hispanic	515	0.05	0.23	0	0	1	0.00
Black or African American, More than one race, and Other Race	515	0.05	0.22	0	0	1	0.02
White, Non-Hispanic	515	0.66	0.48	1	0	1	0.13
<i>Individual Work Conditions</i>							
Organizational Work-Family Climate Scale (5=less family sacrifices for sake of work)	515	2.73	0.88	2.67	1	5	0.17
Family Supportive Supervisor Behaviors Scale	515	3.82	0.80	4	1	5	0.19
Schedule Control Scale	515	3.57	0.70	3.63	1.38	5	0.17
Job Demands Scale (Job Strain: Psychological Job Demands)	515	3.58	0.70	3.67	1.33	5	0.20
Job Control Scale (Job Strain: Decision Authority)	515	3.82	0.71	4	1	5	0.11
Weekly Typical Hours Worked	515	45.56	5.83	45	30	78	0.13

Job Insecurity (likely to lose job or be laid off in next 12 months = 4)	515	2.23	0.71	2	1	4	0.05
Task Interdependence (5=job requires working closely w/others "all of the time"; 1= "never")	515	4.08	0.77	4	2	5	0.11
Inter-Role Helping	515	3.74	0.58	3.75	2.25	5	0.04
<i>Individual Outcomes</i>							
Work-to-Family Conflict Scale	515	3.08	0.95	3	1	5	0.20
Family-to-Work Conflict Scale	515	2.13	0.61	2	1	4.2	0.07
Perceived Stress Scale	515	8.56	2.65	8	4	18	0.08
Psychological Distress Scale	515	10.87	3.20	10	6	25	0.04

Note. This table presents unconditional ICCs (between-team variance/[within-team variance + between-team variance]) calculated from individual-level responses.

Table 2: Team-Level Associations with Team Mean Work-to-Family Conflict

Work Team Conditions		(1)
<i>Structural Conditions</i>		
Team Size		-0.004
Team Percent Female		0.109
Core IT versus Other Business Functions		0.128
<i>Contextual Work Conditions</i>		
Team Mean Organizational Work-Family Climate Scale (5=less family sacrifices for sake of work)		-0.441***
Team SD Organizational Work-Family Climate Scale (5=less family sacrifices for sake of work)		-0.198
Team Mean FSSB		0.139
Team SD FSSB		0.282
Team Mean Schedule Control		-0.418**
Team SD Schedule Control		0.178
Team Mean Job Demands Scale (Job Strain: Psychological Job Demands)		0.450***
Team SD Job Demands Scale (Job Strain: Psychological Job Demands)		0.129
Team Mean Job Control Scale (Job Strain: Decision Authority)		0.114
Team SD Job Control Scale (Job Strain: Decision Authority)		0.012
Team Mean Weekly Typical Hours Worked		0.041**
Team SD Weekly Typical Hours Worked		-0.002
Team Mean Job Insecurity (likely to lose job or be laid off in next 12 months = 4)		0.062
Team SD Job Insecurity (likely to lose job or be laid off in next 12 months = 4)		-0.020
Team Mean Task Interdependence (5=job requires working closely w/others "all of the time"; 1= "never")		-0.118
Team SD Task Interdependence (5=job requires working closely w/others "all of the time"; 1= "never")		0.026
Team Mean Inter-Role Helping		-0.145
Team SD Inter-Role Helping		-0.032
<i>Supervisor Characteristics</i>		
Manager Female		0.044
Manager has any children age 18 or under living at home		0.178*
Manager Inter-Role Helping		-0.091
Organizational Attributes		
Proportion of Team Who Completed CAPI After the Merger Announcement		0.065
Constant		2.159*
Observations		84
R-squared		0.818

*** p<0.001, ** p<0.01, * p<0.05

Table 3: Workteam- and Individual-Level Predictors of Four Outcomes from Hierarchical Linear Model

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Work-to-Family Conflict		Family-to-Work Conflict		Perceived Stress		Psychological Distress	
Work Team Conditions								
<i>Contextual Work Conditions</i>								
Team Mean Organizational Work-Family Climate Scale (5=less family sacrifices for sake of work)	-0.462***	-0.217*	-0.096	-0.029	-0.395	0.083	-0.396	-0.034
Team Mean FSSB	-0.072	0.123	0.060	0.059	-0.049	0.017	0.181	0.212
Team Mean Schedule Control	-0.349**	-0.168	-0.255**	-0.238*	-0.610	-0.088	-0.282	0.004
Team Mean Job Demands Scale (Job Strain: Psychological Job Demands)	0.434***	0.082	0.046	-0.025	0.669	0.094	0.923*	0.164
Team Mean Job Control Scale (Job Strain: Decision Authority)	0.166	0.261*	0.078	0.147	-0.273	0.241	-0.935	-0.123
Team Mean Weekly Typical Hours Worked	0.045**	0.002	-0.009	-0.013	-0.044	-0.054	-0.034	-0.075
Team Mean Job Insecurity (likely to lose job or be laid off in next 12 months = 4)	0.045	0.029	-0.147	-0.141	0.669	0.524	0.789	0.409
Team Mean Task Interdependence (5=job requires working closely w/others "all of the time"; 1= "never")	-0.080	-0.095	-0.016	0.092	-0.024	0.171	0.062	-0.029
Team Mean Inter-Role Helping	-0.131	-0.083	-0.263*	-0.153	-0.996*	-0.382	-0.145	0.108
<i>Structural Conditions</i>								
Core IT versus Other Business Functions	0.135	0.110	0.108	0.105	0.339	0.309	0.584	0.541
Individual Conditions and Characteristics								
<i>Organizational Attributes</i>								
CAPI after merger announcement	0.057	0.035	0.069	0.070	-0.421	-0.437	-0.463	-0.512
<i>Sociodemographics</i>								
Under Age 40, No Children	0.026	0.013	0.329***	0.345***	0.926*	1.001*	0.986	1.129*
Youngest Child at Home is Age 0 to 5	0.002	0.129	0.294***	0.303***	0.727*	0.837*	0.408	0.641
Youngest Child at Home is Age 6 to 18	0.134	0.053	0.212**	0.199**	0.861**	0.752**	0.586	0.523
Youngest Child at Home is Age 19 or Over	-0.009	-0.032	0.136	0.121	0.645	0.616	1.057*	1.085*
Female	0.142	0.102	0.023	0.017	0.658**	0.599**	0.972***	0.924***
Married (or living with romantic partner)	0.034	0.121	-0.026	0.011	-0.289	-0.076	-1.019**	-0.796*
Caregiver (at least 3 hours of care per week for adult relative within the last 6 months)	0.110	0.004	0.088	0.088	0.566*	0.447	0.604	0.393
Asian Indian	-0.085	-0.027	-0.075	-0.051	0.150	0.260	1.079*	1.126**
Other Asian and Other Pacific Islander	-0.302*	-0.102	-0.215*	-0.189	-0.347	-0.327	-0.107	0.065
Hispanic	-0.230	-0.156	-0.311**	-0.347**	-1.202*	-1.253**	-0.689	-0.704

Black or African American, More than one race, and Other Race	-0.225	-0.111	-0.041	0.024	-0.835	-0.458	-0.882	-0.666
Individual Work Conditions								
Organizational Work-Family Climate Scale (5=less family sacrifices for sake of work)		-0.237***		-0.075*		-0.512**		-0.373
Family Supportive Supervisor Behaviors Scale		-0.202***		-0.001		-0.077		-0.043
Schedule Control Scale		-0.127*		0.004		-0.453*		-0.218
Job Demands Scale (Job Strain: Psychological Job Demands)		0.381***		0.075		0.583**		0.771**
Job Control Scale (Job Strain: Decision Authority)		-0.102*		-0.075		-0.555**		-0.814***
Weekly Typical Hours Worked		0.043***		0.005		0.005		0.036
Job Insecurity (likely to lose job or be laid off in next 12 months = 4)		0.045		0.006		0.205		0.441*
Task Interdependence (5=job requires working closely w/others "all of the time"; 1="never")		-0.017		-0.115**		-0.209		0.064
Inter-Role Helping		-0.031		-0.098		-0.504*		-0.173
Constant	2.189*	1.863*	4.193***	4.071***	14.459***	14.100***	12.346**	11.897**
Random Effects								
Team Variance Component	0	0.00169	0	0.00196	0	0	0	0
Individual Variance Component	0.648	0.382	0.32	0.3	5.991	5.085	8.63	7.544
ICC	0	0.00441	0	0.00649	0	0	0	0
Proportion of Team Level Variance Explained	1.000	0.990	1.000	0.926	1.000	1.000	1.000	1.000
Proportion of Individual Level Variance Explained	0.092	0.465	0.064	0.123	0.083	0.221	0.129	0.239
R-squared	0.271	0.568	0.132	0.181	0.146	0.275	0.155	0.261
Observations	515	515	515	515	515	515	515	515
Number of groups	84	84	84	84	84	84	84	84
BIC	1394	1181	1030	1057	2540	2511	2728	2715

*** p<0.001, ** p<0.01, * p<0.05

Appendix A: Description of Scales/Questions

Scale	Source	Variable Description	Variable Name	Cronbach's Alpha	Range
Work-to-Family Conflict	Netemeyer, 1996	The demands of your work interfere with your family or personal time.	wm_wfc1r	0.914	1-5
		The amount of time your job takes up makes it difficult to fulfill your family or personal responsibilities.	wm_wfc2r		
		Things you want to do at home do not get done because of the demands your job puts on you	wm_wfc3r		
		Your job produces strain that makes it difficult to fulfill your family or personal duties.	wm_wfc4r		
		Due to your work-related duties, you have to make changes to your plans for family or personal activities.	wm_wfc5r		
		Response Choices (reversed): 1=Strongly Disagree, 2=Disagree, 3=Neither, 4=Agree, 5=Strongly Agree			
Family-to-Work Conflict	Netemeyer, 1996	The demands of your family or personal relationships interfere with work-related activities.	wm_wfc6r	0.834	1-5
		You have to put off doing things at work because of demands on your time at home.	wm_wfc7r		
		Things you want to do at work don't get done because of the demands of your family or personal life.	wm_wfc8r		
		Your home life interferes with your responsibilities at work, such as getting to work on time, accomplishing daily tasks, and working overtime.	wm_wfc9r		
		Family-related strain interferes with your ability to perform job-related duties.	wm_wfc10r		
Response Choices (reversed): 1=Strongly Disagree, 2=Disagree, 3=Neither, 4=Agree, 5=Strongly Agree					
Perceived Stress	Cohen, Kamarck & Mermelstein, 1983	During the past 30 days, how often have you felt that you were unable to control the important things in your life?	em_strs1r	0.758	4-20
		During the past 30 days, how often have you felt confident about your ability to handle your personal problems?	em_strs2		
		During the past 30 days, how often have you felt that things were going your way?	em_strs3		
		During the past 30 days, how often have you felt difficulties were piling up so high that you could not overcome them?	em_strs4r		
		Response Choices (not reversed): 1=Very often, 2=Fairly often, 3=Sometimes, 4=Almost never, 5=Never			
Psychological Distress	Kessler et al., 2003	During the past 30 days, how much of the time did you feel so sad nothing could cheer you up?	em_dist1r		
		During the past 30 days, how much of the time did you feel nervous?	em_dist2r		

		During the past 30 days, how much of the time did you feel restless or fidgety?	em_dist3r		
		During the past 30 days, how much of the time did you feel hopeless?	em_dist4r	0.774	6-30
		During the past 30 days, how much of the time did you feel that everything was an effort?	em_dist5r		
		During the past 30 days, how much of the time did you feel worthless?	em_dist6r		
		Response Choices (reversed): 1=None of the time, 2=A little of the time, 3=Some of the time, 4=Most of the time, 5=All of the time			
		In your workplace, employees are generally expected to time away from their family or personal lives to get their work done	wm_ocli1		
Organizational Work-Family Climate Scale	Kossek et al., 2001	In your workplace, employees are expected to put their families or personal lives second to their jobs	wm_ocli2	0.791	1-5
		In your workplace, employees are expected to make work their top priority.	wm_ocli3		
		Response Choices (not reversed): 1=Strongly Agree, 2=Agree, 3=Neither, 4=Disagree, 5=Strongly Agree			
		Your supervisor makes you feel comfortable talking to him/her about my conflicts between work and non-work.	wm_fssb1r		
Family Supportive Supervisor Behaviors	Hammer et al., 2009	Your supervisor works effectively with employees to creatively solve conflicts between work and non-work.	wm_fssb3r	0.877	1-5
		Your supervisor demonstrates effective behaviors in how to juggle work and non-work issues.	wm_fssb4r		
		Your supervisor organizes the work in your department or unit to jointly benefit employees and the company.	wm_fssb5r		
		Response Choices (reversed): 1=Strongly Disagree, 2=Disagree, 3=Neither, 4=Agree, 5=Strongly Agree			
		How much choice do you have over when you take vacations or days off?	wm_cwh1r		
		How much choice do you have over when you can take off a few hours?	wm_cwh2r		
		How much choice do you have over when you begin and end each work day?	wm_cwh3r		
		How much choice do you have over the total number of hours you work each week?	wm_cwh4r		
Schedule Control	UMN modified from Thomas & Ganster, 1995	How much choice do you have over doing some of your work at home or at another location, instead of [insert company name/location]?	wm_cwh5r	0.788	1-5
		How much choice do you have over the number of personal phone calls you make or receive while you work?	wm_cwh6r		
		How much choice do you have over the amount or times you take work home with you?	wm_cwh7r		
		How much choice do you have over shifting to a part-time schedule (or full-time if currently part-time) while remaining in your current position if you wanted to do so?	wm_cwh8r		
		Response Choices (reversed): 1=Very Little, 2=Little, 3=A moderate amount, 4=Much, 5=Very Much			
Psychological Job Demands Scale	Karasek et al., 1998	You do not have enough time to get your job done.	wm_jstr4r		
		Your job requires very fast work.	wm_jstr5r	0.576	1-5

		Your job requires very hard work.	wm_jstr6r		
		Response Choices (reversed): 1=Strongly Disagree, 2=Disagree, 3=Neither, 4=Agree, 5=Strongly Agree			
		Your job allows you to make a lot of decisions on your own.	wm_jstr1		
Job Control Scale (Decision Authority)	Karasek et al., 1998	On your job, you have very little freedom to decide how you do your work. You have a lot of say about what happens on your job.	wm_jstr2r wm_jstr3	0.707	1-5
		Response Choices (not reversed): 1=Strongly Agree, 2=Agree, 3=Neither, 4=Disagree, 5=Strongly Agree			
Job Insecurity	Used in General Social Survey	Thinking about the next 12 months, how likely do you think it is that you will lose your job or be laid off?	wm_sec1r		1-4
		Response Categories (reversed): 1=Not at all likely, 2=Not too likely, 3=Fairly Likely, 4=Very Likely.			
Task Interdependence	Pearce & Gregersen, 1991	How often does your job require you to work closely with others when doing your work?	wm_task		1-5
		Response Categories : 1=Never, 2=Rarely, 3=Some of the time, 4=Most of the time, 5=All of the time			
Organizational Citizenship Behaviors: Inter-Role Helping	Adapted from Lambert, 2000	To what extent do you help other employees with their work when they have been absent? To what extent do you help your coworkers when they have too much to do? To what extent do you help coworkers with questions they have about their work? To what extent are you willing to work harder in order to help my employer succeed?	wm_ocit1 wm_ocit2 wm_ocit3 wm_ocit4		1-5
		Response Categories : 1=Never, 2=Rarely, 3=Some of the time, 4=Most of the time, 5=All of the time			

ⁱ For respondents who answered at least 75% of the questions in a scale, we averaged their response to the remaining questions and used that as their scale score, rather than treating the overall response for that respondent as missing.

ⁱⁱ Most (42) teams were surveyed in their entirety before the merger announcement, while 29 were surveyed in their entirety after the merger announcement, and 13 teams had some members surveyed before and some after the merger announcement.