

Why Shorter Work Weeks are Associated with More Work-Family Strain: Worldwide
Evidence

Leah Ruppner
University of Melbourne

David Maume Jr.
University of Cincinnati

Abstract

Many individuals face competing work and family demands. In response, welfare states have limited work hours and provided paid annual leave. The impact of these policies on work-family strain, however, requires investigation. We apply multi-level data pairing the 2005 International Social Survey Programme (ISSP) for individuals in 31 nations (N=20,399) with country-level measures of men and women's mean weekly work hours and mandated annual leave. Through multiple measures, we weigh the scarcity and resources-expectations arguments. We find longer annual leave is associated with preferences for less work time, and, for women, less family-work interference. In countries where women work shorter mean hours, individuals report *more* work-family and family-work interference and stronger preferences for *more* time with family and *less* time at work. While we document gender differences at the individual-level, we find limited support for macro-level gendered associations. Collectively, our results support a resources-expectations approach to work-family strain.

For many, the demands of work interfere with their family lives. With the rise of the 24/7 global economy, workers are expected to be accessible outside the physical boundaries of work making them vulnerable to work-family interference. This shift in technology, coupled with the rise in female labor force participation, reflects an increase in the number of workers balancing work and family demands. Indeed, interference between work and family has risen since the 1970s (Nomaguchi 2009; Winslow 2005) with serious detrimental consequences for workers including increased stress and decreased mental health (Glavin, Schieman, and Reid 2011). What is more, work time inequality, or the mismatches in ideal versus real work time, is a growing source of strain (Jacobs and Gerson 2004; Lyness et al. 2012). In response to these demands, many welfare states have instituted policies to promote work-life balance (Fagnani and Letablier 2004; Gornick and Meyers 2003; Gornick and Heron 2006). These policies can take multiple forms but we focus explicitly on one dimension – work time culture – as we expect work hour limits and longer paid annual leaves to reduce work-family strain. We distinguish work time by gender to capture the impact of women’s labor force participation on work-family strain. Further, we assess mandated paid annual leave, a resource available to all workers, to deepen our understanding of workers’ experiences.

Our analyses inform current debates and empirical contradictions in meaningful ways. Shorter weekly work hours and longer annual leave are instituted to provide work-family balance; yet, their impact is unclear. Many European countries are at the forefront of this movement. Notably, the Netherlands and France are considered “part-time” societies as full-time work weeks are below the 40 hour norm (Wielers and Raven 2013). Further, all European countries have welfare state policies that include mandated annual leave indicating its popularity (Hegewisch and Gornick 2008). The goal of these policies is clear: reduce work

time to reduce work-life strain. At the individual-level, shortened work weeks provide workers greater control over the organization of work, thus increasing flexibility when family demands arise (Berg et al. 2003; Glass and Finley 2002; Kelly and Moen 2007). At the country-level, however, research on the effectiveness of these policies is mixed and often paradoxical. One stream of comparative research shows respondents in more gender empowered countries – most notably Sweden – report more, not less, interference between work and family than those in more limited policy contexts (Cousins and Tang 2004; Ruppner and Huffman 2014; Strandh and Nordenmark 2006). A second stream demonstrates that longer legislated work hours are positively associated with work-family interference for a European sample (Ruppner and Pixley 2012). Finally, a third stream finds work hour policies have no impact on workers' control over daily work, work hour excess or deficit for a 21-country sample (Lyness et al. 2012). These results are troubling as work structure, notably restricting work hours and expanding leave, are central welfare state strategies for worker well-being. In light of these inconsistent results, we investigate work hours and work-family strain at multiple levels. In a major contribution, we explore work hour cultures by gender to weigh the impact of gender differences employment selection. Further, we investigate mandated annual leave which is accessible, utilized often and replenished annually for all workers.

This study builds on a growing body of cross-national work-family research (Crompton and Lyonette 2006; Edlund 2007; Gallie 2003; Hill et al. 2004; Lyness et al. 2012; van der Lippe, Jager, and Kops 2006). First, we build a multidimensional understanding of work-family strain that includes work-family and family-work interference, work time and family time preferences to expand previous interference findings (Crompton and Lyonette 2006; Ruppner and Huffman 2014). Second, we link three macro-level work culture measures— men's and women's normative work time and annual leave – to individual

work-family strain to illuminate paradoxical findings in previous research (Cousins and Tang 2004; Crompton and Lyonette 2006; Lyness et al. 2012). Third, we focus on the gender distribution of employment as women's labor force patterns reflect broader cultural gender role expectations and labor market selection effects (Treas and Widmer 2000). Finally, we assess whether women's shorter work hours and longer leaves explain the gender gap in work-family strain.

To assess these relationships, we apply a unique data set that pairs individual-level data from the 2005 International Social Survey Programme for respondents in 31 nations with three strategically-selected country-level measures (women's and men's mean weekly work hours and annual leave) and one country-level control (GINI coefficient). These models allow for investigating multiple weighty questions: (1) do shorter work weeks and more expansive annual leave alleviate work-family strain?; (2) do the benefits to reduced hours explain the gender gap in work-family strain?; (3) are these relationships an artifact of each other or does one of these measures – women's and men's work hours or annual leave – structure these relationships? The results of this study further satisfy the call for multi-level research on work and family (Kelly et al. 2008).

INDIVIDUAL-LEVEL APPROACHES TO WORK-FAMILY STRAIN

Defining Work-Family Interference

Work-family interference is the extent to which individuals' work lives interfere with their family life or vice versa (Greenhaus and Beutell 1985). Scholars have investigated work-family interference as an aggregated experience of interference in both directions - from work to family and family to work (Crompton and Lyonette 2006; Schieman, Milkie, and Glavin 2009; Stevens, Kiger, and Riley 2006). Others have argued that work-family and family-work

interference are distinct experiences that must be measured separately (Ferrarini 2006; Frone 2003; Grzywacz, Almeida, and McDonald 2002; Hill 2005; Jacobs and Gerson 2004). This study specifies interference directionally - work-family and family-work - as we expect macro-level work structure to influence interference directionally, with a more severe impact on work-family interference. Further, while many apply a work-family interference index that includes multiple measures (Bakker and Geurts 2005; Edlund 2007; Grönlund and Öun 2010; Schieman, Milkie, and Glavin 2009), we follow others who investigate these as single-items (Ferrarini 2006; Lyness et al. 2012). Further, a growing body of empirical research investigates inequalities in desired versus actual time allocations (Lyness et al. 2012). In line with this research, we investigate whether work and family time preferences are structured differently by cultural work cultures to establish broader work-family patterns. Thus, we investigate four measures to capture broad work-family patterns: work-family and family-work interference and family and work time preferences

The Role Strain Hypothesis

Work and family are considered greedy institutions that compete for individuals' time and contribute to inter-role strain (Cosser 1974; Greenhaus and Beutell 1985). Boundary spanning experiences are shown to heighten work-family and family-work interference, deteriorate health and increase stress (Glavin, Schieman, and Reid 2011; Hill 2005). The bulk of previous research focuses on individual determinants of work-family and family-work interference. From this research, the demand-control model has received much support (Bakker and Geurts 2005; Karasek Jr 1979; Voydanoff 2007). Demands are job and home characteristics that have negative physical and psychosocial costs; these include physically and emotionally demanding jobs as well as the presence of children, especially young children, in the home. By contrast, resources allow individuals to exert control to bring

positive physical and psychosocial benefits; these include the presence of a spouse, job security, flexible scheduling and interpersonal employee support. Role strain is often measured through work-family and family-work inference but may also extend to work and family time preferences. Time pressures reflect difficulties in combining work and family demands (Galinsky, Aumann, and Bond 2009; van der Lippe, Jager, and Kops 2006). Cross-nationally, the number of individuals stressed by competing work and family time demands has increased (Allan 2001; Peters 2000). It follows that work and family time preferences reflect role strain. We expect more strained respondents to report preferences for more time with family and less at work. Allocations of work and family time are highly gendered, with women disproportionately shouldering family responsibilities (Bittman and Wajcman 2000; Sayer 2005). Thus, we predict women to be more vulnerable to role strain as gender is a central mediator of work-to-family interference (Hill, 2005).

In sum, support for the role strain hypothesis at the individual-level should be reflected through greater work-family and family-work interference, stronger preferences for less time at work and more time with family. We expect women to be more vulnerable to role strain than men.

MACRO-LEVEL APPROACHES TO WORK-FAMILY STRAIN

Previous Findings and Remaining Questions

Role strain has been theoretically and empirically supported at the individual-level (Byron 2005; Carlson and Grzywacz 2008; Grönlund and Öun 2010; Moen and Yu 1999). However, work-family strain may be exacerbated by cultural expectations of gendered work time. Indeed, shortening work weeks and providing more expansive leaves are central strategies to encourage employees' well-being by providing all workers greater non-work time (Lyness et al. 2012). Yet, previous research provides mixed results. Comparing three

countries (the Netherlands, UK and Sweden), Cousins and Tang (2004) find Swedish parents report the most interference between work and family. This paradoxical relationship – expansive policies and high interference – is supported in additional comparisons of small country samples (Crompton and Lyonette 2006). Building on this comparative research, a growing body of cross-national multi-level research explores the relationship between individuals' work characteristics and cultural contexts. Stier and Lewin-Epstein (2003) find workers in higher GNP and social transfer societies prefer less time at work indicating economic security at the country-level structures individual work time preferences. Ruppanner and Huffman (2014) find parents, especially fathers, are more likely to report family-work interference in more gender empowered countries net of GDP. Finally, Lyness et al. (2012) find workers, especially female workers, report more schedule control, more hour excess and less hour deficit in countries with more generous paid leave; yet, they find no association between weekly work hours and worker control. As the authors explain, this unexpected non-significant association likely reflects data limitations as their 21-countries reflect similar work hours (ranging from 37 to 40 hours). Further, their aggregated measure masks gender differences in work structure. Collectively, the results of these studies are clear: cultural contexts structure work and family experiences. Yet, the results for macro-level work structure and individual-level work experiences is limited at best and paradoxical at worst. This study elucidates these findings by specifying work time by gender and weighing theoretical models outlined below.

Macro-Level Work Structure: Scarcity and Resources-Expectations Theories

According to the scarcity argument, time in employment reduces the time available for care and leisure (Hiller 1984; Van Der Lippe, Tijdens, and De Ruijter 2004). To limit the interference of work on family life, many welfare states have instituted maximum work hour legislation to cap work-time, in part, to provide workers greater work-life balance (Bosch

1994; Gornick and Meyers 2003; Rubery, Smith, and Fagan 1998). However, compliance with this policy varies significantly depending, in part, on the quality of the legislation which encourages or discourages workers from utilizing these policies altogether (Campbell 2002). For example, many countries (i.e., France, the Netherlands, Germany and Portugal) are legislating and enforcing shorter work weeks consistent with their maximum work hour legislation (Evans, Lippoldt, and Marianna 2001). By contrast, others (i.e., Australia and United Kingdom) report longer weekly work hours than legislation mandates due to an increase in overtime which reflect loopholes in legislation (Campbell 2002). Taken together, these studies indicate that work hours are important in structuring individual outcomes and that maximum work-hour legislation may not accurately capture cultural work norms. In response to these limitations, we apply a mean weekly work hour measure, specified by gender, to capture variation in normative work hours by country. However, limiting weekly work hours is only one piece to the work-family puzzle. Leave arrangements are also instituted to provide workers greater flexibility to accommodate competing demands. These policies can be aimed at specific populations during times of great strain. For example, parental leave policies are accessed upon the birth of a child, when family demands are high (Gornick and Meyers 2003). Others, including mandated annual leave, are accessed by all employees regardless of parental status. Indeed, these policies are central to workers' rights and frequently lengthened to improve worker well-being (TRAVAIL 2013). Given our interest in multiple dimensions of work-family strain – not just that experienced by parents – we investigate mandated annual leave which is accessible, utilized often and replenished annually for all workers.

The central assumption of these policies is that legislating shorter weekly work hours and expanding leave should provide workers more discretionary time and thus greater work-life balance (Bosch 2001; Bosch 1994; Gornick and Meyers 2003; Rubery, Smith, and Fagan

1998). It follows that respondents in countries with the longest work hours and shortest annual leaves should report greater work-family and family-work interference, and preferences for more time with family and less time at work. Of course these associations should be gendered. Female employees in countries where women work long hours should report the greatest strain in combining work and family demands given women's disproportionate family responsibilities (Fuwa and Cohen 2007; Fuwa 2004). By contrast, respondents, especially women, in countries where women work shorter hours should report the least strain. In sum, the scarcity hypothesis predicts long work hour cultures, especially those where women's work long hours, should be most severe for work-family strain.

Yet, previous research demonstrates that respondents in these expansive policy contexts report more, and not less, work-family interference (Cousins and Tang 2004; Crompton and Lyonette 2006). To explain this paradox, we present the resources-expectations theory. Resources, in this case shortened work weeks and longer leaves, may increase expectations of work-family balance. These heightened expectations may, in turn, result in greater expectations for balance and disappointment when interference emerges. Indeed, the volume of strain may be equivalent to those in lower resource countries but their sensitivity to, and thus reports of strain may be greater in high resource countries. Given that women are more likely to reduce work time to increase work-family balance, these patterns should be tied to gendered labor force selection (Lennon 1994; Lennon and Rosenfield 1992). At the aggregate, respondents may expect greater work-life balance in countries where women work part-time, and, when strain emerges be more likely to report it. As such, workers in these countries may report greater work-family strain in part because they are primed to have higher expectations for balance. Simply, the paradox reflects inflated expectations that are not met in reality. The resources-expectations paradox is supported in other research, most notably on happiness. Higher levels of income increase happiness to a

point, at which material aspirations stunt happiness (Easterlin 1973; Frey and Stutzer 2002; Lane 2000). Our theoretical model extends this to work hour cultures at the country-level work-family strain at the individual-level.

These expectations, of course, may be tied to broader individualistic/collectivist cultural ideologies. According to Hofstede (1983) individualistic cultures emphasize the pursuit of individual self-interest of which shorter work hours and greater work-life balance is one manifestation. By contrast, collectivist cultures reflect preferences for group-identity, here long work hours for the collective good. (Hofstede 1983). In other words, individualist/collectivist orientations reinforce the resources-expectations process especially in more developed welfare states. This is the case for many European countries whereby shorter work weeks reflect cultural push-back to expanding capitalism at the expense of individual well-being (Gornick and Meyers 2003). What is more, while women are most likely to reduce their work time to accommodate family demands, the emphasis on shortening men's' work hours as well is growing in popularity (Hegewisch and Gornick 2011). It follows that shortened work weeks, most common in individualist societies, may create an equivalent pattern for work-family strain. These experiences should be cultural and thus gender neutral. In sum, we present two competing hypotheses:

H1: Respondents, especially women, in countries with *longer* work hours and *shorter* leave will report *more* work-family strain (scarcity).

H2: Respondents in countries with *shorter* work hours and *longer* leave will report *more* work-family strain (resources-expectations).

DATA, MEASURES, AND STATISTICAL MODELS

Data

To assess the associations of work-time and annual leave on work and family strain, we created a data set that pairs individual-level data with country-level measures for

respondents in 31 nations. The individual-level data are from the 2005 International Social Survey Programme (ISSP), a cross-national collaboration of researchers from around the world. The ISSP annually surveys citizens on a rotating list of topics, and the 2005 wave asked respondents about their work orientations and schedules. Given the cross-national nature of the data, the ISSP has strict guidelines for sampling and measuring to ensure validity across measures and requires a response rate of 70% for each country. We matched our country-level measures with participating 2005 ISSP countries which produced a sample of respondents in 31 nations: Australia, Belgium, Bulgaria, Canada, Cyprus, Czech Republic, Denmark, Dominican Republic, Finland, France, Germany, Great Britain, Hungary, Ireland, Israel, Japan, Latvia, Mexico, New Zealand, Norway, Philippines, Portugal, Russia, Slovenia, South Africa, South Korea, Spain, Sweden, Switzerland, Taiwan, and the United States.

To create our multi-level data set, the individual ISSP data are matched with country-level measures of normative work-time by gender (women's and men's mean full-time weekly work hours) and annual leave (weeks). To control for the confounding effect of economic inequality, we include GINI as a control in all of the models (results in Appendix B). Normative work-time was calculated from the 2005 ISSP to capture the aggregated mean of individuals' reported weekly work hours, by gender, in all jobs and including overtime. Annual leave is from the International Labor Organization's TRAVAIL Conditions of Work and Employment database. The ILO captures employment policies by country, and we apply one measure – the number of weeks of legislated annual leave – which was collected in 2004. To control for variation in economic inequality, we also include each country's 2005 GINI, sourced from the World Bank report (2005). The GINI coefficient ranges from zero (perfect equality) to 100 (perfect inequality) and captures economic inequality in the distribution of income within a country. We apply this country-level economic control consistent with previous research (Ruppanner and Huffman 2014; Stier and Lewin-Epstein 2003).

We restricted our sample to respondents who are in their prime working years (aged 25 to 59), and report at least one hour of income producing work per week. The effective sample size is 20,397 individuals and includes data from all 31 nations.

Measures

Dependent variables

To capture variation in work and family, we apply four dependent variables. First, we investigate work-family interference through the following question: “How often do you feel that the demands of your job interfere with your family life?” Responses are on a five-point scale: (1) never, (2) hardly ever, (3) sometimes, (4) often, and (5) always. Higher values reflect greater reported work-to-family interference. Family-work interference is on an equivalent scale for the following question: “How often do you feel that the demands of your family life interfere with your job?” Our third and fourth measures reflect respondents’ family and work time preferences. Respondents were asked: “Suppose you could change the way you spend your time, spending more time on some things and less time on others. Which of the following things on the list would you like to spend more time on, which would you like to spend less time on and which would you like to spend the same amount of time on as now (emphasis from original)?” Respondents were asked to report on their (a) time in paid job; and (b) time with your family. Responses are on the following five-point scale: (1) much more time; (2) a bit more time; (3) same time as now; (4) a bit less time; (5) much less time.

In preliminary analyses, we explored a dichotomized measure that collapsed the more time preference categories. The dichotomous measures produced results equivalent to the five-point scales on our key predictors. Therefore, for consistency with our other dependent measures, we report results based on the five-point scale. We investigate these measures separately as we are interested in how our macro-contexts impact each distinct experience, a strategy empirically supported by the relatively low inter-item correlations of these measures

(work-family interference: r is $-.16$ at $p < 0.01$ for more time at work and $.14$ at $p < 0.01$ for more time with family; more time at work: r is $-.12$ at $p < 0.01$ for more time with family). As such, for theoretical and empirical reasons we investigate these measures separately.

Main individual-level predictors

Gender

We are interested in gender differences in work and family strain. As such, gender serves as our main individual-level predictor. Gender is dummy coded for female (value = 1). This allows us to assess whether work-time and annual leave impact men and women differently for our four dependent variables.

Individual-level controls

Work-related resources

We measure work-related resources through a series of measures that capture the extent to which employees have access to resources to accommodate work and family demands. Respondents reported agreement on a five-point scale (strongly disagree to strongly agree) to five measures that capture job quality: (1) job autonomy; (2) job security; (3) job well-paid; (4) opportunities for advancement are high; (5) job gives me a chance to improve my skills. Higher values reflect better job quality. We also control for social support within the workplace through two measures of interpersonal relations: (1) between managers and employees and (2) among colleagues. The responses ranged from “very good” to “very bad” with higher values reflecting better relations. Schedule control measures the extent to which a respondent can control their work hours. We include a measure of full schedule control (1=I am entirely free to decide my work hours) dichotomously coded. Control of daily work is based on the extent to which the respondent can organize their daily work. We include a dichotomous measure for full control of daily work (1=I am free to decide how my daily work is organized). Further, we compare the self-employed, who should have greater control

over their work schedules, to those employed in a public private or government organization (1=self-employed).

Respondents were asked how difficult it would be for the firm to replace them in their current position. Responses are on a five-point scale from very easy to very difficult; higher values reflect the respondents' indispensability. Job satisfaction is measured on a seven-point scale ranging from completely dissatisfied to completely satisfied with higher values reflecting greater job satisfaction. Education is dichotomously coded for those who have completed a college degree (1=college degree or higher). We include controls for the respondents' current occupation. The occupational codes are based on the 1988 International Labor Organization's International Standard Classification of Occupations. We include those with the most resources – professionals (1=legislators, senior officials, managers, professionals, technicians or associate professionals) – in the models. Finally, respondents also reported their personal earnings in their country-specific currency which we standardized across countries (percentiles from 0 to 1 based on maximum country-specific reported earnings).

Work-related demands.

Work-related demands are measured through six variables. Physical demands include three measures, finding one's job exhausting, physical, or dangerous, whereas emotional demands reflect finding one's job boring and stressful. For all job demand measures, higher values reflect a greater frequency of experiencing a physically and/or emotionally demanding job. Work hours are based on respondents' reports of the number of hours they work in a typical week in all of their jobs, including overtime.

Controls

We estimate a series of demographic controls. First, we include a series of dummy variables for various age categories: 25-34, 35-44, 45-54, and 55-59. We use the modal age

category for our sample (35-44) as the comparative group. We also include a dummy measure for those reporting being married or living as married (1=married or living as married). Finally, we also include a dummy measure for child present in the home (1=child under 18 in the home). The 2005 ISSP collects household composition through a household registry of the people living at the home during the time of the interview. However, the household registry does not ask for the age of the children present in the home and thus the measure cannot be coded to reflect child's age. This imposes important limitations as young children contribute more to family demands than older children (Hill 2005). Thus, our aggregated child present measure is crude and likely underestimates the impact of children on work and family strain.

Statistical Models

To assess the multi-level data (individuals nested within countries) we apply hierarchical linear models. Our sampling of 31 nations at the country-level and over 20,000 respondents at the individual-level meets the basic assumptions of multi-level models (Kreft 1996). Hierarchical linear models simultaneously estimate micro-level (the individual-level model for work-family and family-work interference and work and family time preferences) and macro-level equations (the country-level association of mean weekly work hours and annual leave) by estimating the clustering of standard errors at the macro-level (Guo and Zhao 2000; Raudenbush and Bryk 2002). Standard regression models assume the observations are independent but, for our data, individuals are nested within countries that vary by their work structure, annual leave benefits and economic inequality. Thus, estimating the models using hierarchical linear modeling more accurately estimates the coefficients.

RESULTS

Descriptive Overview

Table 1 is a descriptive overview of our dependent and country-level measures. Given our focus on the macro-level, the full set of descriptive statistics is presented in the appendix (Appendix A). Across our dependent measures, we find countries cluster in their work and family reports. Specifically, we find the Anglo countries – the United States, Great Britain and Canada – report the greatest mean preferences for more time with family. By contrast, the Asian countries – Japan, Taiwan and South Korea – report the lowest mean family time preferences. An equivalent, yet weaker, pattern is evident for work-to-family interference. For work time, respondents in the Scandinavian countries – Sweden, Finland and Denmark – report the strongest preferences for less time. Collectively, these means highlight regional country-clusters suggesting work-family strain reflect broader cultural patterns. At the country-level, men in Asian countries – Japan, South Korea and Taiwan – report the longest mean weekly work hours. By contrast, men in Hungary and Cyprus report the shortest mean weekly work hours at 39.9 and 40.0 respectively. For men, country-to-country differences in mean weekly work hours reflect variation on the 40-hour full-time work week. For women, mean weekly work hours are also highest in the Asian countries – Taiwan, Philippines and South Korea – indicating long work hour cultures in these nations. Indeed, Japan is the only Asian nation sampled that reflects traditional gendered divisions of work time (men long and women short mean weekly work hours). By contrast, women in Switzerland, Ireland and Great Britain report the shortest mean weekly work hours. In general, women report shorter work hours than men with country-to-country differences in the size of the gap. France, Finland and Spain offer the longest state mandated annual leave (6 weeks). By contrast, the United States has no legislated annual leave with rates similar to the Philippines and Taiwan. Although the U.S. government does not legislate mandatory annual leave, many corporations offer employees two weeks of leave. As such, we ran the models with the United States coded at zero and two weeks but the results are equivalent. Thus, we present the mandated

leave results with the United States coded at zero. Collectively, these results indicate substantial variation in our dependent and macro-level measures.

Work-family Strain: Multi-Level Results

Tables 2 through 5 assess whether normative work hours and annual leave impact individual work-family experiences. Given our focal interest in the impact of macro-level work structure and annual leave, the individual (or level-1) coefficients, which are consistent with theoretical predictions, are presented in the appendix (Appendix B). We estimate cross-level gender associations to assess whether gendered work-time and annual leave affect men and women differently. Model 1 includes gender alone to identify the unconditional gender gap in work-family experiences. Models 2, 3 and 4 investigate gender differences for each macro-level measure net of individual controls. The model fit statistic (χ^2 statistic) compares these models to the full individual-level model without macro-level controls. Thus, a significant χ^2 statistic indicates that including the macro-level context improves the model fit compared to the full individual-level model.

Table 2 provides the country-level results for work-family interference. Initially, in Model 1, we find that women report less work-family interference than men ($\beta = -.073$, $p < 0.01$). This relationship, however, becomes non-significant net of individual-level work hours (results not show) indicating that the allocation work hours explain the gender gap in work-family interference. At the country-level, we find women's mean weekly work hours are negatively associated with work-family interference ($\beta = -.032$, $p < 0.01$) but these associations do not vary by gender (model 2). Model 3 demonstrates an equivalent pattern for men's weekly work hours ($\beta = -.046$, $p < 0.001$). Model 4 tests these relationships for mandated annual leave which has no association with work-family interference. Model 5 is the full-model assessing the impact of gendered work hours and annual leave on work-family interference. Consistent with previous models, women's and men's weekly work hours are

negative and significant. In other words, shorter work hours for men and women intensify work-family interference. This suggests that short work hours, for men and women, exacerbate work's encroachment on family life. The model fit statistics provide some guidance to understand these relationships. Specifically, the inclusion of country-level mean weekly work hours for men and women significantly improves the model fit; annual leave, by contrast, does not. Thus, work-family interference appears to be structured by men and women's normative work hour expectations.

Table 3 investigates these relationships for family-work interference. At the individual-level, we identify a gender gap – women report more family-work interference than do men – that emerges net of individual controls (results not shown) and is robust net of country-level measures. Consistent with work-family interference, we find respondents in countries where women work longer hours report less family-work interference (model 2: $\beta = -.021$, $p < 0.05$), an association that does not vary by gender. Further, men's mean work hours have no significant correlation (model 3). Women in countries with longer annual leave report less family-work interference (model 4: $\beta = -.027$, $p < 0.05$) suggesting that working women utilize their annual leave to mitigate family's interference on work. Net of mean weekly work hours, however, all of these associations become non-significant (model 5). In exploratory analyses (results not shown), we find the negative association for women's work hours and the positive association for annual leave are robust net of each other yet become nonsignificant net of men's work time. This indicates that men's work hours mitigate these relationships. The model fit statistics demonstrate that, unlike for work-family interference, the inclusion of the macro-level measures does not improve the models beyond the individual controls. Thus, mean weekly work hours significantly impacts family-work interference but the macro-context does not explain more than the distribution of individual-level job and

family characteristics. In light of the interference results, the question remains, do these patterns reflect broader cultural approaches to work and family?

To assess this question, tables 4 and 5 investigate respondents' family and work time preferences. The results are quite striking and demonstrate a consistent pattern for women's macro-level mean weekly work hours. Specifically, table 4 (model 2) shows that respondents in countries where women report longer weekly work hours prefer less time with family than those in shorter work hour countries ($\beta = -0.022$, $p < 0.01$), net of individual-level controls. In other words, respondents in countries with women's *shorter* work weeks report stronger preferences for *more* time with family. These relationships are not significant for men's work hours (model 3) or annual leave (model 4) but robust in the full-model (model 5: $\beta = -0.023$, $p < 0.01$) albeit with a weaker association for women ($\beta = -0.023 + 0.009 = -0.14$, $p < 0.05$). The model fit statistics indicate that women's mean weekly work hours significantly improve model fit compared to the individual-level model.

Table 5 presents the work time preference results. Consistent with the previous tables, mean weekly work hours structure work time preferences. Specifically, respondents in countries where women work longer hours prefer more time at work (model 2: $\beta = 0.060$, $p < 0.001$) as do those in countries where men work longer mean hours (model 3: $\beta = 0.062$, $p < 0.01$). However, only women's mean weekly work hours is robust in the final model (model 5: $\beta = 0.050$, $p < 0.01$). Of course, women's and men's weekly work hours are moderately correlated ($r = 0.426$, $p < 0.01$) yet women's work hours appear to be driving these patterns. Finally, annual leave is negatively associated with work time preferences (model 4: $\beta = -0.102$, $p < 0.05$) an association robust in the full model (model 5: $\beta = -0.077$, $p < 0.05$). Collectively, these results indicate that longer annual leave and women's shorter work weeks structure preferences for *less* time at work, a finding that supports the resources-expectations perspective. The χ^2 statistics demonstrate that, consistent with work-family interference, the

inclusion of macro-level work time improves the model fit. Collectively, our model fit statistics show that macro-level context improves the model fit for work experiences – work-family interference and work time preferences – yet has limited support for family experiences (only women’s work hours structure family time preferences).

To test the robustness of these findings, we assessed competing explanations in multiple ways. First, we explored whether these results were being driven by overtime and part-time employment (coded separately to capture country-to-country variation in part-time work). We found those in countries with high part-time rates reported more and those in high overtime countries less work-family strain. We then coded part-time employment by gender which produced equivalent patterns to those for women’s mean work hours. In other words, women’s employment, coded as normative hours or the percent working part-time, produce equivalent work-family strain results. Second, we explored the gender gap in work hours (men’s mean weekly hours – women’s mean weekly hours). We found men report preferences for more and women less time with family in countries where men work longer hours than women. Yet, for the other three measures, the macro-level gender work hour gap is not significant and the women’s work hour associations are robust net of the difference measure. Third, we explored, but found no support for, aggregated family time preferences driving our associations; indeed, women’s work hours are robust need of this non-significant association. Fourth, we assessed whether maternity leave (weeks) structured work-family strain but found women’s mean weekly work hours to be robust net of this non-significant measure. Fifth, we applied a measure of aggregated political and economic gender empowerment (United Nation’s Development Report 2005) shown to structure work-family and family-work interference (Ruppanner and Huffman 2014). These models allowed us to assess whether gender equality more generally is driving the mean weekly work hour associations and found all of our strain measures to be robust with one exception: family-

work interference loses significance. This indicates that family-work interference is structured by gender empowerment, a finding consistent with previous research (Ruppanner and Huffman 2014). Finally, we explored these relationships with the 2002 ISSP data that measures family demands, including children's age and housework, in more detail. Women's country-level work hours, however, remain negative and significant for these data indicating that the specification of family demands at the individual-level is not driving our association in the 2005 data. Overall, these exploratory models indicate that women's mean weekly work hours, rather than alternative explanations, structure work-family strain.

DISCUSSION

In this study, we investigate the relationship between work-time and annual leave at the country-level and work and family strain at the individual-level. Our results support a resources-expectations perspective as those in countries with *shorter* work hours and *longer* annual leave reporting *more* work-family strain. We find these relationships do not explain the gender gap in strain and thus are experienced equivalently by the entire population. Collectively, we identify broader work-family strain patterns. The implications of these results are discussed in more detail below.

In a major contribution, we weighed two theoretical frameworks – scarcity and resources-expectations – on work-family strain. At the individual-level, we identify gender differences in work-family strain consistent with previous research (Buchanan 2005; Hill 2005). We find women report more work-family and family-work interference and preferences for more time with family and less time at work. At the country-level, we hypothesized that structural work-time cultures, notably longer work weeks and shorter leave, would exacerbate family strain (scarcity theory). Indeed, this logic motivates work time policies (Bosch, Dawkins, and Michon 1994; Bosch and Lehndroff 2001; Gornick and Meyers 2003; Rubery, Smith, and Fagan 1999). Our results, however, did not confirm these

expectations. Rather, we find women's longer work hours are associated with *less* interference and preferences for *more* time with family and *less* at work. Annual leave produces a similar pattern. Specifically, we find respondents prefer *less* time at work in countries with *longer* annual leaves. These relationships are not a consequence of the gendered distribution of strain or the allocation of workplace resources, including flexible scheduling, among workers. In fact, our effects are significant net of these resources, identified as crucial to worker control (Lyness, Gornick et. al 2012; Schieman, Milkie, and Glavin 2009). What is more, these associations are robust net of a range of country-level controls including gender empowerment and economic inequality. Of course, these patterns may reflect broader collectivist ideologies whereby contention over work is rarely raised; yet, our results tie these directly to work hour cultures which are theoretically linked to work-family strain. In sum, we find no support for the scarcity argument at the country-level.

In this, we make a major theoretical contribution – our results support the resources-expectations perspective. This finding is essential in light of the paradoxical relationships identified in previous research (Cousins and Tang 2004; Lyness et al. 2012). Specifically, Lyness, Gornick et al. (2012) find respondents in countries with longer paid leave report more work hour excess and less work hour deficit. In other words, in more expansive leave countries, respondents prefer less time at work, not more, than their current arrangement. The authors contribute this relationship to a “social multiplier effect” whereby leisure time is less stigmatized and more common (Alesina, Glaeser, and Sacerdote 2006), and thus workers report stronger preferences for reduced work time. Our research mirrors this pattern yet we find this to be tied to women's normative work time. Further, we find no gender differences in work hours' impact suggesting broader cultural consciousness of work-family issues rather than gender-specific strain. As such, respondents in countries where women work fewer hours are more likely to report contention between work and family. Enacting welfare state

policies that limit work hours requires a strong public consciousness about work-family incompatibility. Our results suggest that this consciousness remains and is voiced through reports of greater work-family strain. But rather than a multiplier effect, whereby stigma is reduced, we suspect that these policies, a resource, may shift expectations for work and family increasing workers' sensitivity to work-family strain. Of course, shorter work hour countries are also more individualistic; this ideology may reinforce the resources-expectations process. The results are clear: women's weekly work hours structure work-family strain.

These results are not without limitations. First, we do not test for policy effects of maximum work hour regulation and thus we cannot make concrete policy recommendations. While our results show that shorter work hours are associated with reports of role strain, we do not apply longitudinal data to determine whether policy introduction or use affects work-family strain. Thus, we are not arguing that maximum work hour policies are detrimental for workers but rather identify work-family patterns by culture. Additional research investigating shifts in cultural ideology pre and post work hour legislation is warranted including qualitative research into the mechanisms driving these patterns. We also do not measure the respondents' attitudes towards shortened work weeks. While individuals may experience greater work-family strain associated with living in a country where women's shorter work hours are more normative, they may feel greater work-life balance associated with work hour limitation. Indeed, Verbakel and DiPrete (2008) document a positive association between time in nonwork activities (i.e. raising children and longer vacations) and overall well-being. In this respect, blurring boundaries between work and family may be viewed as a workplace asset rather than a detriment. While we find evidence that individuals in countries with shorter mean work weeks are more sensitive to work-family strain, we rely on self-reports which can be subject to recall issues and response bias. A complimentary analysis applying

multi-national time use data that measures the frequency of interference would strengthen these arguments. Further, workers, especially women, with the most strain likely drop-out of the labor market, especially in long work hour countries. Thus, our models may underestimate strain for the most vulnerable groups. Finally, our results highlight the need to collect detailed work and family characteristics simultaneously.

Ultimately, the results of this analysis are clear: respondents report greater work-family strain in shorter work hour countries. These results suggest that normative expectations for work-time, especially that of women, play a central role in weakening or strengthening boundaries between work and family life beyond individual-level characteristics.

REFERENCES

- Alesina, Alberto F, Edward L Glaeser, and Bruce Sacerdote. 2006. "Work and leisure in the US and Europe: Why so different?" Pp. 1-100 in *NBER Macroeconomics Annual 2005, Volume 20*: MIT Press.
- Allan, Graham Crow, Graham. 2001. *Families, Households and Society*. Basingstoke: Palgrave.
- Bakker, Arnold and Sabine Geurts. 2005. "Toward a dual-process model of work-home interference." *Human Resources Abstracts* 40.
- World Bank. 2005. GINI Coefficient.
<http://data.worldbank.org/indicator/SI.POV.GINI?page=1> Retrieved 12/31/12.
- Berg, Peter, Eileene Appelbaum, Tom Bailey, and Arne L Kalleberg. 2003. "Contesting time: International comparisons of employee control of working time." *Industrial and Labour Relations Review*. 57:331.
- Bittman, Michael and Judy Wajcman. 2000. "The rush hour: The character of leisure time and gender equity." *Social Forces* 79:165-189.
- Bosch, Gerhard and Lehdorff, Steffen. 2001. *Working Time*, Edited by G. Szell. London: Gower.
- Bosch, Gerhard, Dawkins, Peter, and Michon, Francios. 1994. *Working Time in 14 Industrialised Countries: An Overview*, Edited by G. Bosch, Dawkins, P. and Michon, F. Geneva: International Institute for Labour Studies.
- Buchanan, Tom. 2005. "The paradox of the contented female worker in a traditionally female industry." *Sociological Spectrum* 25:677-713.
- Byron, Kris. 2005. "A meta-analytic review of work-family conflict and its antecedents." *Journal of Vocational Behavior* 67:169-198.
- Campbell, Ian. 2002. "Extended work hours in Australia." *Labor and Industry* 13:91-110.
- Carlson, Dawn, and Joseph Grzywacz. 2008. "Reflections and future directions on measurement in work-family research." *Handbook of work-family integration: Research, theory, and best practices* 57.
- Coser, Lewis A. 1974. *Greedy institutions; patterns of undivided commitment*. New York: Free Press.
- Cousins, Christine R. and Ning Tang. 2004. "Working time and work and family conflict in the Netherlands, Sweden and the UK." *Work, Employment & Society* 18:531-549.

- Crompton, Rosemary and Clare Lyonette. 2006. "Work-life 'balance' in Europe." *Acta Sociologica* 49:379-393.
- ILO TRAVAIL Conditions on Work and Employment Database (2013). Retrieved November 11, 2013, from <http://www.ilo.org/dyn/travail>
- Easterlin, Richard A. 1973. "Does money buy happiness?" *The Public Interest* 30:3-10.
- Edlund, Jonas. 2007. "The work-family time squeeze." *International Journal of Comparative Sociology* 48:451-480.
- Evans, John M., Douglas C. Lippoldt, and Pascal Marianna 2001. *Trends in working hours in OECD countries*. No. 45. OECD Publishing.
- Fagnani, Jeanne and Marie-Thérèse Letablier. 2004. "Work and family life balance: The impact of the 35-hour laws in France." *Work, Employment & Society* 18:551-572.
- Ferrarini, Tommy. 2006. *Families, states and labour markets: Institutions, causes and consequences of family policy in post-war welfare states*. Edward Elgar Publishing.
- Frey, Bruno S and Alois Stutzer. 2002. "The economics of happiness." *World Economics* 3:25-41.
- Frone, Michael R. 2003. "Work-family balance." *Handbook of Occupational Health Psychology* 143-162.
- Fuwa, Makiko and Philip Cohen. 2007. "Housework and social policy." *Social Science Research* 36:512-530.
- Fuwa, Makiko. 2004. "Macro-level gender inequality and the division of household labor in 22 countries." *American Sociological Review* 69:751-767.
- Galinsky, Ellen, Kerstin Aumann, and James T Bond. 2009. *Times are changing: Gender and generation at work and at home*: Families and Work Institute.
- Gallie, Duncan. 2003. "The quality of working life: Is Scandinavia different?" *European Sociological Review* 19:61-79.
- Glass, Jennifer L and Ashley Finley. 2002. "Coverage and effectiveness of family-responsive workplace policies." *Human Resource Management Review* 12:313-337.
- Glavin, Paul, Scott Schieman, and Sarah Reid. 2011. "Boundary-spanning work demands and their consequences for guilt and psychological distress." *Journal of Health and Social Behavior* 52:43.
- Gornick, Janet C. and Marcia Meyers. 2003. *Families that work : policies for reconciling parenthood and employment*. New York: Russell Sage Foundation.

- Gornick, Janet C. and Alexandra Heron. 2006. "The regulation of working time as work-family reconciliation policy: Comparing Europe, Japan, and the United States." *Journal of Comparative Policy Analysis: Research and Practice* 8:149-166.
- Greenhaus, Jeffrey H. and Nicholas J. Beutell. 1985. "Sources of conflict between work and family roles." *The Academy of Management Review* 10:76-88.
- Grönlund, Anne and Ida Öun. 2010. "Rethinking work-family conflict: Dual-earner policies, role conflict and role expansion in Western Europe." *Journal of European Social Policy* 20:179-195.
- Grzywacz, Joseph G., David M. Almeida, and Daniel A. McDonald. 2002. "Work-family spillover and daily reports of work and family stress in the adult labor force." *Family Relations* 51:28-36.
- Guo, Guang and Hongxin Zhao. 2000. "Multilevel Modeling for Binary Data." *Annual Review of Sociology* 26:441-462.
- Hegewisch, Ariane and Janet C Gornick. 2008. "Statutory routes to workplace flexibility in cross-national perspective." *Washington, DC: Institute for Women's Policy Research*. <http://www.iwpr.org/pdf/B258workplaceflex.pdf>.
- . 2011. "The impact of work-family policies on women's employment: a review of research from OECD countries." *Community, Work & Family* 14:119-138.
- Hill, E. Jeffrey. 2005. "Work-family facilitation and conflict, working fathers and mothers, work-family stressors and support." *Journal of Family Issues* 26:793-819.
- Hill, E. Jeffrey, Chongming Yang, Alan J. Hawkins, and Maria Ferris. 2004. "A cross-cultural test of the work-family interface in 48 countries." *Journal of Marriage and Family* 66:1300-1316.
- Hiller, Dana V. 1984. "Power dependence and division of family work." *Sex Roles* 10:1003-1019.
- Hofstede, Geert. 1983. "The cultural relativity of organizational practices and theories." *Journal of international business studies* 75-89.
- Jacobs, Jerry A. and Kathleen Gerson. 2004. *The time divide : work, family, and gender inequality*. Cambridge, MA: Harvard University Press.
- Karasek, Robert 1979. "Job demands, job decision latitude, and mental strain: Implications for job redesign." *Administrative Science Quarterly* 24:2.
- Kelly, Erin L and Phyllis Moen. 2007. "Rethinking the clockwork of work: Why schedule control may pay off at work and at home." *Advances in Developing Human Resources* 9:487-506.

- Kreft, Ita. 1996. "Are multilevel techniques necessary? An overview, including simulation studies." *Unpublished manuscript, California State University, Los Angeles*.
- Lane, Robert Edwards. 2000. *The loss of happiness in market democracies*: Yale University Press.
- Lennon, Mary Clare. 1994. "Women, work, and well-being: The importance of work conditions." *Journal of Health and Social Behavior* 235-247.
- Lennon, Mary Clare. and Sara Rosenfield. 1992. "Women and mental health: the interaction of job and family conditions." *Journal of Health and Social Behavior* 316-327.
- Lyness, Karen S., Janet C. Gornick, Pamela Stone, and Angela R. Grotto. 2012. "It's all about control: Worker control over schedule and hours in cross-national context." *American Sociological Review* 77:1023-1049.
- Moen, Phyllis and Yan Yu. 1999. "Having it all: Overall work/life success in two-earner families." *Research in Sociology of Work* 109-140.
- Nomaguchi, Kei M. 2009. "Change in work-family conflict among employed parents between 1977 and 1997." *Journal of Marriage and Family* 71:15-32.
- Peters, Peter. 2000. *The Vulnerable Hours of Leisure*. Amsterdam: Thela Thesis.
- Raudenbush, Stephen W. and Anthony S. Bryk. 2002. *Hierarchical linear models : applications and data analysis methods*. Thousand Oaks: Sage Publications.
- United Nations Human Development Report. Retrieved November 7, 2013, from <http://hdr.undp.org/en/>
- Rubery, Jill, Mark Smith, and Collette Fagan. 1998. "National working time regimes and equal opportunities." *Feminist Economics* 4:71-101.
- Ruppanner, Leah and Joy Pixley. 2012. "Work-to-family and family-to-work spillover: The implications of childcare policy and maximum work-hour legislation." *Journal of Family and Economic Issues* 33:283-297.
- Ruppanner, Leah, and Matt L. Huffman. 2014. "Blurred boundaries: Gender and work-family interference in cross-national context." *Work and Occupations* 41: 210-236.
- Sayer, Liana C. 2005. "Gender, time and inequality: Trends in women's and men's paid work, unpaid work and free time." *Social Forces* 84:285-303.
- Schieman, Scott, Melissa A Milkie, and Paul Glavin. 2009. "When work interferes with life: Work-nonwork interference and the influence of work-related demands and resources." *American Sociological Review* 74:966-988.
- Stevens, Daphne, Gary Kiger, and Pamela Riley. 2006. "His, hers, or ours? Work-to-family spillover, crossover, and family cohesion." *The Social Science Journal*. 43:425-436.

- Stier, Haya and Noah Lewin-Epstein. 2003. "Time to work: A comparative analysis of preferences for working hours." *Work and Occupations* 30:302-326.
- Strandh, Mattias and Mikael Nordenmark. 2006. "The interference of paid work with household demands in different social policy contexts: perceived work-household conflict in Sweden, the UK, the Netherlands, Hungary, and the Czech Republic." *The British Journal of Sociology* 57:597-617.
- Treas, Judith and Eric D. Widmer. 2000. "Married women's employment over the life course: Attitudes in cross-national perspective." *Social Forces* 78:1409-1436.
- van der Lippe, Tanja, Annet Jager, and Yvonne Kops. 2006. "Combination pressure." *Acta Sociologica* 49:303-319.
- Van Der Lippe, Tanja, Kea Tijdens, and Esther De Ruijter. 2004. "Outsourcing of domestic tasks and time-saving effects." *Journal of Family Issues* 25:216-240.
- Verbakel, Ellen and Thomas A. DiPrete. 2008. "The value of non-work time in cross-national quality of life comparisons: The case of the United States vs. the Netherlands." *Social Forces* 87:679-712.
- Voydanoff, Patricia. 2007. *Work, family, and community : exploring interconnections*. Mahwah, N.J. Lawrence Erlbaum Associates.
- Wielers, Rudi and Dennis Raven. 2013. "Part-time work and work norms in the Netherlands." *European Sociological Review* 29:105-113.
- Williams, Joan. 2010. *Reshaping the work-family debate*: Harvard University Press.
- Winslow, Sarah. 2005. "Work-family conflict, gender, and parenthood, 1977-1997." *Journal of Family Issues* 26:727-755.

Table 1: Country-Level Descriptive Statistics for Dependent and Macro-Level Measures (2005 ISSP)

Country	N	Mean Work- Family Interfer.	Mean Family- Work Interfer.	Mean Work- Time Pref.	Mean Family- Time Pref.	Women's Mean Work Hours	Men's Mean Work Hours	Legislated Annual Leave (weeks)	GINI (2005)
Australia	945	2.88	2.22	2.55	4.09	34.88	44.41	4.5	35.20
Belgium	692	2.68	2.12	2.67	3.88	33.52	44.17	4.8	33.00
Bulgaria	411	2.80	2.26	3.94	3.67	43.33	47.33	4.0	29.20
Canada	489	2.78	2.31	2.38	4.22	35.57	40.58	2.5	32.60
Cyprus	554	2.71	2.36	2.73	3.43	37.56	40.08	4.4	29.00
Czech Republic	607	2.34	1.76	2.50	3.81	42.19	49.13	4.0	25.80
Denmark	1002	2.59	2.03	2.47	3.95	35.36	41.77	5.0	24.70
Dominican Republic	748	2.00	1.77	3.65	4.24	43.42	50.32	2.8	50.00
Finland	611	2.65	2.01	2.27	3.86	37.13	40.88	6.0	26.90
France	992	2.74	1.89	2.63	4.17	34.23	40.77	6.0	32.70
Germany	755	2.72	1.87	3.03	4.06	32.71	44.77	4.8	28.30
Great Britain	402	2.77	2.12	2.44	4.13	32.56	45.07	4.0	36.00
Hungary	421	2.44	1.60	3.08	4.06	38.92	39.94	5.0	30.00
Ireland	452	2.39	1.89	2.59	4.05	32.37	44.89	4.0	34.30
Israel	454	2.29	1.75	3.31	4.10	35.08	45.84	4.2	39.20
Japan	409	2.34	1.98	2.70	3.66	36.07	50.60	2.0	24.90
Latvia	519	2.38	1.74	2.82	3.84	41.56	43.31	4.0	35.70
Mexico	547	2.54	2.15	3.75	4.09	37.95	44.41	2.0	48.10
New Zealand	709	2.70	2.05	2.48	4.12	33.53	44.33	5.0	36.20
Norway	857	2.58	1.90	2.62	4.03	35.01	42.45	3.0	25.80
Philippines	498	2.67	2.49	4.27	3.94	45.01	45.18	1.0	44.00
Portugal	906	2.41	2.00	2.90	3.91	38.57	43.61	4.4	38.50
Russia	788	2.16	1.54	2.92	3.91	38.93	43.47	5.6	37.50
Slovenia	465	2.72	1.70	2.72	4.02	41.38	45.36	4.0	31.20
South Africa	733	2.72	2.31	3.71	3.97	39.93	43.23	4.2	57.80
South Korea	726	2.20	1.83	3.57	3.81	44.94	51.92	2.0	31.60
Spain	486	2.42	2.06	2.73	3.82	37.90	43.13	6.0	34.70
Sweden	713	2.84	2.14	2.23	4.07	36.33	41.18	5.0	25.00
Switzerland	563	2.65	2.42	2.75	3.89	30.81	45.76	4.0	33.70
Taiwan	1105	2.02	1.76	3.46	3.68	45.97	49.71	1.5	43.40
United States	840	2.56	2.05	2.75	4.49	40.88	45.69	0.0	40.80

Table 2. Hierarchical Linear Model for Work-Family Interference: Regression Coefficients

Variable	Model 1		Model 2		Model 3		Model 4		Model 5	
	Coeff.		Coeff.		Coeff.		Coeff.		Coeff.	
Intercept	2.586	***	2.356	***	2.355	***	2.363	***	2.355	***
Women's Mean Weekly Work Hours	---		-0.032	**	---		---		-0.022	*
Men's Mean Weekly Work Hours	---		---		-0.046	***	---		-0.033	**
Annual Leave (weeks)	---		---		---		0.032		0.008	
Cross-level Effects										
Female	-0.073	**	0.041		0.042		0.042		0.042	
Women's Mean Weekly Work Hours	---		0.007		---		---		0.002	
Men's Mean Weekly Work Hours	---		---		0.016		---		0.012	
Annual Leave (weeks)	---		---		---		-0.027		-0.020	
VARIANCE COMPONENTS										
Intercept	0.066	***	0.046	***	0.043	***	0.058	***	0.037	***
Female	0.017	***	0.016	***	0.014	***	0.015	***	0.014	***
Model Fit (χ^2 statistic compared to full individual-level model)	---		10.893	*	12.482	**	4.601		19.049	**
Level-1 r	1.087		0.848		0.848		0.848		0.848	

Note: *p < 0.05; **p < 0.01; ***p < 0.001 (two-tailed tests). 2005 ISSP data. N=20,399 individuals nested in 31 countries. Models 2 through 5 include GINI as a control. Model fit compares the model to the full individual-level model

Table 3. Hierarchical Linear Model for Family-Work Interference: Regression Coefficients

Variable	Model 1		Model 2		Model 3		Model 4		Model 5	
	Coeff.		Coeff.		Coeff.		Coeff.		Coeff.	
Intercept	2.004	***	1.817	***	1.816	***	1.815	***	1.817	***
Women's Mean Weekly Work Hours	---		-0.021	*	---		---		-0.017	
Men's Mean Weekly Work Hours	---		---		-0.024		---		-0.015	
Annual Leave (weeks)	---		---		---		0.011		-0.001	
Cross-level Effects										
Female	0.014		0.088	***	0.088	***	0.089	***	0.089	***
Women's Mean Weekly Work Hours	---		0.002		---		---		-0.001	
Men's Mean Weekly Work Hours	---		---		0.008		---		0.005	
Annual Leave (weeks)	---		---		---		-0.027	*	-0.025	
VARIANCE COMPONENTS										
Intercept	0.062	***	0.051	***	0.053	***	0.056	***	0.050	***
Female	0.005	**	0.007	***	0.007	***	0.006	***	0.006	***
Model Fit (χ^2 statistic compared to full individual-level model)	---		5.620		5.228		6.826		11.206	
Level-1 r	0.823		0.762		0.762		0.762		0.762	

Note: *p < 0.05; **p < 0.01; ***p < 0.001 (two-tailed tests). 2005 ISSP data. N=20,399 individuals nested in 31 countries. Model fit compares the model to the full individual-level model

Table 4. Hierarchical Linear Model for Preferences for more Family Time: Regression Coefficients

Variable	Model 1 Coeff.	Model 2 Coeff.	Model 3 Coeff.	Model 4 Coeff.	Model 5 Coeff.
Intercept	3.935 ***	3.847 ***	3.846 ***	3.846 ***	3.848 ***
Women's Mean Weekly Work Hours	---	-0.022 **	---	---	-0.023 **
Men's Mean Weekly Work Hours	---	---	-0.011	---	0.003
Annual Leave (weeks)	---	---	---	0.013	0.009
Cross-level Effects					
Female	0.078	0.096 ***	0.097 ***	0.096 ***	0.094 ***
Women's Mean Weekly Work Hours	---	0.006	---	---	0.009 *
Men's Mean Weekly Work Hours	---	---	-0.004	---	-0.008
Annual Leave (weeks)	---	---	---	0.012	0.010
VARIANCE COMPONENTS					
Intercept	0.041 ***	0.029 ***	0.036 ***	0.038 ***	0.029 ***
Female	0.003 **	0.002 **	0.002 *	0.002 *	0.001 *
Model Fit (χ^2 statistic compared to full individual-level model)	---	11.697 *	4.416	4.388	17.031 *
Level-1 r	0.622	0.596	0.596	0.596	0.596

Note: * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$ (two-tailed tests). 2005 ISSP data. N=20,399 individuals nested in 31 countries. Models 2 through 5 control for GINI. Model fit compares the model to the full individual-level model

Table 5. Hierarchical Linear Model for Preferences for more Work Time: Regression Coefficients

Variable	Model 1		Model 2		Model 3		Model 4		Model 5	
	Coeff.		Coeff.		Coeff.		Coeff.		Coeff.	
Intercept	2.951	***	3.015	***	3.017	***	3.020	***	3.017	***
Women's Mean Weekly Work Hours	---		0.060	***	---		---		0.050	**
Men's Mean Weekly Work Hours	---		---		0.062	**	---		0.026	
Annual Leave (weeks)	---		---		---		-0.102	*	-0.077	*
Cross-level Effects										
Female	-0.022		-0.069	***	-0.071	***	-0.070	***	-0.069	***
Women's Mean Weekly Work Hours	---		-0.005		---		---		-0.002	
Men's Mean Weekly Work Hours	---		---		-0.009		---		-0.008	
Annual Leave (weeks)	---		---		---		0.006		0.002	
VARIANCE COMPONENTS										
Intercept	0.288	***	0.110	***	0.131	***	0.148	***	0.088	***
Female	0.010	***	0.001	*	0.001		0.002	*	0.001	*
Model Fit (χ^2 statistic compared to full individual-level model)	---		32.194	***	28.363	***	21.398	***	41.721	***
Level-1 r	0.817		0.775		0.775		0.775		0.775	

Note: * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$ (two-tailed tests). 2005 ISSP data. $N=20,399$ individuals nested in 31 countries. Models 2 through 5 control for GINI. Model fit compares the model to the full individual-level model

Appendix A: Descriptive Statistics for Individual and Macro-Level Variables

Variable	Mean	Standard Deviation	Range
<i>Interference</i>			
Work-Family	2.53	1.08	1-5
Family-Work	2.00	0.94	1-5
<i>Time Preferences</i>			
More time with family	3.98	0.82	1-5
More time at work	2.92	1.03	1-5
<i>Gender</i>			
Female	0.49	0.50	0-1
<i>Individual-Controls</i>			
Job Characteristics			
Self-Employed (yes=1)	0.16	0.37	0-1
Professional position (yes=1)	0.41	0.49	0-1
Work hours	40.85	13.32	1-96
Full schedule control (yes=1)	0.15	0.36	0-1
Full control over daily work (yes=1)	0.27	0.45	0-1
Job autonomy	3.77	1.08	1-5
Job replaceable	3.24	1.17	1-5
Job secure	3.60	1.13	1-5
Job satisfaction	5.25	1.20	1-7
Quality manager and employee relations	3.87	0.89	1-5
Quality employee to employee relations	4.16	0.72	1-5
Income opportunities good	2.75	1.08	1-5
Advancement opportunities good	2.73	1.09	1-5
Skill development opportunities good	2.28	1.03	1-5
Exhausting work	3.35	0.95	1-5
Physical work	2.52	1.29	1-5
Dangerous work	2.08	1.21	1-5
Boring work	2.19	0.98	1-5
Stressful work	2.82	1.04	1-5
Individual Characteristics			
Married (yes=1)	0.66	0.47	0-1
College degree or higher (yes=1)	0.21	0.41	0-1
Income	0.21	0.22	0-1
Child present (yes=1)	0.47	0.50	0-1
Age 25 to 34	0.28	0.45	0-1
Age 35 to 44	0.32	0.47	0-1
Age 45 to 54	0.30	0.46	0-1
Age 55 to 64	0.11	0.31	0-1
<i>Macro-Level Measures</i>			
Women's Mean Weekly Work Hours	37.70	4.30	28.7-45.9
Men's Mean Weekly Work Hours	44.63	3.12	39.9-59.9
Annual Leave (weeks)	3.89	1.49	0-6
GINI Coefficient	34.50	7.84	24.7-57.8

2005 ISSP data. N = 24,408 individuals in 31 countries.

Appendix B. Full Models for HLM Results (2005 ISSP)

Variable	Work-Family Interference		Family-Work Interference		Family Time Preference		Work Time Preference	
	Model 1		Model 2		Model 3		Model 4	
	Coeff.		Coeff.		Coeff.		Coeff.	
Intercept	2.355	***	1.817	***	3.848	***	3.017	***
Women's Mean Weekly Work Hours	-0.022	*	-0.017		-0.023	**	0.050	**
Men's Mean Weekly Work Hours	-0.033	**	-0.015		0.003		0.026	
Annual Leave (weeks)	0.008		-0.001		0.009		-0.077	*
GINI Coefficient	0.001		0.005		0.010	*	0.026	**
Cross-level Effects								
Female	0.042		0.089	***	0.094	***	-0.069	***
Women's Mean Weekly Work Hours	0.002		-0.001		0.009	*	-0.002	
Men's Mean Weekly Work Hours	0.012		0.005		-0.008		-0.008	
Annual Leave (weeks)	-0.020		-0.025		0.010		0.002	
GINI Coefficient	-0.002		0.002		-0.002		-0.005	*
Individual-Controls								
<i>Job Characteristics</i>								
Self-Employed (yes=1)	0.113	***	0.138	***	-0.037		0.051	*
Professional position (yes=1)	0.127	***	0.087	***	-0.012		-0.067	***
Work hours	0.007	***	0.000		0.003	***	-0.008	***
Full schedule control (yes=1)	0.021		0.051	*	-0.006		0.029	
Full control over daily work (yes=1)	-0.059	***	-0.045	**	0.022		0.033	
Job autonomy	-0.013		-0.010		0.013		0.021	**
Job replaceable	-0.019	***	-0.012	*	-0.005		0.035	***
Job secure	-0.031	***	-0.031	***	0.012	*	-0.032	***
Job satisfaction	-0.090	***	-0.036	***	-0.020	***	0.027	***
Quality manager and employee relations	-0.023	*	0.015		-0.013		0.053	***
Quality employee to employee relations	-0.060	***	-0.075	***	0.031	**	-0.026	*
Income opportunities good	0.015		0.021	**	-0.016	*	-0.009	
Advancement opportunities good	0.035	***	0.040	*	0.004		0.029	***
Skill development opportunities good	0.008		0.014		0.020	**	0.020	**
Exhausting work	0.197	***	0.067	***	0.073	***	-0.061	***
Physical work	0.022	***	0.036	***	-0.004		0.050	***
Dangerous work	0.051	***	0.048	***	-0.004		0.010	
Boring work	-0.003		0.000		-0.028	***	-0.033	***
Stressful work	0.190	***	0.085	***	0.041	***	-0.035	***
<i>Individual Characteristics</i>								
Married (yes=1)	0.108	***	0.070	***	0.114	***	-0.044	***
College degree or higher (yes=1)	0.064	***	0.047	***	-0.067	***	-0.033	
Income	0.191	***	0.078		0.079	*	-0.296	***
Child present (yes=1)	0.123	***	0.169	***	0.105	***	-0.013	
Age 25 to 34	0.012		-0.035	*	0.049	***	0.045	**

Age 45 to 54	-0.060	***	-0.067	***	-0.101	***	-0.003
Age 55 to 64	-0.052	*	-0.070	***	-0.109	***	-0.067 **
<i>Time Preferences</i>							
Preference for more time with family	0.096	***	0.007		---		---
Preference for more time at work	-0.074	***	-0.001		---		---

Note: *p < 0.05; **p < 0.01; ***p < 0.001 (two-tailed tests). 2005 ISSP data. N=20,399 individuals nested in 31 countries.