CROSS-NATIONAL DIFFERENCES IN RELATIONSHIPS OF WORK DEMANDS, JOB SATISFACTION, AND TURNOVER INTENTIONS WITH WORK–FAMILY CONFLICT

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A study of work interference with family (WIF) among managers is described, contrasting four clusters of countries, one of which is individualistic (Anglo) and three of which are collectivistic (Asia, East Europe, and Latin America). Country cluster (Anglo vs. each of the others) moderated the relation of work demands with strain-based WIF, with the Anglo country cluster having the strongest relationships. Country cluster moderated some of the relationships of strain-based WIF with both job satisfaction and turnover intentions, with Anglos showing the strongest relationships. Cluster differences in domestic help were ruled out as the possible explanation for these moderator results.

In recent years significant attention has been given to the interference between individuals' family and work roles, which has been studied under the general rubric of work–family conflict (WFC). Findings and theories from predominantly Western countries have suggested a clear link between work demands and WFC (Bruck, Allen, & Spector, 2002; Byron, 2005; Frone, Yardley, & Markel, 1997; Hammer, Neal, Newsom, Brockwood, & Colton, 2005). It has been proposed that long work hours and heavy workloads are a direct precursor to work–family conflict (WFC), as excessive time and effort at work leaves insufficient time and energy for family-related activities (Frone, 2003; Greenhaus & Beutell, 1985). Research from Western countries also suggests that WFC can potentially lead to poor attitudes about the job, such as job dissatisfaction, as well as increased turnover intentions (e.g., Allen, Herst, Bruck, & Sutton, 2000; Mesmer-Magnus & Viswesvaran, 2005). However, far less research has been conducted outside of Western countries, and comparative studies across multiple countries are even more scarce, with most comparisons

limited to two countries. There are both theoretical (e.g., Ling & Powell, 2001) and empirical (e.g., Spector et al., 2004) reasons to question the universality of WFC findings. In their literature review of international studies on WFC, Poelmans, O'Driscoll, and Beham (2005) concluded that there is a clear need for more systematic investigations of cultural differences to determine whether correlates of WFC are culture specific or whether they cut across cultural boundaries.

The direction of WFC is particularly meaningful because the potential antecedents and consequences of family interfering with work (FIW) are not necessarily the same as those of WIF (work interfering with family; Frone, Russell, & Cooper, 1992; Greenhaus & Beutell, 1985). Of the two, WIF might be especially critical because it has been noted that individuals tend to experience more WIF than FIW (Frone, 2003). Empirical and theoretical work also differentiates time-based from strain-based WFC (Greenhaus & Beutell, 1985; Mesmer-Magnus & Viswesvaran, 2005). The former occurs when time demands of one domain (e.g., work) prevent performance in the other domain (e.g., home). The latter occurs when strain associated with one domain spills over to the other, such as coming home from work in a bad mood. In this paper we focus specifically on time-based and strain-based WIF in comparing results from four culturally dissimilar clusters (Anglo, Asia, East Europe, and Latin America) that comprised five countries each. We investigate potential cross-national differences in the experience of WIF by examining not only linkages between work demands and WIF, but also those between WIF and job attitudes.

Work Demands and WIF

A number of Western studies have consistently shown that work demands relate to WIF (e.g., Frone et al., 1997; Hammer et al., 2005). Byron's (2005) meta-analysis found relationships of WIF with working hours (22 samples) and perceived workload (10 studies) with stronger relationships for workload than working hours. Such findings have been replicated in western European countries, such as the Netherlands (e.g., Geurts, Kompier, Roxburgh, & Houtman, 2003). Comparative studies within Western Europe and North America have tended to show that these linkages are consistent across countries. For example, Cousins and Tang (2004) showed working hours related to WIF in the Netherlands, Sweden, and the United Kingdom; Janssen, Peeters, de Jonge, Houkes, and Tummers (2004) found similar relationships between WIF (operationalized as negative work–home interference) and work demands in the Netherlands and the United States.

When studies have been conducted in less culturally similar areas of the world, such as Asia, results have not been as consistent. For example, Asian studies have found a relationship between work demands and WIF

in India (Aryee, Srinivas, & Tan, 2005) and Hong Kong (Aryee, Luk, Leung, & Lo, 1999), but not in Japan (Matsui, Ohsawa, & Onglatco, 1995). In light of these inconsistencies, it should not be assumed that findings from Anglo and Western European countries also generalize to more culturally dissimilar regions of the world such as Asia, East Europe, or Latin America.

There have been at least five comparative studies linking work demands to work–family variables in culturally dissimilar countries. The results of these investigations have been inconsistent. Yang, Chen, Choi, and Zou (2000) and Yang (2005) compared China with the United States, finding that the relationship between work demands and WFC was greater in China than in the United States. Spector et al. (2004) in a 15-country study and Lu, Gilmour, Kao, and Huang (2006) in a 2-country study found the opposite. In a 48-country study, Hill, Yang, Hawkins, and Ferris (2004) showed that a model linking work demands to WIF and job attitudes held universally across four country clusters. Clearly, more research is needed to study country differences in the relation between work demands and work–family variables.

Individualism–Collectivism and Reactions to Work Demands

One potentially important cultural characteristic that can vary across nations is individualism–collectivism (I–C; Triandis, 1995). Societies in which people's primary concern tends to be with the self and with the nuclear family are considered individualistic. People's focus is on personal achievement and independence (Kagitçibasi, 1994; Markus & Kitayama, 1998). Anglo and western European countries are considered individualistic (e.g., Hofstede, 1984). In contrast, people in collectivist countries tend to see themselves as embedded in a network of social connections that include extended families and other groups. Markus and Kitayama (1998) explained that collectivists focus on interconnectedness with others, and Kagitçibasi (1994) noted that people in collectivistic cultures are encouraged to explore their need for belonging. Falicov (2001) discussed how collectivistic beliefs give priority to family connectiveness over the needs of the individual.

A number of authors have suggested that Asian (Hofstede, 1984; Oyserman, Coon, & Kemmelmeier, 2002), East European (Spector et al., 2001), and Latin American (Friedrich, Mesquita, & Hatum, 2006; Hofstede, 1984) societies are collectivistic. The differences between people in individualistic and those in collectivistic societies lead to expected differences in how work demands might lead to WIF. A number of authors have noted that the Chinese, in comparison to North Americans, tend to place more emphasis on work than on leisure, are less concerned about work intruding on nonwork, and see work as contributing to the family rather than

competing with it (e.g., Bu & McKeen, 2000; Shenkar & Ronen, 1987). Yang and colleagues (Yang et al., 2000; Yang 2005) tied these differences to I–C, focusing specifically on China versus the United States. In individualistic society, people view work as a means to personal achievement and development. Excessive efforts spent in work pursuits are seen as being devoted to the self and neglecting the family. On the other hand, in collectivistic society where people view the individual in terms of social networks, work roles are seen as serving the needs of the in-group rather than the individual. People who put extra effort into work are seen as making sacrifices for their in-group (e.g., family) and enjoy support from the family.

There have been some tests of the proposition that I–C moderates the relationships of work demands with WFC and related constructs, but results have been inconsistent. Yang et al. (2000) hypothesized that work demands would be greater in China than the United States, and that there would be a stronger connection between work demands and WFC in China than the United States. They found support in that the relationship between work demands (time-based work pressure) and a global nondirectional measure of WFC was stronger for the Chinese than Americans.

Compared to Yang et al. (2000), Spector et al. (2004) hypothesized the opposite direction of the moderating effect of I–C. They argued that for Americans and others from individualistic societies, excessive working hours will be perceived as family neglect and viewed in a negative way that leads to conflict within the family. This should produce a positive relationship between number of hours worked and work–family pressure (the extent to which an individual perceives WIF as a source of stress). On the other hand, amongst Chinese and others in collectivistic societies, long work hours might be seen as self-sacrifice and a contribution to the family, leading to family member appreciation and support that helps alleviate work–family pressure. Thus, the relationship between work hours and work–family pressure would be reduced. In order to provide a more definitive comparison of individualistic and collectivistic societies, Spector et al. (2004) studied clusters of predominantly individualistic and collectivistic countries rather than just one of each. They found support for their hypothesis that work hours would relate more strongly to work–family pressure in the individualistic than in the collectivistic country clusters.

There were differences between the operationalizations of key variables between Spector et al. (2004) and Yang et al. (2000) that are important to consider when comparing the two studies. Yang et al. used an ad hoc measure of perceived time-based role pressure and a measure of global WFC that consisted of items concerning competition between work and family for time and energy. Spector et al. related number of work hours per week to a measure of work–family pressure. The former measure asks something that is relatively factual and objective, and in fact, reports of

work hours have been shown to have very high convergent validity between independent sources. For example, Spector, Dwyer, and Jex (1988) found a .83 correlation between self- and supervisor reports. The work–family pressure measure assesses the extent to which individuals find WIF to be stressful, which is different from the WFC measure used by Yang et al., particularly because Spector et al.'s measure captures the direction of the conflict whereas Yang et al.'s does not.

In a comparison of Taiwan and the United Kingdom, Lu et al. (2006) found that country moderated the relationship between perceived workload (but not working hours) and an overall measure of WIF. They included items assessing strain-based, time-based, and what they defined as worry-based conflict. Consistent with Spector et al. (2004), the relationship between workload and WIF was larger in the United Kingdom than in Taiwan.

In a study testing an overall model of demands, WFC, and job attitudes, Hill et al. (2004) surveyed over 25,000 IBM employees from 48 countries including the Anglo, Asian, and Latin American clusters. They used structural equation modeling to test the same model in four country clusters: West-affluent (Anglo and Western Europe combined), East (Southeast Asia), West-developing (East Europe and Latin America), and the United States. They hypothesized that work demands (responsibility, workload, and travel) would lead to WFC and to job satisfaction, mediated by work–family fit. Counter to Lu et al. (2006), Spector et al. (2004), and Yang et al. (2000), they found support for the same model across all four country clusters. There are two possible explanations for the different findings. First, Hill et al. (2004) noted in their discussion that the strong corporate culture of IBM may have diminished the effect of the local culture in terms of WFC. Second, company policies may have attenuated differences across country clusters as IBM has a progressive work–family program. Furthermore, it should be noted that Hill et al. did not conduct moderator tests to see if relationships might have differed in magnitude across samples.

This study further investigates the relationship between work demands and WFC in a manner that improves on prior studies in two important ways. First, we utilized an established measure of WIF that distinguishes strain-based from time-based conflict. The former is expected to result from stressful work conditions produced not only by excessive time demands at work but also by excessive effort required by heavy workloads. The latter is a by-product of spending too much time working, perhaps as a result of trying to catch up on heavy workloads, thus leaving too little time remaining for family.

Second, we included two measures of demands, working hours and a perceptual measure of workload, to adequately capture both time-based and strain-based work demands (Voydanoff, 2004, 2005). Working hours

is a factual and relatively objective indicator of work demands. Because time is a limited commodity, the number of hours at work sets limits on the number of hours available for family. As such, hours at work should be a precursor to time-based WIF. Furthermore, when too much time at work drains the energy people need to meet family demands, working hours may also relate to greater strain-based WIF (Greenhaus & Beutell, 1985). It is important to note, however, that individuals who work the same number of hours may differ in their perception of the workload they face. People with greater workloads are likely to expend more effort than others while at work, which should increase strain-based WIF. In addition, those with greater workloads may choose to spend more time at work in an effort to catch up, thereby spurring time-based WIF. Because Barnett (2006) argued that subjective evaluations of workload can be even more important than the number of hours themselves, and because Spector et al. (2004) assessed work hours whereas Yang et al. (2000) assessed perceived workload, we examined whether results would differ between these two operationalizations of work demand.

We expected to find regional differences in the relationship between both forms of work demands (working hours and perceived workload) and both types of WIF (strain based and time based). In accordance with arguments made by Yang et al. (2000), people in individualistic society will view work demands as competing with the family, whereas people in collectivistic society will not. If people are working long hours and coming home tired from working hard, it is likely that they will have insufficient time and energy for the family. In individualistic society this will lead to family resentment, which will lead to WIF. People in collectivistic society will view work demands as serving the needs of the family. As a result family members will be less likely to see work as competing with family, thereby being more likely to support the person's efforts at work and less likely to resent the person for having less time and energy for the family. This would minimize an employee's experience of WIF. We therefore hypothesized the following:

Hypothesis 1: *Country cluster will moderate the relationship between work demands (work hours and perceived workload) and WIF (time based and strain based) such that the positive relationship will be stronger in the Anglo country cluster than in any of the other three country clusters.*

Domestic Support as an Explanation

There are alternative mechanisms that could explain why being a member of collectivistic society might buffer the impact of work demands on

WIF. One possibility noted but not tested by Spector et al. (2004) is the greater availability of domestic support in collectivistic countries. People from collectivistic societies (Kagitcibasi, 2005; Korabik, Lero, & Ayman, 2003), including Asians (Ishii-Kuntz, 1994; Ling & Powell, 2001) and Latins (Falicov, 2001), tend to have closer ties to extended family members and friends who provide both material and social support for family responsibilities.

One characteristic of collectivistic society that contributes to the availability of domestic help is the size of the family unit in which people reside and the degree of interrelatedness people enjoy with extended family members. Whereas people in individualistic countries tend to reside in nuclear families comprising a couple with dependent children, people in collectivistic countries often reside in families comprising more generations. Glaser et al. (2006) summarized data from Asia and Latin America showing that the majority of elderly coreside with their children or live near them, compared to rates between 5% and 15% in western society. They further note that coresiding elderly are more likely to provide domestic assistance than non-coresident elderly. Of course, individuals in collectivistic society also assume more responsibility for elderly parents and that can add to family responsibilities (Chen & Silverstein, 2000). All this suggests that in a collectivistic society, employed individuals may experience less of an impact of work demands on WIF because they enjoy more domestic support from extended family and friends. Thus, we would expect that the previously hypothesized moderating effect of country cluster on the relationship between work demands and WIF would be accounted for by the greater availability of domestic help in collectivistic clusters than in individualistic ones. In other words, domestic help will moderate the relationships between work demands and WIF, and that moderator effect accounts for the expected moderator effect of country cluster.

>   *Hypothesis 2a:*   *The moderating effect of availability of family/friend domestic help on the relationship between work demands and WIF will account for the moderating effect of country cluster.*

Paid domestic help is another resource that might buffer the effects of work demands on WIF (Spector et al., 2004). In fact, the use of such domestic help has been linked to a reduction in family demands, although not in WIF itself in a Hong Kong study (Luk & Shaffer, 2005). It is likely that in collectivistic regions there is greater access to paid domestic help due to greater income discrepancies between managers and domestic workers. For example, Tang and Cousins (2005) noted that daycare for

children is quite affordable in East Europe, being a holdover from the former Soviet system. Thus, work demands might have less impact on WIF in these regions because paid assistance with domestic obligations is more widely available. In other words, the use of paid domestic help moderates the relationship between work demands and WIF, and that moderator effect accounts for the expected moderating effect of country cluster.

Hypothesis 2b: *The moderating effect of availability of paid domestic help on the relationship between work demands and WIF will account for the moderating effect of country cluster.*

WIF, Job Satisfaction, and Turnover Intentions

WFC is often considered from a role stress perspective (Kahn, Wolfe, Quinn, Snoek, & Rosenthal, 1964; Katz & Kahn, 1978) whereby it represents a form of inter role conflict in which work and family roles are incompatible (Greenhaus & Beutell, 1985). There have been many studies linking role stressors in general, and role conflict in particular, to a variety of job attitudes, including job dissatisfaction, as well as turnover intentions. Such stressors are presumed to lead to negative emotions that in turn lead to negative job attitudes (e.g., Beehr & Glazer, 2005). Furthermore, a likely coping response to stressors is withdrawal from the situation (Beehr, 1998), which is typically preceded by intentions to withdraw. In their meta-analysis, Jackson and Schuler (1985) showed that role conflict was significantly correlated with job satisfaction ($r = -.31$) and with turnover intentions ($r = .21$).

As a form of role stressor, WIF can similarly be linked to job dissatisfaction and turnover intentions. Because WIF represents a stressor originating in the work domain, it can lead to lowered satisfaction with the root cause of the conflict, the job. WIF also relates to turnover intentions because leaving the job may be viewed as a way to cope with the stress associated with WIF (Bellavia & Frone, 2005). WFC has been linked empirically to job satisfaction and turnover intentions, often at a similar magnitude of correlation as role conflict. For example, Kossek and Ozeki (1998) reported a mean correlation in their meta-analysis of $-.27$ between general WFC and job satisfaction. In a larger meta-analysis, Allen et al. (2000) found WFC to correlate with job satisfaction ($r = -.23$) and turnover intentions ($r = .29$). This meta-analysis included studies that used measures of WIF as well as those that combined WIF with FIW, but the vast majority of studies used WIF measures. Studies assessing WIF specifically have linked it to both reduced job satisfaction (e.g., Hammer et al., 2005) and to increased turnover intentions (e.g., Wang, Lawler,

Walumbwa, & Shi, 2004). Hammer et al. (2005) demonstrated that the connection between WIF and job satisfaction held in a longitudinal study, with WIF predicting lower job satisfaction 1 year later. These findings hold not only in North America but in Western Europe an nations as well, such as Finland (Kinnunen, Geurts, & Mauno, 2004) and the Netherlands (Janssen et al., 2004).

Individualism–Collectivism and the Relationship of WIF With Job Satisfaction and Turnover Intentions

Results linking WIF with job satisfaction and turnover intentions have not been consistent in Asian samples. For example, WIF was found to correlate significantly with job satisfaction in India (Aryee et al., 2005), Hong Kong (Chiu, 1998), China (Yang, 2005), and Singapore (Aryee, 1992). On the other hand, in Hong Kong, Aryee and Luk (1996) failed to find a significant correlation of WIF with career satisfaction, and Aryee et al. (1999) failed to find a significant correlation of WIF with job satisfaction. Furthermore, Yang (2005) failed to find a relation between WIF and turnover intentions in China.

Taken together, these inconsistent findings across countries suggest that cultural differences may moderate these relationships. Wang et al. (2004) argued that individualists tend to focus on their own needs. They would, therefore, be likely to respond negatively to a job that interferes with those needs. That is, a job that produces WIF would likely be seen in a negative light and lead to job dissatisfaction. Furthermore, a typical individualist response to dissatisfaction is to consider one's own happiness and well-being, which should translate into intentions of quitting the job, and subsequent turnover if possible. Collectivists consider esteeming the self as immature, self-aggrandizing, and even narcissistic (Markus & Katayama, 1998). Instead, they likely view themselves in terms of social connections with coworkers and the employer, and would be willing to sacrifice self-interest for the interest of the larger collective. They remain loyal to the employer, even if that employer's demands and practices produce WIF, and thus, they do not have negative feelings about the job as the cause of their WIF. Thus, the connection between WIF and job satisfaction should be weaker. Furthermore, as Wang et al. (2004) pointed out, collectivists would likely look to coworkers for support in coping with WIF and adverse job situations rather than looking to withdraw from the situation. Thus, they would be unlikely to respond to such situations with intentions of quitting the job as turnover would result in abandoning the social support system at work.

There is limited empirical support for these ideas. Most directly, Wang et al. (2004) found a statistically significant correlation between WIF and

turnover intentions for Americans ($r = .21$) but not Chinese ($r = .05$), although the two correlations were not significantly different from one another statistically. Likewise, Jamal (2005) found that the relationships of job stress with both job satisfaction and turnover were stronger for Canadians than for Chinese. In two multicountry studies, Huang and Van de Vliert (2003, 2004) found that country I–C moderated the relationship between characteristics of jobs (e.g., blue collar vs. white collar) and job satisfaction, with stronger relationships for individuals in individualist societies. One disconfirming study found no difference in relationships of essentially time-based WIF with job satisfaction and turnover intentions between Americans and Mexicans (Posthuma, Joplin, & Maertz, 2005). Considering both the empirical and theoretical literature, we propose the following hypothesis:

Hypothesis 3:   Country cluster will moderate the negative relationship of WIF with job satisfaction and positive relationship of WIF with turnover intentions such that the magnitude of relationship will be stronger in the Anglo country cluster than in any of the other three country clusters.

The Current Study

This study was designed to test three hypotheses about the moderating effect of country cluster on the relationship of WIF with work demands, job satisfaction, and turnover intentions. We chose to study managers because they tend to work long hours and have high levels of responsibility and demands at work (Brett & Stroh, 2003). Thus, we would expect them to experience conflict between work and family (Poelmans et al., 2005, p. 30). Data were collected from 20 countries that were placed in four country clusters, one of which is considered individualistic (Anglo) and the other three are considered collectivistic (Asia, East Europe, and Latin America).

This study investigates cluster differences in relationships among work demands, WIF, and job attitudes. This is important because hypotheses and findings in this area have been inconsistent and even opposite (e.g., Spector et al., 2004; Yang et al., 2000). The Spector et al. and Yang et al. studies investigated work–family variables, but the measures used differed. This study contributes to the work–family literature and extends the research of Spector et al. (2004), as well as other prior research, in several ways. First, it contrasts a cluster of Anglo countries with three clusters chosen to represent three major collectivistic regions that are culturally dissimilar and geographically dispersed. We added a new cluster (East Europe) from those studied by Spector et al., and expanded from China to five countries in Southeast Asia. Second, Spector et al. (2004) used a measure of work–

family pressure derived from the Occupational Stress Indicator-2 (Cooper & Williams, 1996), whereas this study used an established measure that distinguished both direction and form of WFC. Third, we derived and tested the domestic help mechanism raised but not tested in Spector et al. (2004) as an explanation for region-moderating effects. Fourth, we hypothesized and conducted moderator tests for the connection between WIF and job attitudes. Such moderating hypotheses have not been examined in previous research. Fifth, we included two measures of work demands—working hours and perceived workload. Having used both measures, we tested for incremental validity in the prediction of WIF by including both in the same multiple regression equations.

Method

Procedure

The data reported here are from the second phase of the Collaborative International Study of Managerial Stress (CISMS 2). Both phases (i.e., CISMS 1 and 2) were conducted independently using different instruments and different samples several years apart. A central project team designed the study and questionnaire, recruited research partners to collect data in their countries, compiled data across the different country data sets, and analyzed the data. A common questionnaire was distributed to partners who were responsible for data collection in their country. Instructions were to collect data on managers only with a target of at least 200 participants and to collect as representative a sample as possible. Ideally, each participant would work for a separate organization with diverse industries represented. Partners were asked to recruit participants who worked for local companies as opposed to western multinationals. Procedures varied in individual countries for data collection, for example, some used management associations to recruit participants, whereas others used business school alumni lists. Some used a variety of methods to assure a heterogeneous sample of managers. For example, in the Canadian sample, e-mails were sent to business school alumni of one university, asking for participation in a work–family study. In the United States a variety of methods were utilized, including sending e-mail invitations to alumni from business schools from three universities, a randomly selected sample of government managers selected from Web sites, and a snowball sampling approach by posting invitations on discussion lists and through colleagues. In both cases data were collected via a Web-based survey.

In countries where English was not the native language, research partners had the questionnaire translated into the appropriate language and independently back-translated into English. The back-translated version

TABLE 1
Mean I–C Scores From Four Sources for the Four Regions

Region	GLOBE	Hofstede, 2001	CISMS	Oishi et al., 1999
Anglo	4.1	85.8	98.8	9.3
Asia	5.4	26.5	64.8	3.5
East Europe	5.5	–	59.8	5.0
Latin America	5.5	28.3	59.8	4.9

Note. Higher scores represent individualism except for GLOBE, which is a measure of in-group collectivism practices and is scored in the other direction.

was sent to the central team where a native English speaker (American doctoral student) checked it against the original English questionnaire for accuracy of translation. Feedback was given to the research partner if any portion was not properly back-translated so the translation could be fixed. Errors were few and in most cases they were minor.

Participants

Participants for this study were 5,270 managers from 20 country samples. We classified these countries into four clusters. The Anglo country cluster ($n = 1,492$) included Australia, Canada, New Zealand, the U.K., and the United States. Asia ($n = 1,213$) consisted of Hong Kong, Japan, Korea, China, and Taiwan. East Europe ($n = 1,352$) included Bulgaria, Poland, Romania, Slovenia, and Ukraine. Latin America ($n = 1,213$) consisted of Argentina, Bolivia, Chile, Peru, and Puerto Rico. The Anglo country cluster included the same countries as in Spector et al. (2004); the Asian country cluster added Japan and Korea, and the Latin country cluster had only Argentina and Peru in common. There was considerable overlap with the countries studied by Hill et al. (2004), who used a different classification scheme. Our Asian and Anglo country clusters were subsets of Hill et al.'s East and West country clusters.

In order to verify the appropriateness of our country classification, we consulted four sources of I–C data by country: Project GLOBE (Gelfand, Bhawuk, Nishii, & Bechtold, 2004), Hofstede (2001), CISMS (Spector et al., 2001), and Oishi, Diener, Lucas, and Suh (1999), who obtained ratings of I–C from the two leading experts in the field, Geert Hofstede and Harry Triandis. Each of these sources provided data for an overlapping subset of our 20 countries. GLOBE covered 14 of our countries, Hofstede (2001) covered 12, CISMS covered 13, and Oishi et al. covered 11. We placed the countries within each of these sources into one of our four clusters and computed the mean I–C score for the countries within each cluster. As can be seen in Table 1, for all four sources, the Anglo mean

was significantly more individualistic than the other cluster scores. In fact there was no overlap of the various individual country I–C scores between the Anglo clusters and any of the other clusters. In other words, all four sources indicate that all of the countries in the Anglo cluster are more individualistic than any of the countries in the other three clusters.

We placed the collectivistic countries into three country clusters that represented major world regions that shared elements of culture based on common history and geographic proximity. Each of these classifications is consistent with country groupings used in the GLOBE study (Gelfand et al., 2004). The use of multiple countries from diverse regions provides a more definitive test of the notion that I–C is the moderating factor because we have multiple countries within country clusters, and the three collectivistic country clusters are quite culturally dissimilar from one another. Finding similar results in comparing our individualistic country cluster with each of the other three would lend greater credence to the notion that I–C explains the differences between clusters.

We also performed statistical tests of our grouping assumptions. We conducted a series of analyses of variance (ANOVAs) with country as the independent variable within each country cluster (4 sets of ANOVAs), and each of the other variables in our study as dependent variables. Given the statistical power achieved with our large sample sizes, all but 1 of the 40 (turnover intention for the Anglo country cluster) F-tests were statistically significant. Perhaps more important is the effect size (proportion of variance) of these comparisons. Most were quite small with 27 of 44 accounting for less than 5% of the variance and 19 of 44 accounting for less than 3%. These results suggest that, for the most part, our countries were fairly homogeneous within country clusters in terms of the variables included in our study.

Table 2 contains the demographic variables by cluster. As can be seen, there were some differences between the Anglo and other clusters. The Anglo cluster was the oldest (Asian was youngest), was most likely to be married, and was most likely to be in middle to high-level management. East Europeans had the greatest percentage of "college educated" and "partner working." Latin Americans had the largest mean number of children living at home. Consistent with Glaser et al. (2006), the Anglo participants were least likely to be living with or near their parents, with a third of the Asians having that living arrangement.

Measures

Work demands. Two measures of work demands were included. Work hours was a single question, "How many hours do you work in a typical week," with six response choices from 1 = *fewer than 20* to 6 = *more*

TABLE 2

Demographic Variables by Cluster

Variable	Anglo	Asia	East Europe	Latin America
Age[a]	43.7 (10.9)	35.5 (8.3)	38.4 (9.4)	40.8 (9.6)
Tenure[a]	10.0 (9.1)	8.7 (8.2)	8.6 (8.0)	10.7 (9.1)
Male	58%	55%	64%	63%
College educated	69%	59%	80%	74%
Middle management or higher	73%	43%	42%	64%
Married	83%	64%	80%	76%
Partner working[b]	80%	79%	90%	76%
Parent[c]	5%	33%	22%	14%
Number of children at home	.85 (1.10)	.66 (.91)	.90 (.87)	1.32 (1.32)

[a]Mean (and standard deviation) shown.
[b]Percent of those married with working partner.
[c]Participant's parent coresident or living in the same building.

than 60. Perceived workload was assessed with Spector and Jex's (1998) quantitative workload inventory (QWI), a 5-item measure of perceived quantitative workload. There were five response choices ranging from 1 = *less than once per month or never* to 5 *several times per day*, yielding a range of possible scores from 5 to 25. The instructions asked, "How often do each of the following apply to your job?" A sample item is "How often does your job require you to work very fast?" Spector and Jex (1998) reported a mean coefficient alpha for the scale of .82 across 15 samples. Higher scores for both scales indicate more demands.

WIF. WIF was assessed with two subscales from the Carlson, Kacmar, and Williams (2000) WFC scale. Strain-based and time-based WIF were each assessed with three items. There were five response choices ranging from 1 *strongly disagree* to 5 *strongly agree*, which result in scores that can range from 3 to 15. Sample items were "I am often so emotionally drained when I get home from work that it prevents me from contributing to my family" for strain-based WIF and "My work keeps me from my family activities more than I would like" for time-based WIF. Carlson et al. (2000) reported coefficient alphas of .85 and .87 for strain-based and time-based WIF, respectively. Higher scores on each scale indicate higher levels of WIF.

Job satisfaction. Job satisfaction was assessed with the 3-item Cammann, Fichman, Jenkins, and Klesh (1979) job satisfaction subscale from the Michigan Organizational Assessment Questionnaire. Due to problems in some of our samples with the negatively worded item that produced unacceptably low coefficient alphas, only the two positively worded items were retained. The scale had six response choices ranging from 1 = *disagree very much* to 6 = *agree very much*, resulting in scores from 2 to 12.

A sample item is "All in all, I am satisfied with my job." Spector et al. (1988) reported a coefficient alpha of .90 for the full scale. Higher scores indicate higher levels of job satisfaction.

Turnover intentions.   Turnover intentions were assessed with a single item, "How often have you seriously considered quitting your current job over the past 6 months" from Spector et al. (1988). Response choices ranged from 1 = *never* to 6 = *extremely often.* Higher scores reflect higher levels of intentions. This single-item measure has been used in several prior studies and has been shown to relate significantly to both job satisfaction and turnover (e.g., Spector, 1991).

Domestic support.   The use of unpaid domestic help from family and friends was measured in two ways. It was assessed first with a series of eight questions that asked how often, from 1 = *never* to 5 = *daily*, people in four categories (parents, siblings, grandparents/aunts/uncles/cousins, and friends/neighbors) provided either childcare or housework assistance. The childcare questions asked, "Who helps with childcare in your home?" The housework questions asked, "Who helps with housework in your home, including cleaning, cooking, and laundry?" The average score across the eight items provided this first index of unpaid domestic support. If the participant had no children, only the four items concerning housework were averaged. Unpaid support was also assessed by determining the coresidence of a parent using a 6-choice single item that asked about the closest residing parent or spouses/partner's parent. We recoded the item to reflect either coresidence (coded 2) consisting of choices living in same residence and living in same building, or no coresidence (coded 1) consisting of the other more distal choices: "adjacent or nearby buildings," "same neighborhood," "same city," and "far away."

The use of paid domestic support was assessed with two questions asking whether participants paid someone to provide domestic assistance with children and housework. In a way similar to the family help questions, they were averaged if the participant had children. If the participant had no children, only the housework question score was used. In both cases higher scores represented more frequent use of help.

Demographics.   Items were included asking age in years, tenure in months, gender (1 = *male*, 2 = *female*), education level, management level from first to top, marital status (1 = *married*, 2 = *not married*), whether or not the spouse/partner was working, and the number of children living in the home.

Scale Equivalence

Given the large cultural and linguistic differences among our samples, it was advisable to establish measurement equivalence among our

TABLE 3

Comparisons of Variable Means by Country Cluster

	Anglo	Asia	East Europe	Latin America	Range	$F(df)$	R^2
Work hours	4.2[b]	4.1[c]	4.0[c]	4.3[a]	1–6	17.2 (3, 5,234)	.010
Workload	17.8[a]	12.4[d]	14.8[c]	15.5[b]	5–25	244.3 (3, 5,197)	.124
WIF time	9.7[a]	9.3[b]	9.5[a,b]	9.5[a,b]	3–15	4.0 (3, 5,262)	.002
WIF strain	9.3[a]	8.8[c]	9.3[a,b]	9.1[b]	3–15	10.2 (3, 5,258)	.006
Job satisfaction	9.6[a]	7.9[c]	9.2[b]	9.6[a]	2–12	155.72 (3, 5,248)	.082
Turnover intentions	2.6[a]	2.6[a]	2.2[b]	2.2[b]	1–6	38.4 (3, 4,958)	.022
Family help	1.4[c]	2.1[a]	1.6[b]	1.6[b]	1–5	144.1 (3, 4,844)	.081
Paid help	1.9[b]	1.5[c]	1.3[d]	3.4[a]	1–5	725.8 (3, 4,803)	.312
Parent	1.0[a]	1.1[b]	1.2[c]	1.3[d]	1–2	128.95 (3, 5,128)	.070

Note. Means with different superscripts are significantly different from one another using Duncan's tests. All *F*-tests were statistically significant at $p < .05$.

scales. Following recommendations by Riordan and Vandenberg (1994) and Schaffer and Riordan (2003), we conducted tests of measurement equivalence within the multi-item scales that had more than three items. We elected to use the most stringent test of inter item variance/covariance equality as an indicator that our scales were equivalent across country clusters. We used LISREL 8.12 to conduct multisample tests of the inter item variances/covariances for all four country clusters simultaneously. Good fit would indicate that the measurement properties of a scale are equivalent across all four samples.

We conducted four-sample tests for our measure of workload and WIF (we combined the strain-based and time-based subscales because they were from the same instrument). All fit indices were within the usually accepted values of .90 for GFI (.96, .96), NFI (.95, .95), and CFI (.95, .98) and .07 for RMSEA (.052, .038), for perceived workload and WIF, respectively, suggesting good fit for both.

Results

In order to explore country cluster differences, a series of ANOVAs was conducted with country cluster as the independent variable and each of the other variables in the study as dependent variables. Table 3 shows the means per country cluster for each variable, the *F*-values for significance of the mean differences, and the R^2 as an indicator of effect size. Each of the *F*-values was statistically significant, not surprising considering the very large sample size. An inspection of the R^2 statistics shows that the effect sizes were quite variable, ranging from less than .01 (WIF scales) to .31 (use of paid help). As can be seen, there were small differences

in work hours, with East Europeans reporting working the fewest hours and Latins reporting the most. Perceived workload, on the other hand, showed much larger differences, with Anglos reporting the heaviest loads and Asians reporting the lightest. There were very small differences in WIF across both scales. As expected, Anglos reported significantly less family help than did the other three groups, with Asians having the most. Latins reported the most paid help, followed by Anglos, Asians, and East Europeans. In addition, as expected, Anglos reported the lowest percentage of coresidence (see Table 2).

Correlations among the variables in the study by country cluster are shown in Table 4. Coefficient alphas for the measures are shown on the main diagonal for the multiple-item measures. Sample sizes for individual correlations differed due to missing data. As can be seen, work demands correlated significantly with WIF in all cases, although the magnitude of correlation was quite variable, ranging from .13 to .45. Likewise, WIF correlated significantly with job satisfaction and quitting intentions in most cases, but correlations tended to be larger for Anglos and Latins than for Asians and East Europeans. In all four clusters, having a coresident parent correlated positively with family help, suggesting that these parents provided domestic help to the participants.

The study hypotheses were tested with a series of moderated regression analyses. For Hypothesis 1, which stated that country cluster would moderate the relationship between work demands and WIF, each of the two WIF scales (strain based and time based) was entered into a separate regression analysis. For each of these two analyses, WIF was regressed on both work demand variables, country cluster (dummy-coded), and the two-way product of each work demand variable and country cluster dummy variable. To dummy-code the four clusters, three variables were created. For the first variable, Asian countries were coded 1 and all other countries were coded 0; for the second, East European countries were coded 1 and all others were coded 0; and for the third, Latin American countries were coded 1 and all others were coded 0. This coding scheme made the Anglo cluster the reference category. The results of both analyses are shown in Table 5. As can be seen in Table 5, all six moderator tests involving perceived workload were significant, showing that the Anglo cluster differed from each of the other three clusters in terms of the relationship between perceived workload and both forms of WIF. For the most part, the work hours moderators did not contribute over and above those involving perceived workload, and the only significant moderator effect involving work hours was for the Asian versus Anglo cluster comparison and time-based WIF. The forms of the interactions were all similar. An example is shown in Figure 1.

TABLE 4
Correlations Among All Study Variables

Variable[a]	1	2	3	4	5	6	7	8	9
1. Work hours	–	.32*	.41*	.20*	.01	.08*	-.03	.03	.00
2. Workload	.20*	.91\.90	.45*	.40*	-.17*	.21*	.00	.01	.03
3. WIF time	.29*	.34*	.83\.82	.53*	-.22*	.23*	.09*	.03	.05
4. WIF strain	.21*	.24*	.54*	.81\.87	-.31*	.34*	.04	.01	.07*
5. Job satisfaction	-.04	-.12*	-.10*	-.14*	.84/.87	-.60*	-.00	.08*	-.02
6. Turnover intentions	.04	.18*	.16*	.19*	-.43*	–	-.01	-.02	.04
7. Family help	-.03	.17*	-.01	-.04	-.03	.06*	–	.07*	.39*
8. Paid help	.04	.03	.07*	.06	.04	.03	.20*	–	.02
9. Coresident parent	-.02	.12*	.01	-.05	-.06*	.14*	.42*	-.06	–

Variable[b]	1	2	3	4	5	6	7	8	9
1. Work hours	–	.32*	.29*	.16*	.04	.03	-.06*	.08*	-.00
2. Workload	.28*	.88\.87	.27*	.25*	.07*	.05	-.05	.07*	-.04
3. WIF time	.28*	.32*	.85\.82	.53*	.02	.08*	-.00	.08*	-.05
4. WIF strain	.13*	.27*	.51*	.81\.79	-.02	.11*	-.02	-.01	-.01
5. Job satisfaction	.08*	-.03	-.15*	-.17*	.62\.80	-.41*	-.04	-.10*	-.06*
6. Turnover intentions	.05	.14*	.22*	.22*	-.29*	–	.06*	-.12*	.03
7. Family help	-.07*	-.05	-.00	.01	-.03	.05	–	.14*	.38*
8. Paid help	.14*	.00	.09*	-.06	.04	-.02	.02	–	-.05
9. Coresident parent	-.06*	-.13*	-.08*	-.04	.01	-.00	.34*	-.02	–

[a] Anglo in upper diagonal, n = 1,362–1,488; Asia in lower diagonal, n = 989–1,212. Coefficient alphas are on the main diagonal.
[b] East Europe in upper diagonal, n = 1,238–1,352; Latin America in lower diagonal, n = 837–1,211. Coefficient alphas are on the main diagonal.
*p < .05.

TABLE 5

Regression Results of Work Interference With Family on Working Hours and Workload Moderated by Country Cluster

	WIF time		WIF strain	
	b	*t*	*b*	*t*
Intercept	2.41	7.05*	4.55	13.06*
Work hours	.89	11.77*	.23	2.96*
Workload	.20	13.98*	.21	14.86*
Asia vs. Anglo	2.56	5.40*	1.19	2.47*
Europe vs. Anglo	2.32	4.81*	1.58	3.21*
Latin vs. Anglo	1.96	3.84*	1.64	3.13*
Work hours * Asia vs. Anglo	−.30	−2.83*	.19	1.74
Workload * Asia vs. Anglo	−.05	−2.24*	−.11	−5.20*
Work hours * Europe vs. Anglo	−17	−1.51	.07	.66
Workload * Europe vs. Anglo	−.07	−3.45*	−.09	−3.93*
Work hours * Latin vs. Anglo	−.21	−1.81	−.04	−.30
Workload * Latin vs. Anglo	−.06	−2.69*	−.08	−3.81*
	$F(11, 5,161) = 103.91$,		$F(11, 5,159) = 57.29$,	
	$R^2 = .181, \Delta R^2 = .004$		$R^2 = .109, \Delta R^2 = .006$	

Note. b = unstandardized regression coefficient; ΔR^2 = increment when adding product terms to regression equations hierarchically. Interaction terms involve the dummy-coded variables numbered 1–3.
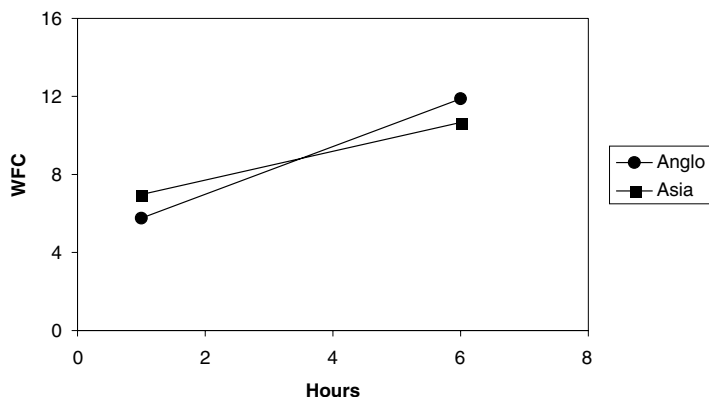
*$p < .05$.

Figure 1: **Plot of Time-Based WFC on Working Hours by Cluster (Anglo vs. Asia).**

To test Hypotheses 2a and 2b, both regression analyses described above were repeated with the addition of the three domestic help variables and their two-way products with work hours and perceived workload. Thus, there were a total of 21 terms in the regression equations. In only one case was significance lost, and that was for the work hours by the Asia versus Anglo dummy-coded variable with time-based WIF as the dependent

TABLE 6

Regression Results of Job Satisfaction or Turnover Intention on Work Interference With Family Moderated by Country Cluster

	Job satisfaction		Turnover intention	
	b	t	b	t
Intercept	12.26	54.50*	.81	6.25*
WIF time	−.06	−2.40*	.03	2.48*
WIF strain	−.22	−9.39*	.16	11.47*
(1) Asia vs. Anglo	−3.28	−9.64*	.80	4.06*
(2) Europe vs. Anglo	−3.04	−9.44*	.88	4.73*
(3) Latin vs. Anglo	−1.14	−3.44*	.13	.62
WIF time ∗ (1)	.03	.73	.01	.32
WIF strain ∗ (1)	.13	3.44*	−.09	−3.98*
WIF time ∗ (2)	.10	2.84*	−.02	−1.08
WIF strain ∗ (2)	.18	5.26*	−.12	−5.95*
WIF time ∗ (3)	−.01	−.19	.04	1.61
WIF strain ∗ (3)	.12	3.40*	−.09	−4.18*
	$F(11, 5{,}234) = 65.55$,		$F(11, 4{,}943) = 44.07$,	
	$R^2 = .121$, $\Delta R^2 = .013$		$R^2 = .089$, $\Delta R^2 = .012$	

Note. b = unstandardized regression coefficient; ΔR^2 = increment when adding product terms to regression equations hierarchically. Interaction terms involve the dummy-coded variables numbered 1–3.

*$p < .05$.

variable. However, none of the nine product terms involving domestic support were significant. Taken together, these findings fail to support Hypotheses 2a or 2b, in that the moderator effect of cluster on the relationship between work demands and WIF cannot be attributed to a moderator effect of domestic help.

For the set of moderator analyses to test Hypothesis 3, job satisfaction and turnover intentions were separately regressed on both WIF measures, the three country cluster dummy variables, and the six product terms involving WIF and country cluster variables (see Table 6). For strain-based WIF, all product terms were significant, showing that cluster was a moderator for both job satisfaction and intention. For time-based WIF, the only significant moderator was for the East Europe versus Anglo product term with job satisfaction as the dependent variable. All of the significant moderator effects were similar in form. An example is shown in Figure 2.

We tried one additional check to see if our moderator results could be accounted for by demographic differences in our samples. We reran all the moderated regression results to test Hypotheses 1 and 3, including as control variables, age, education level, gender, marital status, number of children, and tenure on the job. In no case did a previously significant
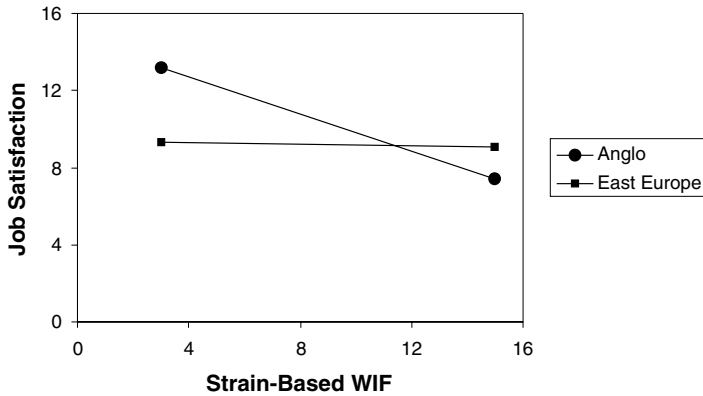
Figure 2: **Plot of Job Satisfaction on Strain-Based WIF by Cluster (Anglo vs. East Europe).**

product term lose significance when the control variables were added as a set.

Discussion

The results of this study lend support to the idea that the association between work demands and WIF, and between WIF and both job satisfaction and turnover intentions, is stronger in individualistic Anglo countries than in more collectivistic regions of the world, specifically Asia, East Europe, and Latin America. Moreover, the cluster differences in the work demands to WIF relationship could not be accounted for by domestic support. Thus, our Hypotheses 1 and 3 were generally supported, whereas competing Hypotheses 2a and 2b were not supported. None of the three domestic support variables could explain the cluster moderator effect. Furthermore, it was primarily the moderator effects involving perceived workload rather than working hours that explained significant variation in WIF. In addition, it was primarily the moderator effects involving strain-based rather than time-based conflict that explained significant variation in job satisfaction and turnover intentions.

The moderator effects involving perceived workload were more predominant than those involving working hours and suggest that the link between working hours and WIF may not be as susceptible to cultural variation as what occurs during those hours spent at work. That is not to say that working hours is not stressful, and in fact we found significant correlations between working hours and both forms of WIF across all four clusters. It is just that the relationships with perceived workload were stronger and overshadowed the effects of working hours in the regression

analyses. This is perhaps not unexpected as working hours alone generally has not been found to strongly relate to strains (Sparks, Cooper, Fried, & Shirom, 1997). Individual studies have failed to find significant correlations of work hours with job satisfaction (Hammer et al., 2005), physical symptoms (Major, Klein, & Ehrhart, 2002; Spector et al., 1988), turnover intentions (Haar, 2004), and positive well-being (Grant-Vallone & Donaldson, 2001). Likely perceived workload is influenced to some extent with the number of hours worked, although correlations were rather modest in our four clusters (correlations ranged from .20 to .32), but it mainly reflects the amount of work demand encountered. Additional studies should focus on disentangling the effects of working hours from workload during those hours.

Overall, our data are consistent with the theory that the job satisfaction and turnover intentions of people in individualistic societies will be more adversely affected by WIF than will the job attitudes of those in collectivistic regions. This may be due to the greater individualism of Anglos, who tend to respond to adverse job conditions with dissatisfaction and thoughts of turnover. People in more collectivistic society might be more likely to remain loyal to the employer and respond to adverse conditions with greater affiliation with coworkers. Moreover, moderator effects involving time-based WIF were not as important as those involving strain-based WIF in explaining variance in job satisfaction and turnover intentions, perhaps because people, irrespective of the society in which they live, are not as bothered or resentful of their work taking up time that could be spent on family as they are of the negative spillover of work-related strain into the family domain. It seems possible that some of the strain-based conflict experienced is due to time-based conflict between work and family, and indeed our findings showed fairly strong correlations between these two variables, ranging from .51 to .54 across our four clusters. As with work demands, future research should focus on further distinguishing the unique contribution of each form of WIF to strains, especially across different countries.

In general, our results are not only consistent with those of Spector et al. (2004) but extend them by using an established measure of WIF and a measure of perceived workload in addition to work hours. Interestingly, this study, like Spector et al. (2004), found opposite effects to those reported by Yang et al. (2000). However, it should be kept in mind that the Yang et al. study used different methodology, including a global WFC measure rather than a WIF measure, a sample that was not limited to managers, and was a comparison between only China and the United States. It is unclear which of these differences, if any, are responsible for the divergence of results. Our results are also consistent with Lu et al. (2006) who found a stronger demand–WIF relationship in Taiwan than the United Kingdom. Continued research using different measures and occupations

than those investigated here is needed to determine the generalizability of our findings.

This study suggests some new directions in developing models of WIF (and general WFC) that might differ between individualistic and collectivistic societies of the world. In Western countries, where most work–family research has originated to date, there is support for the idea that work demands lead to WIF, and WIF leads to dissatisfaction and turnover intentions, and presumably subsequent turnover. For Asia, East Europe, Latin America, and perhaps other collectivistic societies, these linkages are not as strong. Interestingly, despite the weaker association between work demands and WIF in the collectivistic regions, the level of WIF was almost the same in all four of our country clusters, with cluster membership accounting for less than 1% of the variance in WIF. This finding suggests that there are likely unidentified factors that have stronger effects on WIF in the collectivistic than the individualistic world. One possible line of inquiry that might be worth pursuing is the differential impact of social stressors on strain-based WIF in individualistic versus collectivistic societies. With their greater emphasis on social connections and networks, collectivists are likely to be more sensitive to interpersonal conflicts and other interpersonal problems. It might be that such problems in the workplace are more stressful to people in collectivistic countries, and thus might be a stronger predictor of WIF, especially strain based, in collectivistic versus individualistic societies. Furthermore, conflicts at work might be seen in a more negative light in collectivistic societies, and therefore contribute more to job dissatisfaction than in individualistic societies where social relationships at work are less important.

Our findings that Anglos reported the least use of unpaid family help supports the view of people in individualistic countries as having less instrumental support for domestic activities from family and friends. Interestingly, there were differences among the three collectivistic clusters in the use of paid domestic help, suggesting that the use of this resource might not be associated with I–C. Rather, it might be economic conditions within countries and regions that would make such assistance affordable. Likely this relates to class and income distinctions between managers and the rest of society. It also should be noted that we assessed the amount of help people received and not the quality of that help, which may differ among country clusters (Poelmans, 2003). These additional factors are potentially useful topics for future research.

Limitations

Limitations to the design of this study should be kept in mind when interpreting results. Perhaps most serious is the difficulty in directly

comparing results across countries with dissimilar cultures and languages. Although our scale equivalence analyses suggested that the scales were transportable across countries and language, one cannot be absolutely certain that the nature of those constructs is exactly the same across countries. Furthermore, one cannot be certain that the same observed score represents the same level of the underlying construct, in part due to cultural response tendencies (e.g., Iwata et al., 1998; Triandis, 1994; Van de Vijver & Leung, 1997). Thus the comparison of country cluster means must proceed with caution. This potential lack of measurement calibration would likely have less impact on relationships between measures as reflected in correlations and regressions.

We were able to rule out domestic help as a feasible alternative to the I–C theory, but other alternatives certainly exist that distinguish the Anglo from the other country clusters. Differences in economic and political factors such as job mobility, political stability, unemployment rates, and wage levels to name a few might have contributed to participant's tolerance for work demands and how such demands might affect WIF. Furthermore, it is possible that a value interpretation is correct but that it is values other than I–C that are the real contributing factors to our findings, such as power distance (Hofstede, 2001). However, power distance data from the GLOBE study (Carl, Gupta, & Javidan, 2004) do not distinguish the countries in our Anglo cluster from the other three as well as does I–C.

The design of this study was cross-sectional with all but one country assessed via a self-report survey. Such a design does not allow for confident causal conclusions, and the use of a single source for data among most of the study variables does not allow one to rule out the possibility of shared biases that might have affected results, although it seems highly unlikely that such biases would have impacted the moderator tests (Evans, 1985). Consistent with existing theory regarding WFC, we suggest that work demands are a cause of WIF and that WIF is a cause of dissatisfaction and turnover intentions. Our pattern of results is consistent with such a theory, but our design did not allow for direct causal tests. Nevertheless, we can conclude that the magnitude of relationships of WIF with demands, job satisfaction, and turnover intentions varies across country clusters as hypothesized, and that this magnitude is contingent upon the type of work demand and the form of WIF. Whether WIF is the cause, effect, or concomitant of demands, job satisfaction, and turnover intention will require further study with more conclusive designs.

One final issue is that the magnitudes of our moderator tests were rather modest. However, they were all above the median effect size of .002 reported by Aguinis, Beaty, Boik, and Pierce (2005) in a meta-analysis of published studies reporting moderator tests.

Implications for Practice

Our findings have potential implications for practice. Organizations have developed a number of practices such as flexible work arrangements and childcare assistance to help employees manage work and nonwork responsibilities (Allen, 2001). Caution should be observed in assuming that family-supportive organizational practices that have been associated with lowered WIF in predominantly Western society will generalize to other regions. Our findings show that work demands have less potential impact on WIF outside of Anglo countries. Therefore, the use of time management-focused supports such as flexible work arrangements, popular in the West, might not be as useful in Asia, East Europe, and Latin America. Likewise, because of the greater proximity of parents in these non-Anglo regions, as shown in our study as well as Glaser et al. (2006), organizationally based childcare resources may be less helpful outside of Anglo regions. In collectivist countries it may be important to provide supports that focus on the care and economic support of elderly parents, which is a more important issue (Chen & Silverstein, 2000). These implications should be further considered within the context of the global workforce. There is some evidence that there is a tendency for multinational companies to deploy human resource policies from headquarters to subsidiaries based on the logic of the diffusion of "best practices" (Poelmans, Chinchilla, & Cardona, 2003). Our findings suggest that a contingency or "fit" approach (Poelmans, 2003) might be more effective when designing micro- and meso-level work–family interventions. Best practices within a firm's headquarters may not be as useful to employees in other country locations.

The smaller connection of WIF with job satisfaction and turnover intentions suggests that employees in collectivistic countries are less likely to blame the employer for conflicts between work and home. Therefore, it is conceivable that the effects of WIF on the workplace itself might be smaller, making WIF a less important issue in collectivistic countries. Again, this suggests caution in assuming that Western approaches can be readily transported to culturally dissimilar regions. Of course, it should be kept in mind that although WIF had less connection with job satisfaction and turnover intentions in this study, we did not address other effects that might be detrimental to individuals and organizations. For example, collectivists experiencing WIF might become a distraction to coworkers who are relied upon for support during work, or perhaps WIF relates to other strains that could be detrimental to individual health and well-being.

In conclusion, this study adds to the growing body of comparative cross-national work and family research. The findings support the notion that relationships observed in Western cultures, where the majority of work–family research has been conducted, may differ in other world

cultures. This is only the third study we are aware of that looked at more than two or three countries, allowing for more definitive conclusions about differences between Anglo countries where most work–family research is done and other world clusters. We improved upon the earlier Spector et al. (2004) methodology by including more Asian countries and an additional major region (East Europe), including two operationalizations of work demands rather than one, and using an established measure of WIF. We tested a larger set of hypotheses, distinguished strain-based from time-based conflict, and ruled out domestic support as an explanatory mechanism that was raised in the earlier study. We also showed that the relationship between perceived workload and WIF is more likely to vary across nations than is the relationship between work hours and WIF. Similarly, we found that the links between strain-based WIF and job attitudes varied more across country clusters than did the ones between time-based WIF and job attitudes. Perhaps more importantly, our findings suggest that new theoretical models of the work–family interface may need to be developed in order to capture specific cultural and contextual factors in other parts of the world. Future research can build upon the results of this study by investigating further similarities and differences in the way in which individuals across the globe experience the interface between work and family.

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