

## Work–Family Conflict: Experiences and Health Implications Among Immigrant Latinos

Joseph G. Grzywacz, Thomas A. Arcury, and  
Antonio Marín  
Wake Forest University School of Medicine

Lourdes Carrillo and Bless Burke  
Centro Latino of Caldwell County

Michael L. Coates and Sara A. Quandt  
Wake Forest University School of Medicine

Work–family conflict research has focused almost exclusively on professional, White adults. The goal of this article was to expand the understanding of culture and industry in shaping experiences and consequences of work–family conflict. Using in-depth interview data ( $n = 26$ ) and structured survey data ( $n = 200$ ) from immigrant Latinos employed in the poultry processing industry, the authors evaluated predictions drawn from emerging models emphasizing the influence of cultural characteristics such as collectivism and gender ideology on work–family conflict. Results indicated that immigrant Latinos in poultry processing experienced infrequent work-to-family conflict; both the level and the antecedents of work-to-family conflict differed by gender, with physical demands contributing to greater conflict for women but not men. In addition, there was little evidence that work–family conflict was associated with health in this population. These results demonstrate how traditional models of work–family conflict need to be modified to reflect the needs and circumstances of diverse workers in the new global economy.

**Keywords:** work–family conflict, immigrant workers, culture, job demands, quantitative-qualitative design

Despite widespread scholarly and applied interest, the understanding of work–family conflict remains narrowly circumscribed. Work–family conflict research has been conducted primarily with Whites from North American and European countries who share comparable cultural values and economic circumstances (Spector et al., 2004). Research is beginning to explore the cultural basis for work–family conflict, with some evidence suggesting that the meaning and consequences of work–family conflict for individuals in collectivist countries differ from those for individuals in more individualistic cultures (Aryee, Fields, & Luk, 1999; Spector et al., 2004; Yang, Chen, Choi, & Zou, 2000); however, most of this research has been conducted with Asian samples. Work–family conflict research also tends to focus narrowly on well-educated profes-

sionals, whereas only sparse attention has been given to the experiences of low-wage, nonprofessional workers (Lambert, 1999).

The expanding global economy necessitates a broader understanding of work–family conflict. The labor force in many countries is becoming more ethnically diverse. In the United States, for example, the fastest growing segment of workers is Latinos (Toossi, 2002). The nature of jobs is also changing as the global economy continues to evolve toward a service-based economy. Although many of the fastest growing jobs are characterized as professional, a substantial proportion of occupations projected to produce the greatest number of new jobs require little formal training (Hecker, 2005), which suggests that an increasing proportion of workers will be in nonprofessional jobs. These realities require a broader understanding of work–family conflict to ensure that the needs of diverse workers in diverse working arrangements can be met while also ensuring organizational success.

The goal of this study is to expand the understanding of how culture and industry contribute to the occurrence and consequences of work–family conflict, particularly work-to-family conflict. To accomplish this goal, we draw on emerging theoretical models of the effects of culture on work–family conflict (Korabik, Lero, & Ayman, 2003; Joplin, Shaffer, Francesco, & Lau, 2003). We use qualitative and quantitative data obtained from a sample of Latinos currently employed in the poultry processing industry in western North Carolina to (a) characterize occurrences of work-to-family conflict reported by immigrant Latinos, (b) identify job-related demands associated with elevated work-to-family conflict, and (c) determine whether work-to-family conflict is associated with poorer health.

---

Joseph G. Grzywacz, Thomas A. Arcury, Antonio Marín, and Michael L. Coates, Department of Family and Community Medicine, Wake Forest University School of Medicine; Lourdes Carrillo and Bless Burke, Centro Latino of Caldwell County, Lenoir, North Carolina; Sara A. Quandt, Division of Public Health Sciences, Wake Forest University School of Medicine.

A previous version of this article was presented at the Work, Stress, and Health 2006: Making a Difference in the Workplace Conference, Miami, Florida, March 2006. This research was supported by National Institute for Occupational Safety and Health Grant OH013182.

Correspondence concerning this article should be addressed to Joseph G. Grzywacz, Department of Family and Community Medicine, Wake Forest University School of Medicine, Medical Center Boulevard, Winston-Salem, NC 27157-1084. E-mail: grzywacz@wfubmc.edu

## Background

### *Conceptual Background*

*Work-family conflict* generally refers to the extent to which work- and family-related responsibilities interfere with each other and is typically defined as “a type of inter-role conflict that occurs as a result of incompatible role pressures from the work and family domains” (Greenhaus & Beutell, 1985, p. 77). Work-family conflict is posited to be bidirectional, such that work can interfere with family (work-to-family conflict) and family can interfere with work (family-to-work conflict; Frone, Yardley, & Markel, 1997), and evidence suggests that work-to-family and family-to-work conflict are distinct but reciprocally related (Byron, 2005; Mesmer-Magnus & Viswesvaran, 2005). Although the theory is not without question (Bellavia & Frone, 2005; Geurts & Demerouti, 2003), researchers typically argue that there are three major types of work-family conflict: time-based conflict (e.g., missing a family birthday party because of a work-related responsibility), strain-based conflict (e.g., being irritable with family members following a stressful day at work), and behavior-based conflict (e.g., treating family members in ways that one treats subordinates in the workplace). More recently, Greenhaus, Allen, and Spector (2006) differentiated energy-based and strain-based conflict; the former reflects physical or emotional exhaustion, and the latter reflects the transfer of negative emotions or feeling states (e.g., stressed, cranky).

Work-family conflict is typically viewed from a demands perspective. Frone, Yardley, and Markel's (1997) integrated model exemplifies this approach in that it argues that structural, social, and psychological demands from work and family contribute to elevated levels of work-family conflict. The explanation for this effect is rooted in role theory and the scarcity of resources hypothesis, which argues that the inherent demands of work or family life deplete personal resources such as time and physical or mental energy, thereby leaving individuals with insufficient resources to attend to activities in other domains (Goode, 1960). Consistent with this perspective, studies have reported that structural demands of jobs, such as working a nonstandard shift (Staines & Pleck, 1984) and greater amounts of time at work (Fenwick & Tausig, 2001; Tausig & Fenwick, 2001), as well as social and psychological demands, including control over work, variety in job-related tasks, and psychological pressure, are associated with more work-family conflict, particularly work-to-family conflict (for recent reviews, see Bellavia & Frone, 2005). Similarly, although it is not a focus of this study, evidence indicates that structural and social demands of family (e.g., number and age of children, marital status, and family relationship quality) have been associated with greater family-to-work conflict (Frone, Yardley, & Markel, 1997; Grzywacz & Marks, 2000; Voydanoff, 2005).

Studies focused on the health-related consequences of work-family conflict are frequently guided by stress models. Following the direction established by Greenhaus and Parasuraman (1986), researchers have posited that work-family conflict is a poignant stressor that has the potential to influence a variety of physical and mental health outcomes (Frone, Russell, & Cooper, 1997; Grzywacz & Fuqua, 2000; Thomas & Ganster, 1995). Consistent with hypotheses drawn from stress models, substantial evidence suggests that elevated work-family conflict is associated with several indicators of mental health, including depression and anx-

iety (Frone, 2000; Grzywacz & Bass, 2003), as well as indicators of physical health, such as self-rated health, somatic symptoms, and disease risk factors such as obesity and high blood pressure (Frone, Russell, & Cooper, 1997; Grzywacz, 2000; Klitzman, House, Israel, & Mero, 1990; Major, Klein, & Ehrhart, 2002; Thomas & Ganster, 1995).

### *Broadening the Landscape of Work-Family Conflict Research*

Little is known about work-family conflict and its consequences among ethnic minorities and nonprofessionals. Work-family conflict research in the United States and Europe has focused almost exclusively on the dominant White population. Evidence from national samples suggests that Hispanics, particularly women, experience more work-family conflict than Whites, whereas Blacks experience less conflict than Whites (Grzywacz, Almeida, & McDonald, 2002; Roehling, Jarvis, & Swope, 2005). Although these comparisons are valuable, the use of broad census categories obscures substantial variability in cultural beliefs and social circumstances among members of distinct racial and ethnic groups. Nonprofessional workers are also notably missing from existing research, despite early evidence suggesting that models of work-family conflict may differ by occupational classification (Frone et al., 1992). Indeed, Lambert (1999) was highly critical of the fact that most work-family conflict research focuses on highly valued managers and professionals, almost to the exclusion of nonprofessional workers.

The absence of research among ethnic minorities and nonprofessionals is problematic because both workers and jobs are changing. Whereas the proportion of Blacks in the labor force will remain relatively constant, Whites will represent 53% of the labor force in 2050, and the percentages of Hispanics and Asians will each double, to 24% and 11% of the labor force, respectively (Toossi, 2002). The nature of employment is also changing. Professional employment is the fastest growing segment and will account for the largest number of new jobs in the next decade; nevertheless, 5 of the top 10 occupations with the greatest growth require only short-term or on-the-job training (Hecker, 2005), which suggests that a substantial number of adults will find themselves in nonprofessional jobs. Racial and ethnic minorities, particularly those who are foreign born, are disproportionately represented in nonprofessional types of jobs (Mosisa, 2002).

Research on ethnic minorities and nonprofessionals has both practical and theoretical value. Given that widespread applicability is one hallmark of good theory, it is important to determine whether theoretical predictors and consequences of work-family conflict hold in diverse ethnic and occupational groups. The credibility of dominant models of work-family conflict, such as the integrative model (Frone, Yardley, & Markel, 1997), would be reinforced if fundamental relationships posited by the model were supported in diverse samples. By contrast, if fundamental relationships were not supported, the null findings could inform how a theory could be refined. Practically, in light of the relative absence of previous research and anticipated changes in the labor force and employment, research with ethnic minorities and nonprofessionals is needed to accurately characterize and understand the potential significance of work-family conflict among diverse workers.

### The Present Study

The goal of this study is to expand the understanding of how culture and industry contribute to the occurrence and consequences of work–family conflict. To achieve this goal, we use qualitative and quantitative data from immigrant Latinos employed in the poultry processing industry to (a) characterize occurrences of work–family conflict among immigrant Latinos, (b) identify job-related demands associated with elevated work–family conflict, and (c) determine whether work–family conflict is associated with poorer health. Our focus on immigrant Latinos is timely given that Latinos will represent the single largest minority segment of the labor force and that a substantial proportion of these workers are immigrants (Hecker, 2005).

Our analysis is informed by emerging models highlighting the influence of cultural characteristics on individuals' experiences of work–family conflict and its consequences (Korabik et al., 2003; Joplin et al., 2003). A fundamental premise of these models is that shared values and beliefs about work and family, as well as immediate sociocontextual circumstances, shape the potential for individuals to experience work–family conflict as well as individuals' interpretations of work–family conflict. Furthermore, to the extent that interpretations of work–family conflict are variable, the models also suggest that the potential for work–family conflict to produce negative outcomes is shaped by broader cultural and sociocontextual factors.

Individualism–collectivism, or the degree to which primary value is placed on individual as opposed to group interests (Hofstede, 1984), is one cultural characteristic posited to shape work–family conflict (Korabik et al., 2003). Work–family conflict is likely to be less common among individuals, such as Latinos, from more collectivist (less individualist) cultures, because hard work is seen as an expected and valid means to securing family well-being (Aryee et al., 1999; Yang et al., 2000). Indeed, immigrants from Latin American countries frequently come to the United States to obtain the financial security necessary to maintain family well-being (Chavez, 1992), despite experiencing ambivalence about being separated from family (Grzywacz, Quandt, Early, Tapia, Graham, & Arcury, 2006). Furthermore, if hard work is viewed as essential to family well-being in more collectivist societies, there is less potential for work–family conflict to contribute to poor individual outcomes, such as health or well-being, because episodes of work–family conflict may not be interpreted as stressful (Spector et al., 2004).

Cultural beliefs about women's and men's roles combined with sociocontextual circumstances are additional factors that likely shape experiences and consequences of work–family conflict (Korabik et al., 2003; Joplin et al., 2003). In several Latin American countries, strong beliefs that women are primarily responsible for child rearing and household maintenance, whereas men should be breadwinners, create substantial barriers to women's employment (Hondagneu Sotelo, 1992; Parrado & Zenteno, 2001). However, once in the United States, Latino families face high rates of underemployment and poverty (Bernal & Enchautegui-de-Jesus, 1994), which promote women's entrance into the labor force (Baker, 2004; Lichter & Landale, 1995). One consequence of this notable transition is that immigrant Latinos have few clear models for negotiating a dual-earner household, which creates tension within the family and may promote greater levels of work–family

conflict, particularly for women (Herrera & DelCampo, 1995; Rivera, Torres, & Carre, 1997; Roehling et al., 2005). Furthermore, because women are given primary responsibility for family care in Latino cultures, their experiences of work–family conflict are likely to be more stressful, thereby resulting in more deleterious effects on women's health than on men's.

In addition, declining employment options for immigrant Latinos likely shape experiences and consequences of work–family conflict for both women and men. Evidence suggests that immigrant Latinos are concentrated in marginalized segments of the labor force (Catanzarite, 2002; Mosisa, 2002). Many immigrants, particularly those who are undocumented, are concentrated in the manufacturing and construction segments of the labor force (Pew Hispanic Center, 2006), jobs that are frequently physically demanding and potentially dangerous, low paying, and of limited term and that offer little opportunity for advancement (Catanzarite, 2002). The combination of narrow and insecure job opportunities and the cultural salience of work for family well-being suggests that it is unlikely that immigrant Latinos will report that their current job interferes with their family life. In essence, having any job is better for immigrants' family than having no job.

In summary, this study was designed to better understand how culture and industry contribute to the occurrence and consequences of work–family conflict, in particular work-to-family conflict. We base our predictions on several streams of research and theorizing. On the basis of evidence suggesting that individuals from more collectivistic cultures view work and family as more integrated, we predicted the following:

*Hypothesis 1:* Immigrant Latinos in poultry processing will report infrequent work–family conflict.

Drawing on Frone, Yardley, and Markel's (1997) model of work–family conflict, we predicted the following:

*Hypothesis 2:* Greater physical and psychological demands of poultry processing work will be associated with greater work–family conflict.

Recognizing that individuals from more collectivistic cultures view work as a necessary means to ensuring family well-being, particularly for those with few employment alternatives, we posited that work–family conflict would not be a potent stressor, and, as such, we predicted the following:

*Hypothesis 3:* Greater work–family conflict will be associated with poorer health-related outcomes; however, the association will be modest.

However, because of the sharp gender-based division of labor in Latino cultures, we presumed that the demands inherent in paid employment as well as experiences of work–family conflict would be greater for women than for men; consequently, we predicted the following:

*Hypothesis 4:* Gender will influence all associations, such that women will report more work–family conflict than men and associations of work–family conflict with job demands and health outcomes will be stronger for women than for men.

## Method

### Overview

The data for this study were collected as part of a larger, community-based participatory research project titled JUSTA: Justice and Health for Poultry Workers. JUSTA was designed to conduct basic research on the health-related needs of immigrant Latinos working in poultry processing and to develop intervention materials to protect the health of these workers. Data were collected from poultry workers in a six-county area of western North Carolina, including Alexander, Burke, Caldwell, Surry, Wilkes, and Yadkin Counties. This region has a total of five processing plants belonging to three different companies. JUSTA collected data from distinct samples using both qualitative interviews and structured survey interviews. In the following sections, we describe the sampling, data collection, measures, and analysis strategy of each data source.

### Qualitative Interviews

**Sampling and recruitment.** Immigrant Latinos who were formerly or currently employed in the poultry industry were eligible to participate in this component of JUSTA. Participants were recruited by project staff with the help of community-based organizations in each of the study counties. Participants were purposefully selected to ensure the inclusion of workers in a wide variety of jobs in the poultry industry and a variety of jobs in the poultry processing centers. Such purposive sampling is typically used for qualitative research to find persons who have depth and breadth of experience in a community and are sufficiently articulate and thoughtful to provide useful data (Quandt & Arcury, 1997). The project staff, who also performed the interviews, explained the purpose of the study, the study procedures, and the risks and benefits of the study to potential participants. They stated that participants would receive \$10 as a thank you at the end of the interview. They answered any questions of the workers and asked for consent to proceed with the interview. The respondent was given an information sheet in Spanish with the same information on it that had been reviewed orally. The procedure for obtaining informed consent was approved by an appropriate institutional review board.

**Sample.** The sample consisted of 26 current or former poultry workers (7 former, 19 current) ages 18 or older who self-identified as Latino. The sample was equally stratified by gender. Participants were, on average, 36 years of age ( $SD = 6.85$ ); most were married or living as married ( $n = 20$ ), had one or more children living with them in the United States ( $n = 19$ ), and had little formal education ( $n = 16$  reported *primaria*, which is approximately equivalent to an elementary education in the United States, or less). Most participants ( $n = 21$ ) had worked or were currently working in the poultry processing plants, 2 were employed by poultry companies as "chicken catchers," and 3 worked on egg farms. Eleven of the participants from the processing plants worked for one company, the largest in the region; the other 10 worked for one of two of the smaller poultry processing companies in the region (5 from each).

**Data collection.** All data were collected via semistructured in-depth interviews that lasted 45–90 min. Each interview was conducted by one of two trained bilingual staff in participants'

homes or another convenient location. All interviews were conducted in Spanish. Respondents were first asked background information, such as age, country of origin, preferred language, and length of time in the United States. The interview then proceeded to questions about occupational history, both in the respondent's country of origin and since he or she had arrived in the United States. The largest section of the interview focused on participants' primary job in the poultry industry and included questions about work schedules; descriptions of the type of work performed, including how much control and variety they had in their work; quality of interaction with supervisors and coworkers; and descriptions of safety training. This section of the interview also focused on the perceived personal health effects of working in poultry as well as how poultry processing affected workers' family. Informants were asked a series of open-ended questions, followed by probes as necessary, to elicit discourse on conflicts between work and family.

**Coding and analysis.** Interviews were transcribed verbatim and translated into English. The interviewers reviewed all translated transcripts for accuracy, and then the transcripts were entered into ATLAS.ti Version 5.0 (Muhr & Fries, 2004) for data management. The systematic analysis of the transcripts involved several steps designed to ensure objective analysis. All investigators read all of the transcripts. A coding dictionary was developed on the basis of this review. This dictionary included an array of mutually exclusive tags used to identify segments of text. The coding dictionary was tested on several transcripts and modified to reflect insights and correct problems. Two investigators tagged text segments in each transcript, with one completing the initial tagging and a second reviewing this work. All differences were resolved through discussion.

The analysis for this article focuses on both the statements made in the section of the interview concerning conflicts between work and family and other points in the interview at which work–family conflict was discussed. For this analysis, transcript segments assigned three tags were abstracted. These were defined in the dictionary as follows: FAMHEALTH (ways the family's health, either physical or mental, was affected by a member's work in the poultry industry), MENTAL (observations from direct statements or inferred about the respondent's state of mental health), and STRESS (segments describing workers' perceptions of stressors of the job or attempts to reduce perceived stress associated with the job).

Standard variable-based techniques (Luborsky, 1994) were used for this research. Each of the sets of segments was reviewed by one of the investigators. Common ideas (themes) across workers were summarized, with attention paid to contrasting cases. Care was taken to avoid undue attention to dramatic statements and other threats to validity (Miles & Huberman, 1994). Themes identified were reviewed by an additional investigator. Any differences in interpretation were resolved through discussion. Examples of quotations are reported to illustrate and support the interpretation. Quotations are labeled with respondent ID numbers, which start with *F* for female and *M* for male.

### Structured Survey Interviews

**Sampling and recruitment.** The sampling and recruitment plan has been described in detail elsewhere (Quandt et al., 2006). In



brief, a site-based sampling strategy (Arcury & Quandt, 1999), a technique frequently used to locate "hidden populations" (Parrado, McQuiston, & Flippen, 2005), was used to recruit a representative sample of poultry processing workers. A site-based sampling approach reasons that every person is a member of a residential group, or site. Sites can include residential enclaves, areas of high concentrations of workers, or dispersed residences of workers living apart from other poultry workers. If sites that vary across characteristics of the community (e.g., being composed of single men vs. families) are chosen and respondents are selected from a variety of sites, the resulting sample should reflect the variability in the community.

Worker residences were the sites used to sample immigrant poultry workers. Project staff compiled a list of 41 Latino residential enclaves known to have a high concentration of Latino poultry workers in the study counties. Individuals at the enclaves were approached for participation at random. To be eligible, a respondent had to be (a) 18 years of age, (b) currently employed as a worker in a poultry processing plant, and (c) of Latino ethnicity. Respondents were recruited from all 41 enclaves proportional to the estimated number of eligible residents. Because not all workers live in enclaves, a total of 70 workers who lived outside these enclaves were also recruited. Trained bilingual interviewers recruited all study participants using steps similar to those described earlier for the qualitative interviews. They explained the purpose of the study, the study procedures, and the risks and benefits of study participation. The interviewers answered any questions of the worker and asked for consent to proceed with the survey. The respondent was given an information sheet in Spanish with the same information on it that had been reviewed orally. Participants who completed the interview were given \$10 as a thank you.

**Sample.** Participants were predominantly from Mexico (47.5%), but one third of participants were born in Guatemala. There was no overlap between structured survey interview participants and those who completed the in-depth interview. Approximately 75% of participants had been in North Carolina for 5 or more years, and only 15% had been in the United States for fewer than 5 years. On average, participants were 33 years of age ( $SD = 9.6$  years), women composed half of the sample, and the modal level of education was *primaria*. Approximately 75% of participants were married ( $n = 103$ ) or living as married ( $n = 46$ ), and 70% reported having one or more children in the home.

Participants performed a wide range of poultry processing tasks. The majority were involved in evisceration as well as cutting and deboning, tasks that occur in the early to middle stages of processing and involve working with raw carcasses and using knives and other sharp instruments. Approximately 1 in 5 participants worked in packout, the stage of production that packages the processed product for shipping from the plant to consumers. Approximately 11% of participants were in sanitation and were responsible for cleaning the machinery and surfaces in compliance with Food Safety Inspection Services requirements. Another 11% of the participants worked in other jobs, including fork lift operation, quality control, and supervision. One third of workers reported having worked in poultry processing for fewer than 2 years, but 20% had worked in poultry processing for more than 5 years. Nearly 90% of respondents reported working 40–45 hr per week in poultry processing.

**Data collection.** Data were collected in face-to-face interviews conducted in Spanish by seven trained interviewers. Participants responded to structured questions read by an interviewer. This data collection protocol was necessary because the ability to read even basic Spanish was limited in this study population. All interviewers were native Spanish speakers familiar with the study counties. Interviewers participated in a 1-day training that covered interview techniques, questionnaire content, human subject protection, and ethics. Interviewers were required to conduct a minimum of two practice interviews before beginning study data collection. Field supervisors collected and reviewed questionnaires on a weekly basis; 14% of respondents were recontacted to verify the interview. Interview content was developed from existing Spanish translations of questions and scales when available. Non-Spanish items were translated and back-translated. Vocabulary and meaning of translated items were reviewed carefully by Spanish-speaking staff and pretested in the target population to ensure that fidelity to the original intent of questions was retained.

### Measures and Analysis

Work-to-family conflict was measured with five items via a modified version of a validated, existing instrument (Netemeyer, Boles, & McMurrian, 1996). Following recent suggestions (Bellavia & Frone, 2005), we modified the response from an affective response set to a frequency response set to better characterize the frequency of work–family conflict in this population. Our experience conducting research in this population suggests that immigrant Latinos have difficulty responding to items with affective response sets (e.g., *strongly agree* to *strongly disagree*). Response options were *never*, *rarely*, *sometimes*, *often*, and *always*. The work-to-family conflict items were averaged, with higher scores indicating more frequent work–family conflict ( $\alpha = .89$ ). Family-to-work conflict was also measured via five items modified from Netemeyer et al.'s scale in a manner identical to that described for the work-to-family conflict items. The family-to-work conflict items were averaged, with higher scores indicating more frequent conflict ( $\alpha = .85$ ). The bivariate correlation between work-to-family conflict and family-to-work conflict in this sample was .58 for women and .56 for men.

Physical demands of work were assessed with a new self-report instrument (Bot et al., 2004). We calculated the internal consistency of items contained in the two factors reported by Bot et al. and dropped items with low item-to-total correlations. This resulted in nine items measuring physical workload and six items measuring posture and repetitive movement. Items in each set were summed, with higher values reflecting greater frequency of physical workload ( $\alpha = .83$ ) and posture and repetitive movements ( $\alpha = .79$ ).

Psychological demands of work were measured with a modified version of the Job Content Questionnaire (Karasek & Theorell, 1990). As with the work–family conflict items, we modified the Job Content Questionnaire so that items focused on the frequency of experiencing job-related attributes (*never* to *always*) rather than the strength of belief about those attributes, using a 4-point frequency-based set. Authority was assessed with three items tapping opportunities to exert control over work (e.g., "How often are you allowed to make your own decisions about your work?"). Items were summed ( $\alpha = .79$ ) and multiplied by 4, with greater

Table 1

*Work-to-Family Conflict, Physical and Psychological Job Demands, and Worker Health Among Immigrant Latino Men and Women Employed in Poultry Processing: Descriptive Statistics and Correlations*

Variable	Men ( <i>n</i> = 101)		Women ( <i>n</i> = 99)		1	2	3	4	5
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>					
1. Work-to-family conflict	1.64	0.81	1.95	1.00	—	.06	.25*	-.56***	.61***
2. Decision authority	17.86	9.21	16.20	7.86	.06	—	.40***	.03	-.07
3. Skill variety	20.91	7.45	19.68	7.60	.25*	.40***	—	-.10	.20*
4. Safety climate	18.46	4.12	18.72	4.28	-.56***	.03	-.10	—	-.53***
5. Psychological job demands	19.41	5.55	20.26	5.98	.61***	-.07	.20*	-.53***	—
6. Physical workload	19.51	7.80	14.48	4.69	.52***	-.01	.25*	-.45***	.57***
7. Posture and repetitive movement	17.59	5.08	18.66	4.74	.44***	-.45***	-.16	-.41***	.57***
8. Abusive supervision	13.10	4.21	13.39	4.50	.11	.01	.20*	.33***	.21*
9. Self-rated health	3.26	0.89	3.36	0.75	.35***	-.17	-.04	-.39***	.39***
10. Symptoms	3.90	4.34	4.05	3.82	.45***	-.16	-.11	-.50***	.50***
11. Depressive symptoms	4.68	4.72	6.55	6.37	.20*	-.10	.01	.06	.03
12. Anxiety score	48.23	9.40	50.97	11.26	.33***	-.06	.09	-.28**	.15

*Note.* Statistics for women are above the diagonal, and statistics for men are below the diagonal.

\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

values indicating greater frequency of exerting control over work. Variety was assessed with six items tapping how jobs varied in content, location, and routine (e.g., “How often do you do a variety of different things on your job?”). Items were summed, with greater values indicating more variation in tasks and activities on the job ( $\alpha = .72$ ). Psychological workload was assessed with nine items tapping the stressors or demands inherent in participants’ job (e.g., “How often is your job hectic?”). Items were summed, with higher values reflecting greater psychological workload ( $\alpha = .76$ ).

Additionally, perceptions of managers’ safety commitment were measured with seven items from the Perceived Safety Climate Scale (e.g., “Workers are regularly made aware of dangerous work practices and conditions”; Gillen, Baltz, Gassel, Kirsch, & Vaccaro, 2002). The items were summed, with higher values indicating greater perceived management commitment to worker safety ( $\alpha = .74$ ). Abusive supervision was measured with a seven-item index assessing the extent to which supervisors and managers used coercive tactics with their employees (e.g., “My supervisor could make my work difficult for me”; Tepper, 2000). The items were summed, with higher values indicating greater perception that supervisors and managers used coercive tactics ( $\alpha = .75$ ). All of the estimated alphas were from this sample.

Health measures operationalized domains of physical and mental health. Measures of physical health included a single-item question asking participants to rate their overall level of health. Response options for self-rated health ranged from *excellent* to *poor*, with higher values indicating poorer health. A second physical health measure reflected the number of physical symptoms participants had experienced in the past 30 days. Twenty separate symptoms common to symptom inventories such as the Cohen-Hoberman Inventory of Physical Symptoms (Cohen & Hoberman, 1983) and the Quality of Well-Being, Self-Administered instrument (Kaplan, Sieber, & Ganiats, 1997) were queried, with yes–no responses. Physical symptoms were summed, with high scores indicating greater symptoms. Depressive symptoms were measured with a 10-item short form of the Center for Epidemiologic Studies—Depression Scale (Radloff, 1977). Recent evidence sug-

gests that these 10 items, based on a previously validated short form of the measure (Kohout, Berkman, Evans, & Cornoni-Huntley, 1993), adequately capture depressive symptoms in immigrant Latino samples (Grzywacz, Hovey, Seligman, Arcury, & Quandt, 2006). Response options ranged from 0 = *rarely or none of the time* to 3 = *most or all of the time*. The items were summed, with higher scores indicating greater depressive symptoms. Estimated alpha of the short form in this sample was .83.

Anxiety was measured with 24 items from the Personality Assessment Inventory (Morey, 1991) measuring symptoms of cognitive (e.g., “I often have trouble concentrating because I’m nervous”), affective (e.g., “Sometimes I am afraid for no reason”), and physical (e.g., “I often feel jittery”) expressions of anxiety. Response categories ranged from 1 = *false, not at all true* to 4 = *very true*. Items were summed, and raw values were transformed into *T* scores, with higher scores indicating higher anxiety levels (Morey, 1991). The Personality Assessment Inventory Anxiety scale has been found to have adequate internal consistency reliability, test–retest reliability, and construct validity among Mexican American samples (Fantoni-Salvador & Rogers, 1997). Estimated alpha for the measure in this sample was .88.

Univariate and Pearson correlation coefficients were first calculated for all analysis variables. Gender-specific statistics were calculated because gender was posited to shape experiences of work–family conflict as well as its putative antecedents and consequences. All predictions were evaluated with hierarchical multiple regression. When predicting work-to-family conflict, we first entered gender and hours worked per week as control factors. Additionally, we entered family-to-work conflict as a control factor to account for the indirect reciprocal relationship between the two directions of conflict (Frone, Yardley, & Markel, 1997; Grzywacz, Frone, Brewer, & Kovner, 2006). At Step 2, we entered physical and psychological job demands, and at Step 3, we entered the hypothesized interaction terms. We centered all continuously measured predictors prior to running the analyses, and we explored significant interactions using procedures described by Aiken and West (1991). The power of moderated multiple regression to detect

6	7	8	9	10	11	12
.52***	.44***	.11	.35***	.45***	.20*	.33***
-.01	-.45***	.01	-.17	-.16	-.10	-.06
.25**	-.16	.20*	-.04	-.11	.01	.09
-.45***	-.41***	.33***	-.39***	-.50***	.06	-.28**
.57***	.57***	.21*	.39***	.50***	.03	.15
—	.50***	.42***	.28***	.39***	.21*	.19
.17	—	.22*	.39***	.42***	.10	.10
.13	-.16	—	.10	.03	-.01	.13
.11	.21*	-.08	—	.40***	.20*	.15
.12	.35***	-.06	.44***	—	.21*	.35***
-.03	.21*	-.16	.37***	.55***	—	.59***
-.06	.28**	-.07	.32***	.57***	.60***	—

interactions is low, resulting in a high Type II error rate (Aiken & West, 1991; Zedeck, 1971). One remedy to this problem is to accept a higher Type I error rate (McClelland & Judd, 1993), so we selected an alpha level of .10 to test the significance of the interactions. When predicting health outcomes, we entered work-to-family conflict (along with family-to-work conflict) after demographic controls and job demand factors.

## Results

### *Experiences of Work-Family Conflict*

Analyses of both the quantitative and the qualitative data provided strong support for our prediction that work-family conflict would occur infrequently among immigrant Latinos, particularly among men. Results shown in Table 1 indicate that women reported higher levels of work-to-family conflict ( $M = 1.95$ ,  $SD = 1.00$ ) than men ( $M = 1.64$ ,  $SD = 0.81$ ),  $t(198) = -2.43$ ,  $p < .05$ . Results from the qualitative data reinforce the quantitative data. As we elaborate more fully below, women described clear examples of work-to-family conflict in their daily life, whereas men saw little connection between their work and their family. A response by one man to a direct probe about the possibility that work could interfere with family life summarizes men's general comments; he said, "I don't think so. I don't think one thing has anything to do with the other—the job and the family" (M-JUSTA 3).

However, the qualitative data also provided evidence suggesting that workers and their families arranged their life in ways to minimize conflicts between work and family. Some workers, particularly those with children, described how they negotiated with their American and Latino supervisors to modify work schedules to minimize problems in the family. More common, though, perhaps because of the importance of employment to immigrants, was a general sense that a worker's family simply needed to accommodate the worker's job. For example, one worker said, "It depends upon how you organize your time, especially with your family. Anyway, your family has to understand that you have to

work. If you don't work, who's going to take care of them—the government? [Laughter]" (M-JUSTA 16).

### *Job Demands and Work-Family Conflict*

Bivariate analysis of the quantitative data supports the prediction that both physical and psychological demands of poultry processing work contributed to elevated work-family conflict. Consistent with our hypothesis, Pearson correlations indicated that greater physical workload as well as more frequent awkward postures and repetitive movements were correlated with greater work-to-family conflict among women (Table 1, upper diagonal). Additionally, lower levels of perceived commitment to safety on behalf of managers and supervisors, higher levels of psychological demands, and greater skill variety were all correlated with more work-to-family conflict among women. For men, greater skill variety and greater psychological job demands were correlated with more work-to-family conflict (Table 1, lower diagonal). These bivariate results suggest that both physical and psychological demands of work may contribute to elevated work-family conflict among women and men.

Results from regression models parallel the bivariate associations of job demands, and they highlight the moderating influence of gender (Table 2). Results from Model 1 indicate that greater pressure and skill variety were associated with greater levels of work-to-family conflict, whereas a stronger safety climate was associated with less work-to-family conflict. Together with family-to-work conflict and gender, job demand predictors accounted for 48% of the variance in work-to-family conflict. However, results from moderated regression analyses indicated that the effect of several job demands on work-to-family conflict differed by gender: Model 2 was a final model, containing only those Gender  $\times$  Job Demand interactions terms found to be significant. Consistent with our prediction, physical workload and posture-repetitive movement were associated with work-to-family conflict for women but not for men. Partially consistent with our prediction,

Table 2

*Ordinary Least Squares Estimates of the Associations of Job Demands With Work-to-Family Conflict Among Latino Poultry Processing Workers*

Variable	Model 1			Model 2		
	<i>B</i>	<i>SE B</i>	$\beta$	<i>B</i>	<i>SE B</i>	$\beta$
Gender (women = 1)	0.47	0.11	.03***	0.52	0.11	.28***
Physical job demands						
Physical workload	0.02	0.01	.11	0.01	0.01	.04
Posture/repetitive movement	0.01	0.01	.05	−0.02	0.01	−.10
Psychological job demands						
Pressure	0.03	0.01	.18**	0.23	0.01	.15*
Abusive supervision	0.00	0.01	−.01	0.01	0.02	.07
Safety climate	−0.05	0.01	−.21***	−0.40	0.01	−.19**
Authority	0.01	0.01	.09	0.01	0.01	.11
Skill variety	0.02	0.01	.15*	0.02	0.01	.14*
Interaction terms						
Physical workload				0.04	0.02	.17*
Posture/repetitive movement				0.07	0.02	.24**
Abusive supervision				−0.05	0.02	−.19*

*Note.* Models control for effects of family-to-work conflict and number of hours worked per week. For Model 1, adjusted  $R^2 = .48$ , and for  $\Delta R$ ,  $F(10, 185) = 18.68$ ,  $p < .001$ . For Model 2, adjusted  $R^2 = .55$ , and for  $\Delta R$ ,  $F(13, 185) = 18.41$ ,  $p < .001$ .

\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

the association of abusive supervision with work-to-family conflict differed by gender, but more abusive supervision was associated with less rather than more work-to-family conflict.

The qualitative data corroborate results from the quantitative data. Women described a variety of types of work–family conflict, and each had different origins in the workplace. Consistent with the quantitative results linking psychological demands to work–family conflict, women described how the chronic ambient noise of the production line was a source of psychological strain that negatively affected their family life. Furthermore, the stress from the noise was exacerbated by psychological pressures resulting from the speed of the production line or the pace of work and supervisors' expectations for production. For example, one participant said,

One thing which causes stress is the noise and another is the pressure of the job, because the supervisors pressure us a lot. Sometimes, you get home totally stressed out and in a bad mood. So then, you get home and take it out on your children. But that's because the supervisors pressure us so much. For example, when the machines are not working, they want us to do the work, but it's impossible for us to do the machines' jobs. Anyway, they are also pressuring us to do our own jobs well. Sometimes, it's not our fault, but the machines'. They pressure us about that because we want the work to be done right also. When it's time to go home, we just want to run out of there, too, because of the noise. (F-JUSTA 20)

In parallel with results indicating that physical demands and repetitive movements were associated with greater work–family conflict, the qualitative data shed light on how physically demanding poultry processing work is. One worker described the physical demands in exquisite detail:

Chickens pass by at 32 chickens per minute, and for those of us who cut legs, we have to cut the legs from both sides of the chicken. Imagine having to cut both legs—cutting one side and then turning

the chicken in order to cut the opposite leg—when there's another chicken immediately following it. (M-JUSTA 10)

The intensity of this type of work left workers, particularly women, so exhausted that they withdrew from family both physically and emotionally, thereby creating at least the potential for work–family conflict. For example, one worker reported, “You are too exhausted from so much pressure from the people and the machines. At least that's the way I feel. All I want to do is get home and rest” (F-JUSTA 12).

Finally, workers, particularly women, referenced the time structure of employment in the poultry processing industry and how it contributed to work–family conflict. The poultry processing plants employing the participants in this study run several shifts. In some plants, the first shift begins at 5 a.m. and third shift ends at 3–4 a.m., and participants described how both the shift and the tasks workers performed could affect family life.

People who work in the afternoon don't have time in the morning to spend time with their children because they go to school. Then, when the children are at home after school, the parents are at work. So then, they only see each other on the weekends for a little while. Sometimes, the parents are tired and they are sleeping. They don't have time to spend with their family. (F-JUSTA 1)

Likewise, workers in egg production described how the cycle of egg collection interfered with parenting. Furthermore, whereas poultry processing follows a relatively standard Monday through Friday work week, egg production requires work 7 days per week, 365 days per year. For example, one worker in egg production reported,

When would you be able to be with the children or even eat? Suppose the children wanted me to go to a school meeting, I couldn't because I'm collecting eggs at 5:00. A lot of things affect the children and us too because when you work with hens, there's not a chance to sit down for a while . . . they lay eggs every day. (F-JUSTA 17)



### *Work-Family Conflict and Worker Health*

The quantitative data provide support for the prediction that work-family conflict would be weakly associated with health outcomes in this population. Bivariate analyses indicated that a higher level of work-family conflict was associated with poorer self-rated health, more symptoms, and greater depression and anxiety scores among women (Table 1, upper diagonal) and more symptoms among men (Table 1, lower diagonal). However, there was little evidence that work-to-family conflict was associated with health-related outcomes after we controlled for job characteristics, which suggests that bivariate associations were spurious. A higher level of work-to-family conflict was associated with higher anxiety scores ( $B = 3.72$ ,  $SE = 1.84$ ,  $p < .05$ ) and more depressive symptoms ( $B = 1.72$ ,  $SE = 1.03$ ,  $p < .10$ ) among women but not men. Both the magnitude of the correlations and the number of null findings across all the models of health outcomes suggest that work-family conflict was not a robust predictor of health in this sample.

### Discussion

The goal of this study was to expand the understanding of how culture and industry contribute to the occurrence and consequences of work-family conflict, in particular work-to-family conflict. In light of evidence indicating that the U.S. workforce is becoming more ethnically diverse (Toossi, 2002) and economic projections suggesting substantial growth in nonprofessional jobs (Hecker, 2005), it is imperative to expand understanding of work-family conflict beyond White, professional workers. Toward that end, we used qualitative and quantitative data from a project focused on immigrant Latinos in the poultry processing industry to study experiences as well as putative antecedents and consequences of work-family conflict. This is one of the first systematic studies of work-family conflict among immigrant Latinos in the United States, one of the largest and fastest growing segments of the workforce and a group of people who frequently find themselves in nonprofessional jobs (Mosisa, 2002; Toossi, 2002).

We found that immigrant Latinos employed in poultry processing reported infrequent work-family conflict. Consistent with our prediction, the typical participant experienced work-to-family conflict "rarely." Reported family-to-work conflict, although not discussed in this article, was even less frequent. These findings are consistent with current theoretical models (Korabik et al., 2003; Joplin et al., 2003) and empirical research arguing that individuals from more collectivistic cultures may experience fewer conflicts between work and family, in part because work and family are viewed as more integrated: Work is a necessary and vital component of ensuring family well-being (Aryee et al., 1999; Spector et al., 2004; Yang et al., 2000). Whereas most previous research was conducted with Asian samples (cf. Spector et al., 2004), our results suggest that the prediction holds for individuals from Latin American countries. Moreover, the tendency to view work and family as integrated may be even stronger for Latino immigrants than for Mexican managers (Spector et al., 2004), because immigrants typically come to the United States specifically to find employment and to secure financial security for their family (Chavez, 1992). Unfortunately, once they arrive in the United States they frequently have few options for stable, secure employment (Ca-

tanzarite, 2002). Indeed, for many immigrant Latinos in western North Carolina, poultry processing jobs are considered good jobs because they provide a stable source of income that can be used to support both family members in the United States and those left behind (Grey & Woodrick, 2002).

Although consistent with our prediction, the reported frequency of work-family conflict was lower than expected. Mean levels of work-to-family conflict from the 1997 National Study of the Changing Workforce ranged from 2.73 to 3.17 for Hispanic men and women, respectively, and from 2.91 to 2.98 for White men and women (Roehling et al., 2005). These estimates suggest that the typical American worker, including those of Hispanic descent, selected the *agree* response option for statements about work-family conflict. By contrast, the average level of work-to-family conflict in our sample was 1.79, which roughly equates to *rarely*. This evidence suggests that immigrant Latinos reported less work-to-family conflict than both White and Hispanic Americans, although comparisons need to be made cautiously because the measures used in these studies have different response options. Nevertheless, the particularly low frequency of work-family conflict in our sample is surprising because some work-family scholars argue that the burden of combining work and family is greatest among nonprofessional and marginalized workers, such as immigrants, because their jobs offer little flexibility or other family-friendly resources (Heymann, 2000; Lambert, 1999).

The basis for infrequent work-family conflict in our sample of immigrant workers is not clear. One possible explanation for the low frequency of work-family conflict lies in the regional labor market and restricted job opportunities for immigrants (Catanzarite, 2002), many of whom are likely undocumented. Perhaps the workers in this sample had more sanguine views of their work because they (and their families) needed the job and poultry processing provided greater stability and financial security than more seasonal alternatives, such as farm work and construction (for men) or hospitality (for women). It is also possible that the low frequency of work-family conflict is an artifact of sampling and measurement. Results from our qualitative data indicate that exhaustion or fatigue was one dominant form of work-family conflict among these workers: The physical tasks involved in poultry processing left workers, particularly women, fatigued to the point that it was difficult to engage in regular family activities. Greenhaus et al. (2006) recently referred to this as energy-based conflict. Our measure of work-family conflict did not include items measuring this type of conflict, which may be more common among workers in occupations that involve substantial manual labor. Level of acculturation provides another possible explanation for the low levels of work-family conflict in our sample of immigrant Latinos vis-à-vis Hispanic respondents to a national telephone-based survey. If we assume that Hispanics obtained from random digit dial sampling procedures reflect individuals who are more entrenched in the United States, it is possible that participants in our sample adhered more strongly to the collectivist beliefs systems of their homeland. As researchers seek to refine cultural models of work-family conflict, acculturation needs to play a central role in such theorizing, particularly when the models are being applied to immigrant populations.

Perhaps the most striking finding from our mixed-method approach is that work-family conflict was highly gendered among Latino immigrants. In our in-depth interviews, men frequently

reported that work had little or no effect on their family, but women provided clear illustrations of how their work interfered with family. The results of these in-depth interviews were reinforced by our quantitative data, which showed that women reported more frequent work-to-family conflict than men and that the effect of several job demands on work-to-family conflict held for women only.

The gendered pattern of results related to work-to-family conflict was predicted and is consistent with Korabik et al.'s (2003) model suggesting that cultural beliefs about gender ideology shape experiences of work-family conflict. There has been some documentation of the challenges confronted by Latinas in combining paid work with family responsibilities (Herrera & DelCampo, 1995; Meleis, Douglas, Eribes, Shih, & Messias, 1996; Rivera et al., 1997; Roehling et al., 2005), but our study marks one of the first attempts to assess work-family conflict in the immigrant Latino population. Our results, along with those of previous studies, suggest that cultural ideals about familism in general and specific beliefs about women's responsibilities for family care elevate the potential for work-to-family conflict among employed Latinas. However, despite a relatively strict sex-based division of labor in Latin American countries (Hofstede, 1984), observed differences in work-to-family conflict between women and men were small, which suggests that women's employment might have triggered a reallocation of household and family tasks to their husband or partner (Coltrane, Parke, & Adams, 2004). Division of household labor and family-related tasks were not measured in our data, so we are not able to evaluate this possibility.

Two other findings from this study warrant attention. First, it is noteworthy that physical demands of poultry processing predicted work-to-family conflict among women but not men. We are not aware of previous research implicating physical demands of work in work-to-family conflict. However, in light of our qualitative findings illustrating the intensity of the physical workload, it is understandable that the physical and emotional exhaustion from work interfered with family life, particularly for Latino women, who have primary responsibility for maintaining home and family. Finally, the weak, virtually nonexistent link between work-family conflict and worker health is noteworthy. Although we expected that the link would be weak, in part because work-family conflict was presumed to be less stressful for members of collectivist cultures, we did expect significant relationships in our multivariate analysis. Perhaps the physical demands of poultry processing work, described in one recent report as "physically demanding labor [that occurs] in bloody greasy surroundings" (Human Rights Watch, 2004, p. 1), overwhelmed any possible health effects of work-family conflict. Future research needs to more systematically examine the antecedents and consequences of work-family conflict among individuals engaged in physically demanding jobs.

The findings of this study must be interpreted within the context of its limitations. All findings were based on self-report data, so no causal inferences can be made. Next, our measure of work-family conflict has not been validated in non-English-speaking populations. On the basis of our internal procedures for translation, we feel confident that the original meaning of the items used in our survey survived translation. Furthermore, we are satisfied that the translated measure of work-family conflict is construct valid, because it assesses most types of work-family conflict illustrated in our in-depth interviews. Nevertheless, ensuring high-quality

measurement in cross-cultural research is challenging in any circumstance, particularly one such as this, in which so little previous research has been undertaken. Our data collection protocol, which necessitated interviewer-administered survey interviews because of low formal education among participants, also might have contributed to systematic underreporting resulting from social desirability. Although it is a legitimate concern, the potential underreporting would have been remedied to some degree by our use of Latino interviewers (Warnecke et al., 1997).

A final limitation of this study is the use of a nonrandom sample. Drawing a random sample of immigrant Latinos is not possible because there are no reliable listings of names that can be obtained. Poultry processing plants are reticent to participate in occupationally oriented health research (Lipscomb et al., 2005), and there are no reliable community lists, in part because immigrants are frequently undocumented and fearful of possible deportation. Latino poultry workers are a hidden population. The site-based sampling strategy we used is increasingly recognized as a valuable tool for building samples from hidden populations that are representative of the larger population, albeit not random (Parrado et al., 2005). Nevertheless, the absence of random sample does limit the generalizability of our findings, and other limitations require that our results be interpreted cautiously.

Limitations notwithstanding, the results of this study highlight several potential points for enriching work-family conflict theory and research. Our results reinforce emerging models of work-family conflict arguing that cultural beliefs, particularly those based in collectivism and gender ideology, shape both experiences and consequences of work-family conflict (Korabik et al., 2003; Joplin et al., 2003). Our results extend previous research based on these ideas (Aryee et al., 1999; Yang et al., 2000) by showing that these cultural beliefs hold for workers from Latin American countries employed in a labor intensive industry and that the effects of culture may even be stronger among these workers relative to those in managerial occupations (e.g., Spector et al., 2004). Furthermore, given that 75% of study participants had been in the United States for more than 5 years, our results suggest that the potential of cultural beliefs to shape experiences of work-family conflict persists long after immigration. Our results also suggest that models, such as the integrated model of work-family conflict (Frone, Yardley, & Markel, 1997), may need to be more inclusive in their conceptualization of job demands. That is, greater attention may need to be given to physical demands of work, particularly when the study design includes workers from labor-intensive occupations. Finally, our results suggest that items assessing energy-based forms of work-family conflict may need to be appended to existing scales (e.g., Carlson, Kacmar, & Williams, 2000; Netemeyer, Boles, & McMurrian, 1996) to adequately cover the universe of work-family experiences, again in particular when the study involves workers in labor-intensive occupations. Although further research is needed, the results of this study expand the understanding of how culture and industry contribute to the occurrence and consequences of work-family conflict.

## References

- Aiken, L. S., & West, S. G. (1991). *Multiple regression: Testing and interpreting interactions*. Newbury Park, CA: Sage.
- Arcury, T. A., & Quandt, S. A. (1999). Participant recruitment for quali-

- tative research: A site-based approach to community research in complex societies. *Human Organization*, 58, 128–133.
- Aryee, S., Fields, D., & Luk, V. (1999). A cross-cultural test of a model of the work-family interface. *Journal of Management*, 25, 491–511.
- Baker, P. L. (2004). "It is the only way I can survive": Gender paradox among recent Mexican immigrants to Iowa. *Sociological Perspectives*, 47, 393–408.
- Bellavia, G., & Frone, M. R. (2005). Work-family conflict. In J. Barling, E. K. Kelloway, & M. R. Frone (Eds.), *Handbook of work stress* (pp. 113–147). Thousand Oaks, CA: Sage.
- Bernal, G., & Enchautegui-de-Jesus, N. (1994). Latinos and Latinas in community psychology: A review of the literature. *American Journal of Community Psychology*, 22, 531–557.
- Bot, S. D., Terwee, C. B., van der Windt, D. A., Feleus, A., Bierma-Zeinstra, S. M., Knol, D. L., et al. (2004). Internal consistency and validity of a new physical workload questionnaire. *Occupational and Environmental Medicine*, 61, 980–986.
- Byron, K. (2005). A meta-analytic review of work-family conflict and its antecedents. *Journal of Vocational Behavior*, 67, 169–198.
- Carlson, D. S., Kacmar, K. M., & Williams, L. J. (2000). Construction and validation of a multidimensional measure of work-family conflict. *Journal of Vocational Behavior*, 56, 249–276.
- Catanzarite, L. (2002). Dynamics of segregation and earnings in brown-collar occupations. *Work and Occupations*, 29, 300–345.
- Chavez, L. R. (1992). *Shadowed lives: Undocumented immigrants in American society*. Fort Worth, TX: Harcourt Brace College.
- Cohen, S., & Hoberman, H. M. (1983). Positive events and social supports as buffers of life change stress. *Journal of Applied Social Psychology*, 13, 99–125.
- Coltrane, S., Parke, R. D., & Adams, M. (2004). Complexity of father involvement in low-income Mexican-American families. *Family Relations*, 53, 179–189.
- Fantoni-Salvador, P., & Rogers, R. (1997). Spanish version of the MMPI-2 and PAI: An investigation of concurrent validity with Hispanic patients. *Assessment*, 4, 29–39.
- Fenwick, R., & Tausig, M. (2001). Scheduling stress: Family and health outcomes of shift work and schedule control. *American Behavioral Scientist*, 44, 1179–1198.
- Frone, M. R. (2000). Work-family conflict and employee psychiatric disorders: The National Comorbidity Survey. *Journal of Applied Psychology*, 85, 888–895.
- Frone, M. R., Russell, M., & Cooper, M. L. (1992). Antecedents and outcomes of work-family conflict: Testing a model of the work-family interface. *Journal of Applied Psychology*, 77, 65–78.
- Frone, M. R., Russell, M., & Cooper, M. L. (1997). Relation of work-family conflict to health outcomes: A four-year longitudinal study of employed parents. *Journal of Occupational and Organizational Psychology*, 70, 325–335.
- Frone, M. R., Yardley, J. K., & Markel, K. S. (1997). Developing and testing an integrative model of the work-family interface. *Journal of Vocational Behavior*, 50, 145–167.
- Geurts, S. A. E., & Demerouti, E. (2003). Work/non-work interface: A review of theories and findings. In M. J. Schabracq, J. A. M. Winnubst, & C. L. Cooper (Eds.), *The handbook of work and health psychology* (pp. 279–312). New York: Wiley.
- Gillen, M., Baltz, D., Gassel, M., Kirsch, L., & Vaccaro, D. (2002). Perceived safety climate, job demands, and coworker support among union and nonunion injured construction workers. *Journal of Safety Research*, 33, 33–51.
- Goode, W. J. (1960). A theory of role strain. *American Sociological Review*, 25, 483–496.
- Greenhaus, J. H., Allen, T. D., & Spector, P. E. (2006). Health consequences of work-family conflict: The dark side of the work-family interface. In P. L. Perrewé & D. C. Ganster (Eds.), *Research in occupational stress and well-being* (Vol. 5, pp. 61–98). Amsterdam: JAI Press/Elsevier.
- Greenhaus, J. H., & Beutell, N. J. (1985). Sources of conflict between work and family roles. *Academy of Management Review*, 10, 76–88.
- Greenhaus, J. H., & Parasuraman, S. (1986). A work-nonwork interactive perspective of stress and its consequences. *Journal of Organizational Behavior Management*, 8, 37–60.
- Grey, M. A., & Woodrick, A. C. (2002). Unofficial sister cities: Meat-packing labor migration between Villachuat, Mexico, and Marshalltown, Iowa. *Human Organization*, 61, 364–376.
- Grzywacz, J. G. (2000). Work-family spillover and health during midlife: Is managing conflict everything? *American Journal of Health Promotion*, 14, 236–243.
- Grzywacz, J. G., Almeida, D. M., & McDonald, D. A. (2002). Work-family spillover and daily reports of work and family stress in the adult labor-force. *Family Relations*, 51, 28–36.
- Grzywacz, J. G., & Bass, B. L. (2003). Work, family, and mental health: Testing different models of work-family fit. *Journal of Marriage and Family*, 65, 248–261.
- Grzywacz, J. G., Frone, M. R., Brewer, C. S., & Kovner, C. T. (2006). Quantifying work-family conflict among registered nurses. *Research in Nursing and Health*, 29, 414–426.
- Grzywacz, J. G., & Fuqua, J. (2000). The social ecology of health: Leverage points and linkages. *Behavioral Medicine*, 26, 101–115.
- Grzywacz, J. G., Hovey, J. D., Seligman, L. D., Arcury, T. A., & Quandt, S. A. (2006). Evaluating short-form versions of the CES-D for measuring depressive symptoms among immigrants from Mexico. *Hispanic Journal of Behavioral Sciences*, 28, 404–424.
- Grzywacz, J. G., & Marks, N. F. (2000). Reconceptualizing the work-family interface: An ecological perspective on the correlates of positive and negative spillover between work and family. *Journal of Occupational Health Psychology*, 5, 111–126.
- Grzywacz, J. G., Quandt, S. A., Early, J., Tapia, J., Graham, C. N., & Arcury, T. A. (2006). Leaving family for work: Ambivalence and mental health among Mexican migrant farmworker men. *Journal of Immigrant Health*, 8, 85–97.
- Hecker, D. E. (2005). Occupational employment projections to 2014. *Monthly Labor Review*, 128(11), 70–101.
- Herrera, R., & DelCampo, R. (1995). Beyond Superwoman syndrome: Work satisfaction and family functioning among working class, Mexican American women. *Hispanic Journal of Behavioral Sciences*, 17, 49–60.
- Heymann, J. (2000). *The widening gap: Why America's working families are in jeopardy, and what can be done about it*. New York: Basic Books.
- Hofstede, G. (1984). The cultural relativity of the quality of life concept. *Academy of Management Review*, 9, 389–398.
- Hondagneu Sotelo, P. (1992). Overcoming patriarchal constraints: The reconstruction of gender relations among Mexican immigrant women and men. *Gender and Society*, 6, 393–415.
- Human Rights Watch. (2004). *Blood, sweat, and fear: Workers' rights in U.S. meat and poultry plants*. Retrieved October 20, 2006, from <http://www.hrw.org/reports/2005/usa0105/usa0105.pdf>
- Joplin, J. R. W., Shaffer, M. A., Francesco, A. M., & Lau, T. (2003). The macro-environment and work-family conflict: Development of a cross-cultural comparative framework. *International Journal of Cross Cultural Management*, 3, 305–328.
- Kaplan, R. M., Sieber, W. J., & Ganiats, T. G. (1997). The Quality of Well-Being Scale: Comparison of the interviewer-administered version and a self-administered questionnaire. *Psychology and Health*, 12, 783–791.
- Karasek, R., & Theorell, T. (1990). *Healthy work: Stress, productivity, and the reconstruction of working life*. New York: Basic Books.
- Klitzman, S., House, J. S., Israel, B. A., & Mero, R. P. (1990). Work stress, nonwork stress, and health. *Journal of Behavioral Medicine*, 13, 221–243.



- Kohout, F. J., Berkman, L. F., Evans, D. A., & Cornoni-Huntley, J. (1993). Two shorter forms of the CES-D (Center for Epidemiological Studies Depression) depression symptoms index. *Journal of Aging and Health*, 5, 179–193.
- Korabik, K., Lero, D. S., & Ayman, R. (2003). A multi-level approach to cross-cultural work-family research. *International Journal of Cross Cultural Management*, 3, 289–303.
- Lambert, S. J. (1999). Lower-wage workers and the new realities of work and family. *Annals of the American Academy of Political and Social Science*, 562, 174–190.
- Lichter, D. T., & Landale, N. S. (1995). Parental work, family structure, and poverty among Latino children. *Journal of Marriage and the Family*, 57, 346–354.
- Lipscomb, H. J., Argue, R., McDonald, M. A., Dement, J. M., Epling, C. A., James, T., et al. (2005). Exploration of work and health disparities among Black women employed in poultry processing in the rural South. *Environmental Health Perspectives*, 113, 1833–1840.
- Luborsky, M. R. (1994). The identification and analysis of themes and patterns. In J. Gubrium & A. Sankar (Eds.), *Qualitative methods in aging research* (pp. 189–210). Thousand Oaks, CA: Sage.
- Major, V. S., Klein, K. J., & Ehrhart, M. G. (2002). Work time, work interference with family, and psychological distress. *Journal of Applied Psychology*, 87, 427–436.
- McClelland, G. H., & Judd, C. M. (1993). Statistical difficulties of detecting interactions and moderator effects. *Psychological Bulletin*, 114, 376–390.
- Meleis, A. I., Douglas, M. K., Eribes, C., Shih, J., & Messias, D. K. (1996). Employed Mexican women as mothers and partners: Valued, empowered, and overloaded. *Journal of Advanced Nursing*, 23, 82–90.
- Mesmer-Magnus, J. R., & Viswesvaran, C. (2005). Convergence between measures of work-to-family and family-to-work conflict: A meta-analytic examination. *Journal of Vocational Behavior*, 67, 215–232.
- Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis* (2nd ed.). Thousand Oaks, CA: Sage.
- Morey, L. C. (1991). *Personality Assessment Inventory: Professional manual*. Odessa, TX: Psychological Assessment Resources.
- Mosisa, A. T. (2002). The role of foreign-born workers in the U.S. economy. *Monthly Labor Review*, 125(5), 3–14.
- Muhr, T., & Friese, S. (2004). *User's manual for ATLAS.ti 5.0* (2nd ed.). Berlin: Scientific Software Development.
- Netemeyer, R. G., Boles, J. S., & McMurrian, R. (1996). Development and validation of work-family conflict scales and family-work conflict scales. *Journal of Applied Psychology*, 81, 400–410.
- Parrado, E. A., McQuiston, C., & Flippen, C. A. (2005). Participatory survey research: Integrating community collaboration and quantitative methods for the study of gender and HIV risks among Hispanic migrants. *Sociological Methods and Research*, 34, 204–239.
- Parrado, E. A., & Zenteno, R. M. (2001). Economic restructuring, financial crises, and women's work in Mexico. *Social Problems*, 48, 456–477.
- Pew Hispanic Center. (2006, April). *The labor force status of short-term unauthorized workers (factsheet)*. Retrieved October 25, 2006, from <http://pewhispanic.org/files/factsheets/16.pdf>
- Quandt, S. A., & Arcury, T. A. (1997). Qualitative methods in arthritis research: Overview and data collection. *Arthritis Care & Research*, 10, 273–281.
- Quandt, S. A., Grzywacz, J. G., Marín, A., Carrillo, L., Coates, M. L., Burke, B., & Arcury, T. A. (2006). Illness and injuries reported by Latino poultry workers in western North Carolina. *American Journal of Industrial Medicine*, 49, 343–351.
- Radloff, L. S. (1977). The CES-D scale: A self-report depression scale for research in the general population. *Applied Psychological Measurement*, 1, 385–401.
- Rivera, R., Torres, M. I., & Carre, F. J. (1997). Role burdens: The impact of employment and family responsibilities on the health status of Latino women. *Journal of Health Care for the Poor and Underserved*, 8, 99–113.
- Roehling, P. V., Jarvis, L. H., & Swope, H. E. (2005). Variations in negative work-family spillover among White, Black, and Hispanic American men and women: Does ethnicity matter? *Journal of Family Issues*, 26, 840–865.
- Spector, P. E., Cooper, C. L., Poelmans, S., Allen, T. D., O'Driscoll, M., Sanchez, J. I., et al. (2004). A cross-national comparative study of work-family stressors, working hours, and well-being: China and Latin America versus the Anglo world. *Personnel Psychology*, 57, 119–142.
- Staines, G. L., & Pleck, J. H. (1984). Nonstandard work schedules and family life. *Journal of Applied Psychology*, 69, 515–523.
- Tausig, M., & Fenwick, R. (2001). Unbinding time: Alternate work schedules and work-life balance. *Journal of Family and Economic Issues*, 22, 101–119.
- Tepper, B. J. (2000). Consequences of abusive supervision. *Academy of Management Journal*, 43, 178–190.
- Thomas, L. T., & Ganster, D. C. (1995). Impact of family-supportive work variables on work-family conflict and strain: A control perspective. *Journal of Applied Psychology*, 80, 6–15.
- Toossi, M. (2002). A century of change: The U.S. labor force, 1950–2050. *Monthly Labor Review*, 125(5), 15–28.
- Voydanoff, P. (2005). The differential salience of family and community demands and resources for family-to-work conflict and facilitation. *Journal of Family and Economic Issues*, 26, 395–417.
- Warnecke, R. B., Johnson, T. P., Chavez, N., Sudman, S., O'Rourke, D. P., Lacey, L., & Horm, J. (1997). Improving question wording in surveys of culturally diverse populations. *Annals of Epidemiology*, 7, 334–342.
- Yang, N., Chen, C. C., Choi, J., & Zou, Y. (2000). Sources of work-family conflict: A Sino-U.S. comparison of the effects of work and family demands. *Academy of Management Journal*, 43, 113–123.
- Zedeck, S. (1971). Problems with the use of "moderator" variables. *Psychological Bulletin*, 76, 295–310.

Received March 10, 2006

Revision received October 25, 2006

Accepted November 13, 2006 ■