Published in final edited form as:

J Immigr Minor Health. 2008 December ; 10(6): 551–558. doi:10.1007/s10903-008-9138-2.

Job-Related Stress and Chronic Health Conditions Among Filipino Immigrants

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Abstract

Objectives—We investigate how duration in the US impacts the relationship between job-related stress and health conditions among Filipino immigrants.

Methods—Using data from the Filipino American Community Epidemiologic Study, a cross-sectional sample of 1,381 immigrant Filipinos was obtained. Negative binomial regression was used to examine the interaction between years residing in the US and job concerns on number of self-reported health conditions.

Results—Job concern is positively associated with health conditions for all immigrants no matter what length of time they have spent in the US. This association is strongest for recent immigrants and the strength of the association weakened with increasing time spent in the US.

Conclusions—Findings suggest that job-related stressors are associated with adverse health outcomes among Filipino immigrants and that this relationship is strongest for newer immigrants. New immigrants should be recognized as a vulnerable group with regard to the impact of work on their well-being.

Keywords

Filipino; Job stress; Immigration; Health

Introduction

People often emigrate to another country to seek employment. While employment in a host country has benefits, immigrants often face considerable challenges as they learn and adjust to the norms and values of the host culture. In particular, immigrant workers may face the “double jeopardy” of dealing with stressors related to both working in a new country as well as to living in a new society. These stressors, in turn, may contribute to health problems. Prior research among non-immigrant workers has shown that job stressors can adversely impact physical and psychological health [1-4]. The effect of such work-related concerns on well-being has not been systematically examined with respect to the immigrant experience. This

relationship is likely to be different from that of native-born populations. For example, job security may be strongly influenced by a variety of factors including documentation status, language skills, and discrimination.

Job-Related Stressors Among Immigrants

A few studies have examined job stressors among immigrant workers. For example, Kim-Godwin and Bechtel [5] reported that primarily Hispanic migrant farmworkers in North Carolina rated mobile lifestyle, language barriers, insecure job and legal status, financial restraint, and long working hours as highly stressful. In a study of East Indian, Afro-Caribbean, and African immigrant taxi drivers in Canada, Facey [6] reported findings indicating that factors related to immigrant status as well as work characteristics were viewed as threats to health. Secondary to their socioeconomic standing and because earnings are reliant on number of passengers, participants often allowed themselves to be subjected to stressful situations on the job, including racism, fatigue from long working hours, secondhand tobacco smoke, and skipping bathroom breaks and meals. A study by de Castro and colleagues [7] reported that immigrant workers experience employer discrimination based on race, ethnicity and immigration status. This discrimination was linked to risk for work-related injury and illness. For example, immigrant Latino workers reported having to perform heavier, dangerous job duties without safety training or equipment and received lower wages compared to non-immigrant white co-workers.

Work-Related Health among Asian Americans and Filipino Americans

Over the past 30 years, the majority of immigrants have arrived from both Asia and Latin America [8]. The Asian population as a single racial group in the U.S. is projected to grow from 35.8 million in 2000 to 61.4 million in 2050 [9]. Among Asian ethnic groups, issues related to occupational health may be especially relevant for Filipinos. As of 2000, the second largest foreign-born population in the U.S. came from the Philippines, second only to Mexico [10]. Despite their large population, Filipinos have been an understudied group among all immigrants and minorities. The Philippines has a long history of labor emigration to the U.S. and other countries across the globe. Filipino workers have emigrated to America seeking jobs and filling employment shortages throughout a variety of industries, such as agriculture and healthcare, as well as in the informal sector as domestic workers. Additionally, the Philippine government has encouraged out-migration of labor as a means to support its national economy. Remittances from migrant laborers comprised 13.5% of the Philippine's gross domestic product in 2004 [11].

A small number of studies have suggested that Filipino American workers encounter job stressors. A study by Cabezas and colleagues [12] of 16 Filipino American professionals found that 62% reported on management insensitivity, 81% reported racism, and 69% cited lack of mentors as significant barriers to their work. In a study of nurses and nurse's aides that included 36 Filipina Americans and 23 European Americans, Brown and colleagues [13] found that catecholamine excretion (a marker of stress) in the workplace was associated with blood pressure variability and systolic blood pressure for both groups. More generally, other studies not focused on employment have found that Filipino Americans report racial discrimination and that this discrimination is associated with increased substance use, depressive symptoms, cardiovascular conditions and other health problems [14-17]. Some other studies have found that Filipino Americans report less access to health care, poorer self-rated health, and more activity limitations compared to Japanese and other Asian Americans [18].

Immigrant Adaptation and Job-Related Stress

For immigrants, the process of host country adaptation may itself be stressful [19,20]. In addition to work experiences, immigrants also face more general stressors as they acculturate

in the host country. For example, acculturative stress is characterized by stressors such as lack of English skills, economic status, and immigration status [21]. Research has found that acculturative stress is associated with distress [22], anxiety and depression [23,24]. Additional studies also report that immigrants may also be more vulnerable to adverse health outcomes as a function of time and duration in the host country. Kuo and others have argued that stressors may be more harmful for new immigrants than more established immigrants [20]. Reflecting this, Hurh and Kim [25], in a study of immigrant Korean males in the U.S., found that scores for depression and demoralization were highest among those most recently immigrated and gradually declined with length of residence in the U.S. Alternatively, Brown and James [26] reported that stress levels, as measured by the biomarker norepinephrine, appeared to rise with increasing years in the U.S. among immigrant Filipina American women. Frisbie, Cho and Hummer [18] found that Asian American immigrants were healthier than non-immigrants, but also that the health of immigrants deteriorated with time in the U.S. Reflecting this, both a cross-sectional and a longitudinal study of national data have shown the being overweight was associated with longer residence in the host country among immigrants in Canada and Hispanics in the U.S., respectively [27,28].

There is reason to suspect that the association between job stressors and health among immigrants is not static. With increasing time in the U.S., immigrant workers may be able to more fully adapt to the challenges of adjustment to their jobs. Over time, the stress of adaptation may lessen as individuals become more familiar with their new environments, as they gain more resources to mitigate the stressors they face, and perhaps as they advance into jobs that are less hazardous. In contrast, newer immigrants may have fewer employment options and fewer resources, such as a smaller support network and fewer savings. Thus, a given level of job stress may be more potent for newer immigrants than more established immigrants.

This background motivates the investigation of the following three hypotheses:

1. Job stress will be associated with increased illness among Filipino immigrants.
2. Duration in the U.S. will be positively associated with illness such that Filipino immigrants will have more illness the longer they reside in the U.S.
3. Job stress and duration in the U.S. will moderate one another such that the effects of job stress will be most pronounced for those who are newer immigrants.

Methods

Data Collection

Data was collected between 1998 and 1999 through the Filipino American Community Epidemiological Study (FACES). Description of the sampling scheme has been reported previously [17,29]. We briefly review the sample. Eligible participants were randomly selected from households if they met the following criteria: having Filipino heritage, between 18 and 65 years of age, and residing in either Honolulu or San Francisco. Surveys were administered according to one of three language preferences of each participant, either English or one of two Filipino dialects (Tagalog or Ilocano). A total of 2,285 persons completed surveys with a response rate of 78%. As our focus is on immigrant workers, we exclude 619 immigrants not currently working at the time of the study and 285 working persons born in the U.S. Hence, we analyze 1,381 respondents in the present study. Data were weighted to adjust for differential probabilities of participant selection within a household and for neighborhood racial and economic characteristics.

Measures

The dependent variable is *chronic health conditions* which represents a composite of the following health problems: asthma, high blood sugar/diabetes, hypertension, high blood pressure, arthritis, rheumatism, physical disability (e.g., loss of arm), trouble breathing (e.g., emphysema, chronic lung disease), cancer, neurological conditions (e.g., epilepsy, convulsions, Parkinson's), stroke, major paralysis, heart failure/congestive heart condition, angina/coronary artery disease, other heart disease, back problems, stomach ulcer, chronic inflamed bowel, enteritis, colitis, thyroid disease, kidney failure, trouble seeing, migraine headaches. This list was a subset taken from the Medical Outcome Study (MOS) [30-32]. Participants were given a score of 1 for each self-reported health condition resulting in a range from 0 to 12 in our sample. A similar measure has been used in prior analyses of Filipino American health [33].

Job stress is measured as *job concerns* using a subset of ten job-oriented items from the Daily Hassles Scale which has been used in studies of health [34-37]. It had not been previously used among Filipinos, but, has been used with an adult sample of Chinese-Americans [38]. Participants were asked to rate their level of concern in the past month along a 4-point Likert scale (1 = a lot, 2 = some, 3 = a little, 4 = none at all). Item ratings were reverse coded so that higher ratings represented more concern (e.g., 4 = a lot). Examples of items included problems getting along with boss, concerns about job security, not liking fellow workers, not liking current duties, and job dissatisfaction. For each participant, ratings were summed for all items and divided by ten to obtain an intensity score ranging from 1 to 4 [39]. Cronbach's alpha for job concern items with our sample was 0.86.

Years in U.S. was the number of years living in the U.S. Previous reports suggest that length of residence in the host country is an important factor in determining health-related outcomes [18,⁴⁰-42]. Further, as suggested previously, job stressors may change over time for immigrants.

Control variables included the following:

Job category was determined using self-reported job titles. Job titles were categorized according to the 2002 North American Industry Classification System (NAICS) at the two-digit level (e.g., construction, manufacturing, retail trade). Because of small numbers of participants in some NAICS categories, data were collapsed into three primary groups: 1 = manual (agriculture, forestry, fishing and hunting; construction; manufacturing; transportation and warehousing; and utilities); 2 = trade (wholesale and retail trade); and 3 = service (information; finance and insurance; real estate and rental and leasing; professional, scientific, and technical services; management of companies and enterprises; administrative and support and waste management and remediation services; educational services; arts, entertainment, and recreation; accommodation and food services; other services, except public administration; public administration; health care and social assistance). Grouping selection of NAICS categories were also guided by groupings used by the National Occupational Research Agenda of the National Institute for Occupational Safety and Health [43].

Personal income was self-reported according to the following five categories: less than \$25,000; \$25,000 to \$49,999; \$50,000 to \$99,999; \$100,000 to \$199,999; and \$200,000 and above. Because of the few number of participants reporting personal income greater than \$100,000, the highest three categories were collapsed into one representing \$50,000 and above. Additionally, a dummy variable for *missing income* (0 = not missing, 1 = missing) was created to account for 62 participants (3.7%) with unreported *personal income*.

Immigrated for employment was measured with one item asking how important it was to immigrate to the U.S. to find employment. Responses were rated on a 4-point Likert scale (1 = very important, 2 = a little important, 3 = not at all important, 4 = not applicable). Ratings of 2 or greater were collapsed into one category to create a dichotomous variable (0 = not important, 1 = important).

In addition, *primary language used daily* was included as a dichotomous control variable (0 = Filipino (Tagalog or Ilocano), 1 = English). Additional control variables included gender (1 = female, 0 = male), age in years, marital status (1 = yes, 0 = no), region of residence (1 = San Francisco, 0 = Honolulu), and years of education.

Analysis

Variable specification was directed by exploratory analyses and included checking for influential values, distributions, and correlations between study measures. Because the dependent variable was a count, multivariable analyses were conducted using negative binomial regression. Poisson regression was considered but not used because preliminary analyses suggested that the assumption of equidispersion was violated. All continuous predictors were centered at their mean to reduce multicollinearity and to help facilitate the interpretation of the intercept [44]. The interaction between job concerns and duration (years living in U.S.) was examined. For statistically significant interactions, conditional slopes were calculated and tested against hypotheses that slopes were zero and differed from one another [44].

Results

Table 1 displays descriptive data for the sample. Mean age was 42.7 years. The majority of the sample was female, married, and resided in Honolulu. The average number of years of education was 11.7 with most working in service jobs and earning up to \$25,000 annually. As a group, the mean number of years residing in the U.S. was just under 15 years.

Table 2 shows associations between independent variables and health conditions. Column two shows the unadjusted associations. Health conditions was positively associated with job concerns and duration. That is, respondents who reported higher levels of job concern or who lived more years in the U.S. also reported more physical health conditions. Further, health conditions was positively associated with being older, female, married, and living in San Francisco. Results from the regression analysis are shown in columns three and four. Model one (column three) includes the variables age, gender, marital status, region of residence, education, occupational category, income, daily language, immigrated for employment, years living in the U.S., and job concerns. In model two (column four), the interaction between years living in the U.S. and job concerns is added. Across both models, age, living in San Francisco, middle income category (\$25,000–49,999), duration in the U.S., and job concerns were positively associated with health conditions.

Most interestingly, an interaction between duration in the U.S. and job concerns was observed. Figure 1 graphs this interaction, showing the association between job concerns and number of health conditions for immigrants most recently arrived (1 year), at the mean (15 years) and roughly one standard deviation above the mean (30 years). Job concerns is positively associated with health conditions for all immigrants no matter what length of time they have spent in the U.S. However, this association is strongest for the most recent immigrants and weakens with duration in the U.S.

We conducted additional tests to evaluate the robustness of our findings. First, one might argue that duration in the U.S. is a proxy for age. However, this is not the case because age is only

weakly correlated with duration in the U.S. ($r = -0.13$, $P < 0.05$), the inclusion of age does not influence the interaction between duration and job concerns, and the interaction between age and job concerns is non-significant ($\beta = -0.0009$, $P > 0.05$). Second, job concern scores were right skewed. We replicated our analyses, breaking job concern scores into tertiles and modeling it as dummy variables. The main effects and interactions were significant and similar in magnitude and direction to those reported here. For parsimony, we report the continuous specification of job concerns in lieu of the dummy variables. Third, prior studies suggest that perceived racial discrimination is a stressor associated with health conditions among Filipino Americans [33]. Inclusion of this additional covariate did not change our results. Fourth, to examine if job concerns were more important for immigrants who immigrated for employment, we created models including the two-way interaction between immigrated for employment and job concerns and also the three-way interaction between immigrated for employment, job concerns, and duration in the U.S. These additional interactions did not approach statistical significance.

Discussion

This study examines the association between job concerns and health conditions with a primary interest in the influence of duration living in the U.S. Our findings suggest that work-related stressors are associated with adverse health outcomes among immigrants and that this relationship is strongest for the newest immigrants. For immigrant Filipinos, concerns about work are not only associated with their physical health, but may also vary according to their duration in the U.S. Work-related stressors appear to be more strongly associated with illness for newer immigrants than for immigrants with a longer duration in the U.S.

More recent immigrants may experience difficulties adjusting to American jobs and work culture. We speculate that, over time, immigrants may learn how to better deal and cope with work stressors. How immigrants handle the adjustment to host country workplaces would be important for future research. We also note that coping resources may be particularly relevant to such an adjustment. Daniel and colleagues [45] report that adjustment to a new healthcare system was stressful among newly migrated Filipino nurses in the United Kingdom, and, suggest that successful adaptation could be promoted through equal training and promotion opportunities and culturally sensitive orientation programs. Another study by Kim [46] reported that individual perception of control over one's life weakened the association between stressors related to acculturation (e.g., new language acquisition, social isolation) and psychological distress among a sample of Korean immigrants in the U.S. These studies suggest the need for both external and internal resources upon which immigrants may draw from to mitigate the effects of stressors on well-being. We recommend that future investigations of the impact of occupational stressors on health consider including measures of coping.

Further, for newer immigrants, job availability and employability may be limited due to factors related to immigration status, such as documentation or work visa expiration. It is likely that immigrants move into better or more stable jobs with increased earnings and occupational status that likely generate less stressful work-related concerns. A growing body of literature indicates that indeed immigrants' work status, with respect to wages, unemployment, job opportunities, and occupational mobility, improves with longer duration in the U.S. [47-51] Accordingly, we also recommend that future research include factors such as job tenure, selection, mobility, and history when examining job concerns and stress among immigrant samples.

A job may also have added importance for those immigrants working primarily to support family members in their home country. We did not find interactions between job concerns, duration, and immigration for employment reasons, and, were unable to ascertain if these

employment reasons were also tied to family in the host country. We encourage the future study of immigrants' occupational health to further consider the potential transnational nature of work and income.

We also note that the job concerns scale touches upon similar constructs as other scales measuring job stress. [1,3] Future studies should consider such instruments to obtain a more rounded measure of job stress. Also, it did not include questions about matters specific to the work experience of immigrants, such as concerns related to immigration status, language barrier, discrimination, and job-seeking behaviors. We recommend that future studies investigating job stressors among immigrant workers incorporate such concepts to better measure issues relevant to the immigrant experience.

Our findings should be seen as preliminary because our data are cross-sectional. We believe that a longitudinal study following immigrants forward from date of immigration will provide a firmer investigation of how job stressors and the association with health outcomes changes over time. Moreover, job tenure and movement, as well whether the individual returned back to the home country or elsewhere for a period of time, can be tracked. We presume that duration in the U.S. also proxies for job tenure. While it would have been ideal to examine years in the U.S. with years on the job distinctly, we were unable to do so for this secondary analysis. Future research should examine how closely correlated duration on the job is with length of stay in the U.S. Accounting for these factors would contribute insight into how different jobs affect level of concern. Leong and Chou [52] suggested that less acculturated Asian American immigrants may be more likely to choose jobs based on family contribution and obligation, rather than on individual preferences. This approach to occupational selection is based on the collective orientation of Eastern cultures, rather than on the more individualistic Western perspective. In addition, Asian immigrants may also be restricted in the types of occupations they may occupy or limited in their occupational advancement as a function of racial and ethnic discrimination. Hence, future longitudinal studies should consider these complexities of occupational selection in some detail. Finally, we examined duration in the U.S., but future studies might incorporate instruments that assess social-behavioral dimensions of acculturation, such as the A Short Acculturation Scale for Filipino Americans (ASASFA) [53].

Conclusion

To our knowledge, this is the first study examining how the relationship between job stressors and poor health may weaken with duration in the U.S. among an immigrant population. Our analysis demonstrates that duration in the host country has relevance upon the relationship between job stressors and health. Job concerns was positively associated with increased number of health conditions among immigrants. This relationship is strongest for those immigrants arriving more recently. New immigrant workers should be recognized as a vulnerable group with regards to work related stressors.

Acknowledgments

This study was supported by the National Institute on Alcohol Abuse and Alcoholism (grant 098633 to David T. Takeuchi) and by the Center for Disease Control and Prevention (training program grant #1 T01 CD000189-01 to A. B. de Castro).

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Fig. 1.
Job Concerns & Chronic Conditions, by Years in U.S.

Table 1

Descriptive statistics (n = 1381)

Measure	Estimate (mean or percent)	Standard deviation
Health conditions	0.83	1.21
Demographics		
Age (years)	40.9	12.27
Gender (female)	48.9%	
Region (Honolulu)	53.8%	
Marital status (married)	65.1%	
Socioeconomic position		
Education (years)	11.98	4.83
Occupational category		
Manual	15.9%	
Trade	10.9%	
Service	73.2%	
Personal income		
≤\$25,000	49.0%	
\$25,000–\$49,999	33.3%	
\$50,000 and above	14.3%	
Missing	3.4%	
Years in U.S.	14.79	9.58
Daily language		
Filipino	10.6%	
English	89.4%	
Immigrated for employment	77.2%	
Job concerns	1.43	0.54

Estimates are weighted

Table 2
Results of unadjusted bivariate and negative binomial regression analyses of health conditions

	Bivariate		Multivariate	
	Beta (standard error)		Beta (standard error)	
	Model 1		Model 2	
Age	0.029*** (0.004)	0.028*** (0.004)	0.028*** (0.004)	
Female (vs. male)	0.275*** (0.018)	0.135 (0.080)	0.127 (0.080)	
Married (vs. unmarried)	0.284** (0.095)	0.143 (0.089)	0.148 (0.089)	
San Francisco (vs. Honolulu)	0.630*** (0.080)	0.596*** (0.113)	0.574*** (0.113)	
Education (years)	0.028 (0.008)	−0.009 (0.010)	−0.008 (0.010)	
Job category				
Service (reference)				
Manual	0.161 (0.185)	0.147 (0.174)	0.157 (0.171)	
Trade	0.183 (0.121)	0.094 (0.111)	0.115 (0.108)	
Income				
<\$25,000 (reference)				
\$25,000–49,999	−0.161 (0.112)	0.275* (0.132)	0.265* (0.132)	
\$50,000+	0.055 (0.104)	0.171 (0.109)	0.184 (0.108)	
Missing	−0.271 (0.219)	−0.063 (0.223)	−0.089 (0.255)	
Daily language				
Filipino (reference)				
English	0.107 (0.118)	0.045 (0.128)	0.046 (0.126)	
Immigrated for employment was important (vs. not important)	−0.091 (0.095)	0.036 (0.096)	0.033 (0.095)	
Years in U.S.	0.018*** (0.004)	0.010* (0.005)	0.010* (0.004)	
Job concerns ^a	0.485*** (0.066)	0.422*** (0.066)	0.687*** (0.128)	
Job concerns × Years in U.S.			−0.017** (0.006)	
Intercept		−1.206*** (0.207)	−1.211*** (0.205)	

* $P \leq .05$ ** $P \leq .01$ *** $P \leq .001$

Job concerns was based on a 10-item scale for a possible range of 10 (low concern) to 40 (high concern)