Tapas Ray (NIOSH)

Objective We assessed the prevalence of work flexibility by work arrangement type among U.S. workers during 2002-2014. We further investigated whether work flexibility was associated with work-related well-being, expressed as job satisfaction, job stress, and health-related quality of life (HRQL). Analyses We used data from the Quality of Work life (QWL) module of the General Social Survey (GSS). Funded by the National Science Foundation, GSS is a biannual nationally representative cross-sectional survey of U.S. households conducted through face-to-face personal interviews by the National Opinion Research Center. GSS utilizes a multi-stage probability design yielding a representative sample of the civilian, non-institutionalized, English-speaking, U.S. adult population (Grosch et al., 2006). In 2002, 2006, 2010, and 2014, GSS was supplemented with a QWL module (www.cdc.gov/niosh/topics/stress/qwlquest.html). Developed by the National Institute for Occupational Safety and Health (NIOSH) with contributions by its partners, QWL assessed an array of psychosocial working conditions and quality of work life topics among GSS respondents who were either employed or looking for work. We analyzed pooled cross sectional data from 2002, 2006, 2010, and 2014 (weighted sample of 5911 observations). To assess work arrangements, we distributed the study sample into five mutually exclusive groups based on responses to the question, How would you describe your employment arrangement in your main job? Response categories were: (1) independent contractor/independent consultant/freelance worker, (2) on call worker/works only when called, (3) paid by temporary agency, (4) working for a contractor who provides workers and services to others under contract, and (5) regular permanent employee (standard). To assess work flexibility, we used the following variables: 1) Work schedule; 2) Telework; 3) Ability to take time off work for non-work matters; 4) Work demands; 5) Productivity-conducive work conditions; 6) Opportunity to develop special abilities; 7) Availability of help and equipment at work; and 8) Freedom to decide. We assessed job satisfaction using responses to the question, All in all, how satisfied would you say you are with your job? (yes = very satisfied, somewhat satisfied; no = not too satisfied, not at all satisfied.) We assessed job stress through the survey question, How stressful is your work? We collapsed responses from a 5-point Likert scale into the following two categories: (1) those who reported being stressed at work (stressed; response options 5 = always, and 4 = often), and (2) those who reported not being stressed at work (non-stressed; response options 3 = sometimes, 2 = rarely, and 1 = never). We used these two categories as a binary response variable, with 1 = stressed and 0 = non-stressed. This is in line and allows for comparison with earlier studies that used QWL data (see Grosch et al., 2006). To assess HRQL, we used four items from the Centers for Disease Control and Prevention (CDC) HRQOL-4 index. Developed in the 1980 s, the HRQOL-4 has been used to derive metrics for government-wide initiatives such as Healthy People 2010 and 2020, and assess the health status of the U.S. population both at the national and state levels (ODPHP DHHS, 2014). Variables from the HRQOL-4 have been used in national level surveys such as CDC's Behavioral Risk Factor Surveillance System and the National Health and Nutrition Examination Survey. The four core questions from the HRQOL-4 were: (1) Would you say that in general your health is excellent, very good, good, fair, or poor? (Likert scale ranging from 1 = poor to 5 = excellent); (2) Now thinking about your physical health, which includes physical illness and injury, for how many days during the past 30 days was your physical health not good?; (3) Now thinking about your mental health, which includes stress, depression, and problems with emotions, for how many days during the past 30 days was your mental health not good?; and, (4) During the past 30 days, for about how many days did poor physical or mental health keep you from doing your usual activities, such as self-care, work, or recreation? We conducted descriptive and regression analyses and assessed the effect of work arrangement on work flexibility and the association between work flexibility and work related well-being. Preliminary results Overall work flexibility changed minimally during 2002-2014, although some individual flexibility variables followed cyclical trends. Work arrangement was an important determinant of work flexibility. After controlling for demographics and overall health status, work flexibility was positively associated with well-being. Additional results will be presented at the conference. Practical Implications The study demonstrated the importance of work flexibility for well-being and provided valuable information about flexibility by work arrangement type. As far as we know, this is the first study on this topic in the US context. Our findings are relevant for various stakeholders, including policy makers.

Association of Parental Workplace Injury with Emotional and Behavioral Problems of Children

Abay Asfaw (NIOSH)

Problem statement Most studies on the burden of occupational injuries and illnesses focus on worker and workplace-specific economic impacts such as cost of healthcare, loss of productivity, workers' compensation costs, and presenteeism. This study asks whether occupational injuries can reach beyond the worker and the workplace to affect family members of injured workers. We investigated whether children of parents with workplace injury were more likely to manifest emotional and behavioral problems than children of non-injured parents. To our knowledge, these associations have not been previously described. Methods We used data from the National Health Interview Survey (NHIS), a household interview survey. Each year of the survey, a sample child is randomly selected from each sampled household and an extensive array of detailed health, school, behavioral and other information is collected via a proxy/key informant (usually a parent). The questions we used to assess emotional or behavioral health were from the short version of the strengths and difficulties questionnaire and were only asked of respondents of sample children aged 4-17. Injury episode data were collected from the family respondent during the family core interview and establish whether one of the parents experienced an occupational injury. We linked the sample child file with the injury episode file. Five years of data (2012-2016) were combined, yielding 433 children with an injured parent, and a comparison group of 41,574 children. Our independent variable was parental workplace injury, defined as all medically-consulted injury and poisoning episodes that occurred during the past 3 months while working at a paid job. Four target indicators were investigated: 1) child had many worries or often seemed worried; 2) child is often unhappy, depressed, or tearful; 3) a combination indicator reflecting emotional, concentration, behavioral, and relationship difficulties; and 4) child has good attention span/sees homework or chores through to end. The recall period was six months prior to the survey except for the combination measure (no specific recall period). For each question parents answered as 'not true,' 'somewhat true,' or 'certainly true'. We combined certainly true and somewhat true to define cases of emotional or behavioral problems. To examine our results robustness we evaluated responses to two questions on child emotional and behavioral outcomes that we believed would be less influenced by parent injury (control outcomes):

1) child gets along with adults better than children/youth and 2) child was well behaved and does what adults request (last six months for both question). Lastly, child age, sex, health insurance coverage, and doctor diagnosed attention deficit hyperactivity disorder (ADHD) were included as covariates along with parent marital and poverty status and education. Results Descriptive analyses Children with injured parents were more likely to be reported a) to have many worries or to seem worried than were children of non-injured parents (33.1% vs. 25.3%; $\chi2=12.56$, $p<.01$); b) to be often unhappy, depressed or tearful (16.5% vs. 11.7%; $\chi2=8.85$, $p<.05$), and c) to have more emotional, concentration, behavioral, and relationship difficulties (30.2% vs. 20.9%; $\chi2=20.84$, $p<.01$). Reports of good attention span/seeing homework or chores through to the end were less common when parents were injured (82.1% vs. 88.8%; $\chi2=17.18$, $p<.01$). In contrast, reports that children got along better with adults than children/youth in the last six months were roughly equivalent between the injured and non-injured parent groups. Similarly, reports that children were well behaved and did what adults request were nearly equivalent. Multivariable analyses After controlling for covariates, the odds that children of injured parents were reported as having many worries or seemed worried was about 51% greater than for children of non-injured parents ($p<.01$). The odds that children of an injured parent were reported as unhappy, depressed or tearful increased by 49% ($p<.01$), and an increase by 70% ($p<.05$) was evident for reports that the child of an injured parent had emotional, concentration, behavioral, and relationship difficulties. The odds of reports of good attention span and seeing homework or chores through to the end were reduced by 40% (<.05) among children of injured parents. Odds of reporting that children get along with adults better than children/youth or that they are well behaved and do what adults request were not significantly different between the injured to non-parent groups. Implications This study opens a new research dimension by providing empirical evidence of an association between parental workplace injury and the psychological well-being of children. These findings are consistent with an emergent body of research showing that workplace psychological demands can crossover to adversely influence health-related outcomes in the families of workers, including their children (Bakker, Westman, and van Emmerik, 2009; Ohu et al., 2018; Stuart and Barling, 1996; Westman, 2015). Our injury-related effects would benefit from confirmatory study, and underlying mechanisms need to be investigated. Further, research is needed to better understand the magnitude of parental injury effects on children and their socioeconomic impact.

Discussant: John Piacentino (NIOSH)

Independence Ballroom A

CEP

Workplace Telepressure, Work-Family Conflict, and Associated Outcomes

PAPER SESSION

Did you get that Thing I Sent You?: Mediating effects of Work-family Conflict and Stress on the Telepressure and Burnout relationship

Kyle Page (South Dakota State University)

As modern workplaces continue to incorporate telecommuting and information and communications technologies (ICTs), it is possible for employees to work virtually anywhere (Kossek & Lautsch, 2012; Major & Germano, 2006). This flexibility may help employees switch between work and nonwork roles (Allen & Shockley, 2009) but it may also make it increasingly difficult for workers to maintain a separation between work and family boundaries (Kossek, Lautsch, & Eaton, 2006). For some, blurring of work and home lines may create problems when trying to mentally detach from work and therefore make it harder to recover from job stress (Major & Germano, 2006). This may be because recovery processes that occur during non-work time are important for reducing the negative effects of stressful work situations (Eden, 2001; Geurts & Sonnentag, 2006) and the lack of separation may inhibit the perception of truly being away from work. Boundary theory (Ashforth, Kreiner, & Fugate, 2000) states that some employees benefit from separating work and private life with boundaries. As it has been found that work and family conflict are bidirectional in nature and influence one another, (Frone, Russell, & Cooper, 1992) understanding which variables may increase the level of spillover between work and family.

One such construct that may act as a boundary spanning mechanism is workplace telepressure (WPT). WPT is a maladaptative behavior that can result from employee's need to be continuously connected to the workplace through ICTs to meet perceived needs and demands of supervisors, colleagues, and clients (Barber & Santuzzi, 2014). As technology-mediated workplace interactions increase and as employees gain more control and flexibility over when and where work is handled, employees may become less able to disconnect from work (Mazmanian, Orlikowski, & Yates, 2013). This is supported by the finding that 44% of Americans report checking their email during vacation and 54% check email when home sick (American Psychological Association, 2013). WPT has been found to negatively relate to sleep quality and psychological detachment, two types of employee recovery processes (Thommes, 2015) which are vital to employee well-being.

Increased integration of work and family roles occurs through activities such as working from home, making job contacts at home, and work-family multitasking, which are demands that are likely related to WPT. This increased integration of work and family demands has been found to be positively related to perceived stress and work-interfering-with-family (WIF; Voydanoff, 2005). We propose that WPT will be related to an individual's level of perceived stress, WIF, family-interfering-with-work (FIW), and burnout.

In Study 1, a sample of 217 working students from a small private Midwestern and a small Northeastern University were used to test the relationship between WPT, WIF, FIW, and stress. A significant positive correlation was found between WPT and stress. Using hierarchical linear regression, after controlling for individual preference for segmentation, supervisor preference of segmentation, and family-supportive supervisor behaviors, WPT was found to have a significant positive relationship with WIF and FIW. Using model 4 of the PROCESS MACRO (Hayes, 2017), stress was found to mediate the relationship between WPT and FIW but not WIF.

In Study 2, a sample of 269 working individuals from Amazon Mechanical Turk were used to test the relationship between WPT, WIF, FIW, stress, and burnout. A significant positive correlation was found between WPT and stress as well as burnout. After controlling for preference for segmentation, supervisor preference of segmentation, family-supportive supervisor behaviors, and work-life balance culture, WPT was found to have a significant positive relationship with

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