

Analyses and results

Analysis of the discussion with firefighters about causes of obesity revealed five main “themes” of central importance to firefighters: 1) the culture of eating in the fire station, 2) sleep interruption, 3) leadership and physical fitness, 4) sedentary work, and 5) aging and generational differences. These will be discussed using representative quotes. The workshops to refine a firefighter-specific work and health questionnaire revealed that the most relevant psychosocial work stressor domains to firefighters (out of 13) were: workload (e.g., # of shifts), job demands, quality of leadership, sleep problems, and eating culture at work and two domains appeared to be least relevant: reward and discrimination/harassment. Focus group members and subsequent field testing of the survey led to the addition of several questions about eating behaviors at work (e.g. family style vs. eating out) and alternative wording for items that were unclear (e.g., substitute “company” for “group”). Preliminary findings from the survey open-ended questions revealed that most firefighters stated the best parts of their jobs were the social support of coworkers, and helping others. The most often described “difficult” aspects of the job were witnessing traumatic events, lack of sleep, and being away from family.

Practical/theoretical implications and conclusions

These qualitative research findings suggest that obesity and typical “individual health behaviors” such as eating behaviors and exercise patterns may not be just a product of individual “choice” but may also be influenced by working conditions. These findings confirm that firefighters are exposed to significant work stressors and that along with their work organization, may contribute to poor eating habits and lower physical activity. Integrating these findings along with the survey results will enhance the understanding of the effects of firefighter-specific psychosocial work stressors such as sleep quality, job demands, work-family spillover, and experiencing trauma, on health behaviors linked to weight gain and obesity. Focus groups will then be reconvened to encourage firefighter participation in interpreting these findings and in fostering ongoing dialogue about feasible programs that will target both occupational factors and health behaviors related to obesity.

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PHYSICAL ACTIVITY AND NUTRITION IN FIREFIGHTERS

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Background: Male firefighters are well known as a high risk occupational group for obesity in the United States (US). However, few studies have examined possible work -related mechanisms that might contribute to their tendency to gain weight. Energy balance can be a major mechanism for obesity in the general population. If a certain group has a higher prevalence of obesity, they are likely to have an imbalance between energy intake and physical activity. So it would be very interesting and important to examine their physical activity level and nutrition characteristics on work days and off days (leisure time) among firefighters. This study presents the pattern of firefighters' physical activity objectively measured with actigraph and nutrition data from food diaries collected on two days (one 24-hr duty day and one 24-hr non-duty day). Furthermore, we investigated the relationship between work-related factors and lower physical activity level on an off day.

Methods: As part of the on-going FORWARD study, we analyzed the physical activity and nutrition data of 71 firefighters in a Southern California county Wellness Fitness Program. By using actigraphs, we measured objectively measured physical activity on each of two days (a work day and an off day). We calculated total calorie expenditure from physical activity, total count numbers, the amount of time spent on moderate and vigorous physical activity per day from the actigraph. A food-diary was filled out by each firefighter during one “on” and one “off” duty day. The diaries were analyzed using the Windows-based Nutrition Data System for Research (NDSR) developed at the University of Minnesota. We used total calorie intake, sodium intake, fiber intake, added sugar, and fat intake (%) from

food diaries. We also measured individual firefighter's workloads, number of calls/day, exercise, work stress and other work characteristics from self-reported questionnaires.

Results: Average energy expenditure from physical activity on a work day was 718 Kcal and 601 Kcal on an off-day. In 46 of 71 firefighters (64.8%), physical activity level on a work day was higher than that on an off-day. Mean counts per minute (MCPM) was 325.6 and 307.0 on a work-day and an off-day, respectively. During 6 periods of a 24-hr day (every 4 hours), physical activity was the highest from 8am- 12pm (305 Kcal during a workday and 185 Kcal on an off-day, respectively). The amount of time spent on moderate physical activity per day was about 40 minutes on a work day, and 36 minutes on an off-day. These results did not meet the guidelines which the Fire Service Joint Labor Management Wellness Fitness Initiative recommends. The average total calorie intake on a workday was 2,332 Kcal, and 2,346 on an off day. Average energy balance (Energy intake – Energy expenditure) was -731Kcal at work and -565Kcal at home. Total fat intake average was 36.8% and 32.3% and added sugar intake was 65.5g and 58.1g during a work day and off-days, respectively. According to USDA and HHS dietary guidelines for Americans 2010, the daily caloric intake for adult men should range from 2,000Kcal (sedentary) to 3,000Kcal (very active). Calorie intake from fat should be 20-35% and total added sugars lower than 36g. Sodium intake was very high both on a work day and an off day (4,295 and 4,039 mg, respectively). Fiber intake was very low compared to recommendation from USDA and HHS dietary guidelines for Americans 2010. In a multivariate analysis, higher BMI, old age, short sleep and higher workload were risk factors for lower leisure time physical activity using the actigraphs.

Conclusions: Firefighters' physical activity was not low, but they did not meet the guidelines recommended by the Fire Service Joint Labor Management Wellness Fitness Initiative. Firefighter nutrition intake did not meet USDA and HHS dietary guidelines (60 to 90 minutes on every work shift) in considering both quality and quantity. This study suggests that added sugar from sodas/energy drinks and desserts may substantially increase caloric intake during work days. Short sleep and high workloads were major risk factors for lower leisure time physical activity (an off day's physical activity) among firefighters.

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OBESITY/OVERWEIGHT AND THE ROLE OF WORKING CONDITIONS IN LOWER INCOME WORKERS-A QUALITATIVE, PARTICIPATORY INVESTIGATION

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Background:

The causes of energy imbalance (insufficient exercise, excessive eating) are generally designated as "personal behaviors," although environmental influences have recently received attention. The specific contributions of the work environment are underappreciated, despite a growing body of research on the effects of exposures as diverse as regular night work (disruption of sleep and diurnal rhythms), psychosocial job stressors, and endocrine disruptors. We are conducting a qualitative study of perceived contributions of work to weight gain and/or difficulty losing weight among low-income workers.

Methods:

To identify the workplace factors impacting low-income workers' weight status, the study design incorporated a participatory approach using eight focus groups (8-10 participants) from various industries: hotel cleaning / housekeeping; restaurant & food service; construction; healthcare/human services; and light manufacturing. A focus group script was developed based on literature review and anecdotal information from workers in some of these settings and revised with input from experienced worker trainers. Study materials were translated and back-translated between English and Spanish. Focus groups were facilitated in both English and Spanish with female and male workers. Individuals were compensated for their participation. Discussions were recorded, key themes were identified, and selected quotations were transcribed to represent each theme.

FRIDAY, MAY 17 (continued)

- Paper 4** The Influence of Work Characteristics on Return to Work Among Long-Term Sick-Listed Employees With Depression
- Dr. Jenny Huijs, TNO, Hoofddorp, The Netherlands; Dr. Lando Koppes; Prof. Toon Taris; Prof. Roland Blonk

Fresh Perspectives on Workplace Aggression (Symposium)

Palos Verdes

Chairs: Jenna C. Shapiro, BS, and Vicki J. Magley, PhD, University of Connecticut, Storrs, CT

- Paper 1** Coping With Abusive Supervision: Long Term Effects on Employee Attitudes and Intention
- Ismael Diaz, MS, Texas A&M University, College Station, TX; Kathi N. Miner, PhD; Mindy E. Bergman, PhD

- Paper 2** Linking Experienced Incivility to Instigated Incivility for Staff Members and Managers
- Arla Day, PhD, Saint Mary's University, Halifax, NS, Canada; Michael P. Leiter, PhD

- Paper 3** Workplace Aggression Normalization: A Scale Development Piece
- Jenna C. Shapiro, BS, University of Connecticut, Storrs, CT; Zandra Zweber, MA; Anna Young, BA; Vicki J. Magley, PhD

- Paper 4** Testing a Model of Civility Training Effectiveness
- Benjamin M. Walsh, PhD, University of Illinois Springfield, IL; Vicki J. Magley, PhD

Discussant: Julian Barling, PhD, Queens University School of Business, Kingston, ON, Canada

Psychosocial Working Conditions and Obesity Research in High-Risk Occupations and Populations (Symposium)

San Fernando

Chair: BongKyoo Choi, ScD, University of California Irvine, CA

- Paper 1** Psychosocial Occupational Risk Factors for Obesity in Male Firefighters: Results of the Forward Study Survey
- BongKyoo Choi, ScD, University of California Irvine, CA; Peter Schnall, MD; Marnie Dobson, PhD; Leslie Israel, DO; Javier Garcia, MS; SangBaek Ko, MD; Dean Baker, MD, MPH

- Paper 2** Occupational and Health Behavioral Causes of Obesity in Firefighters: A Qualitative Study
- Marnie Dobson, PhD, University of California Irvine, CA; BongKyoo Choi, ScD; Peter Schnall, MD; Erin Wigger, BA; Javier Garcia, MS; Leslie Israel, DO; Dean Baker, MD, MPH

- Paper 3** Physical Activity and Nutrition in Firefighters
- Hyoungryoul Kim, MD, The Catholic University of Korea, Seoul, South Korea; BongKyoo Choi, ScD; Peter Schnall, MD; Marnie Dobson, PhD; Leslie Israel, DO; Pietro Galassetti, MD; Javier Garcia, MS; Dean Baker, MD, MPH

- Paper 4** Obesity/Overweight and the Role of Working Conditions in Lower Income Workers: A Qualitative, Participatory Investigation
- Nicole Champagne, EdD, University of Massachusetts Lowell, MA; Suzanne Nobrega, MS; Marcy Goldstein-Gelb, BA; Mirna Montano, BA; Isabel López, BA; Jonny Arevalo, BA; Suezanne Bruce, BA; Laura Punnett, ScD

- Paper 5** Work and Obesity in Mexican Working Population From Different Occupations
- Horacio Tovalin Ahumada, DrPH, National Autonomous University of Mexico, Mexico City, México; Marlene Rodríguez Martínez, MSc

The Impact of Emotional Intelligence and Emotional Labor on Worker Wellbeing (Paper Panel Session)

San Bernardino

Chair: Jo Linder-Crow, PhD, California Psychological Association, Sacramento, CA

- Paper 1** The Impact of Personality, Trait Emotional Intelligence and Emotional Labour on Burnout Among Human Resource Professionals in Malaysia
- Angeli Santos, PhD, University of Nottingham Malaysia Campus, Semenyih, Selangor, Malaysia; Gwi Terk Chern, BSc

- Paper 2** “Emotionally Intelligent Labor”: A Multilevel Study About the Multifaceted Role of Emotional Intelligence in the Emotional Labor Process
- Sonja Scherer, Intermediate Diploma, Goethe-University Frankfurt, Frankfurt am Main, Hessen, Germany; Dr. Dieter Zapf; Sabine Machowski

- Paper 3** Effects of Emotional Intelligence and Ways of Coping on Work–Family Conflict: Evidence From the Hospitality Industry
- Sarlaksha Ganesh, PhD, Indian Institute of Technology (Madras), India; Mangadu P. Ganesh, PhD

Working Outside the Boundaries of Traditional Time and Place (Paper Panel Session)

San Pedro

Chair: Arturo Juarez-Garcia, PhD, Universidad Autonoma del Estado del Morales, Mexico



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