



ELSEVIER

Contents lists available at ScienceDirect

SSM - Population Health

journal homepage: www.elsevier.com/locate/ssmph

Article

Does non-standard work mean non-standard health? Exploring links between non-standard work schedules, health behavior, and well-being

Megan R. Winkler*, Susan Mason, Melissa N. Laska, Mary J. Christoph, Dianne Neumark-Sztainer

Division of Epidemiology and Community Health, School of Public Health, University of Minnesota, Minneapolis, MN, USA

ARTICLE INFO

Keywords:

United States
Work schedule tolerance
Health behavior
Mental health
Substance abuse
Obesity

ABSTRACT

The last century has seen dramatic shifts in population work circumstances, leading to an increasing normalization of non-standard work schedules (NSWSs), defined as non-daytime, irregular hours. An ever-growing body of evidence links NSWSs to a host of non-communicable chronic conditions; yet, these associations primarily concentrate on the physiologic mechanisms created by circadian disruption and insufficient sleep. While important, not all NSWSs create such chronobiologic disruption, and other aspects of working time and synchronization could be important to the relationships between work schedules and chronic disease. Leveraging survey data from Project EAT, a population-based study with health-related behavioral and psychological data from U.S. adults aged 25–36 years, this study explored the risks for a broad range of less healthful behavioral and well-being outcomes among NSWS workers compared to standard schedule workers ($n = 1402$). Variations across different NSWSs (evening, night/rotating, and irregular schedules) were also explored. Results indicated that, relative to standard schedule workers, workers with NSWSs are at increased risk for non-optimal sleep, substance use, greater recreational screen time, worse dietary practices, obesity, and depression. There was minimal evidence to support differences in relative risks across workers with different types of NSWSs. The findings provide insight into the potential links between NSWSs and chronic disease and indicate the relevancy social disruption and daily health practices may play in the production of health and well-being outcomes among working populations.

Introduction

Non-standard work schedules (NSWSs) are a pervasive phenomenon across economically-developed nations. Similar to other national estimates, 29% of the U.S. workforce is currently employed in a NSWS (Alterman, Luckhaupt, Dahlhamer, Ward, and Calvert, 2013; Eurofound, 2016), and with every U.S. industry relying on NSWSs (Alterman et al., 2013), nearly 90% of adults report working a NSWS by the age of 40 (Presser & Ward, 2011). In comparison to standard work schedules, which involve regular and predictable daytime hours (e.g., Monday-Friday 0900–1700), NSWSs consist of hours that are typically non-daytime (outside of 0600–1800), irregularly-scheduled, or both.

Over the last century, several changes have contributed to the progression and increasing normalization of NSWSs, including transformations in demography (e.g., increases in dual-earner households), technology (e.g., ability to be “on call” at all hours), globalization (e.g., global competition and corporate supply chains outsourcing production to the cheapest worldwide vendor), and legislation favoring deregulated international markets (i.e., neoliberal policies; Dixon et al., 2014;

Peckham, Baker, Camp, Kaufman, & Seixas, 2017; Presser, 2003; Schrecker & Bambra, 2015). These factors, along with other changes, such as growing expectations for 24/7 services, have rearranged the types of jobs and thus work schedules available in the U.S. (Church et al., 2011; Presser, 2003). For instance, a century ago, jobs in the goods-producing sector, including mining, construction, and manufacturing, comprised 46% of the U.S. workforce, and today only comprise 14% (Statistics & Labor, 2016). In contrast, the service sector now constitutes over 80% of U.S. jobs (Henderson, 2015) and appears more reliant on NSWSs than the goods-producing industries (Alterman et al., 2013). Moreover, the proportion of traditionally white- (e.g., Management, Sales and office) to blue-collar (e.g., Production, Transportation) occupations working a NSWS appears to have reversed, with white-collar occupations currently making-up the majority of NSWS workers (DOL, 1982; McMenamin, 2007). Such dramatic shifts, along with other supporting evidence (McMenamin, 2007; Presser, 2003), seem to suggest that the persistence of NSWSs in the U.S. is an artifact of job-constraining or industry-promoting circumstances rather than driven by workers’ personal preferences for NSWSs (Dixon et al., 2014; Schnell,

* Correspondence to: Division of Epidemiology and Community Health, School of Public Health, University of Minnesota, 1300 South 2nd Street, Minneapolis, MN 55454, USA.
E-mail address: mwinkler@umn.edu (M.R. Winkler).

Dobson, & Landsbergis, 2016).

Concurrent with these changes in work circumstances have been notable increases in non-communicable chronic diseases, and an extensive body of evidence suggests links between the timing of work schedules and a host of chronic conditions, including type 2 diabetes, coronary heart disease, and breast, prostate, and colorectal cancer (Gan et al., 2015; Rao, Yu, Bai, Zheng, & Xie, 2015; Vyas et al., 2012; Wang et al., 2013; Wang et al., 2015). Health behaviors and various psychosocial factors are important contributors to these chronic conditions. Yet, most of the health research on NSWs has concentrated on illuminating the chronobiological, physiological, and insufficient sleep mechanisms with less attention provided to other potentially relevant behavioral (e.g., dietary behavior, activity, substance use) and psychological (e.g., unmanaged stress) pathways (Antunes, Levandovski, Dantas, Caumo, & Hidalgo, 2010; Buchvold, Pallesen, Oyane & Bjorvatn, 2015; Kecklund & Axelsson, 2016; Pilcher, Lambert, & Huffcutt, 2000; Ramin et al. 2015; Vogel, Braungardt, Meyer, & Schneider, 2012). Knowing more about relationships NSWs have with a wide range of behaviors and psychological factors will advance understanding of other potential pathways linking NSWs to chronic disease.

Across the health literature, the conceptualization of NSWs has been primarily constrained to work schedules associated with circadian disruption (e.g., night and rotating shift work). However, NSWs also encompass schedules, such as regular evenings and irregularly-scheduled daytime hours, that do not necessarily create chronobiological disruption, but like all types of NSWs, do create some degree of social disruption. Work schedules that are asynchronous with the majority of society or are incongruous with the daily schedules of a worker's household, may lead to time constraints, feelings of time scarcity, routine disruption, and/or social and psychological distress (Colligan & Rosa, 1990; Costa, 2003; Kantermann, Juda, Vetter, & Roenneberg, 2010; Kecklund & Axelsson, 2016; Vogel et al., 2012). Consequently, the ability to prioritize, schedule, and allocate sufficient time for daily health behaviors may be compromised (Dixon et al., 2014; Jabs & Devine, 2006; Rangel, 2013; Schneiderman, Ironson, & Siegel, 2005). At the same time, workers with schedules that are vulnerable to both chronobiological and social disruption (e.g., night shift), likely possess worse behavioral and well-being profiles than workers with schedules only causing routine disruption (e.g., split shifts). To date, research has not fully examined differences across various types of NSWs, thus it remains unclear whether health behavior and psychological risks differ depending on the specific NSW experienced.

We conducted a secondary data analysis from Project EAT (Eating and Activity in Teens and Young Adults)—a study collecting a comprehensive range of health-related behavioral and psychological data from a U.S. based cohort of young adults (25–36 years). Based on the literature reviewed above, we hypothesized that NSW workers would have an elevated risk for a broad range of unfavorable behavioral, well-being, and weight status outcomes relative to standard (regular, daytime) schedule workers. We also hypothesized that when examining these risks across different types of NSWs, night and rotating work schedules would consistently demonstrate a worse outcome profile than other types of NSWs (evening schedules, irregular schedules).

Methods

Study design and population

Data for this study were collected in the fourth wave (2015–2016) of Project EAT, a population-based study examining multi-level factors associated with weight status, dietary intake, physical activity, weight control and other behaviors from adolescence through young adulthood. The original sample of 4746 adolescents was recruited in 1998–1999 from 31 public schools in the Minneapolis-St. Paul metropolitan area of Minnesota, United States (Neumark-Sztainer et al.,

2002a; Neumark-Sztainer et al., 2002b). Participants that completed the 2015–2016 survey include 1830 young adults, representing 66.1% of the original participants who could be contacted ($n = 2770$). The developmental age of participants provided the opportunity to examine the links between NSWs and behavioral and well-being outcomes among workers well into their working years, but prior to the development of most age-related chronic conditions.

Survey development for the 2015–2016 survey was informed by theory, surveys from prior data collection waves (Neumark-Sztainer et al., 2002b), along with input from young adults about the life experiences and circumstances, such as work, that are increasingly important in the transition to adulthood. A semi-quantitative food frequency questionnaire (FFQ) was also administered to evaluate usual past intake of various food groups and macronutrients (HSPH, 2017). Previous studies have reported on the reliability and validity of these intake estimates (Feskanich et al., 1993).

At the time of data collection, participants were 31.0 ± 1.6 years old, and 85.9% ($n = 1572$) reported currently working for pay across a range of occupational industries (e.g., retail, law enforcement, health care, manufacturing). For the current study, we limited our analysis to workers meeting the U.S. Internal Revenue Service definition of full-time employee (at least 30 hours of service per week; IRS, 2017), facilitating comparisons across workers ($n = 1402$) with a relatively similar degree of work schedule exposure. All protocols used were approved by the University of Minnesota's Institutional Review Board Human Subjects Committee.

Measures

Work schedule

Work schedule was assessed with the question: "Which of the following categories best describes the hours you work for pay?" Responses included: "Regular day shift;" "Regular evening shift;" "Regular night shift;" "Shift rotates;" "Split shift;" and "Irregular schedule or hours" (test-retest percent agreement = 92%). Matching other investigations (Alterman et al., 2013; Bae et al. 2017; Dorrian & Skinner, 2012; Presser & Ward, 2011), we operationalized NSWs as any worker that said they worked a schedule other than regular day shift and defined a standard schedule as workers selecting the regular day shift option.

To examine differences across different types of NSWs, we created a 4-level variable, including evening (workers selecting "regular evening shift"), night or rotating (workers selecting "regular night shift" or "shift rotates"), irregular (workers selecting "irregular schedule or hours" or "split shift"), and standard work schedules. Each NSW type represents variations in chronobiological disruption, predictability, and the number of daily transitions from non-work to working hours. For instance, regular night or rotating NSWs primarily represents workers with predictable schedules but at risk for chronobiological disruption, and irregular NSWs largely represents workers experiencing either unpredictable hours or multiple daily transitions from non-working to working hours.

Behavioral outcomes

Behaviors assessed on the survey included *sleep duration*, *substance use*, *physical activity*, *recreational screen time*, *food consumption patterns*, and *unhealthy weight control*. *Sleep duration* was measured with two items asking "What time do you go to bed (to go to sleep)?" and "What time do you get out of bed?" which was asked for a typical weekday and weekend day ($r = 0.61$ – 0.86 ; Pasch et al., 2010). Weekly averages were calculated and dichotomized into optimal (between 7–9 hours/day) versus less optimal (< 7 or > 9 h/day) sleep categories, as both too little and too much sleep has been associated with unfavorable health and well-being outcomes (Patel et al., 2004; Patel & Hu, 2008; Patel, Malhotra, Gottlieb, White, & Hu, 2006).

Substance use, including cigarettes and alcohol, was also assessed.

متن کامل مقاله

دریافت فوری ←

ISIArticles

مرجع مقالات تخصصی ایران

- ✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
- ✓ امکان دانلود نسخه ترجمه شده مقالات
- ✓ پذیرش سفارش ترجمه تخصصی
- ✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
- ✓ امکان دانلود رایگان ۲ صفحه اول هر مقاله
- ✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
- ✓ دانلود فوری مقاله پس از پرداخت آنلاین
- ✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات