Reciprocal Relationships between Nonstandard Work and Health in the United States

Sarah A. Burgard
Department of Sociology and Epidemiology and Population Studies Center
University of Michigan

Mary E. Corcoran
Departments of Public Policy, Political Science, Social Work, and Women's Studies
University of Michigan

Jennie E. Brand
Center for Social Epidemiology and Population Health
University of Michigan

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Corresponding Author Contact Information:
Sarah A. Burgard
University of Michigan
Department of Sociology
1225 South University
Ann Arbor, MI 48104-2590
Phone: 734.614.9538
Fax: 734.763.6887
E-mail:burgards@umich.edu

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Abstract

In the last several decades labor market opportunities have changed as employers have pursued a model of "flexible work," separating employees into a core group with stable, continuous and secure jobs, and a peripheral group employed in involuntary and at-will nonstandard jobs. Nonstandard employment has been identified as an emerging population health issue, but existing evidence for health effects is mixed. Using longitudinal data from a nationally-representative sample of U.S. adults and a sample of single mothers who received TANF in 1997, this analysis explores the characteristics of workers in nonstandard (and standard) employment and the consequences for subsequent health. Using unique data on health and economic shocks, as well as repeated measures of respondents' health over time, we also assess the degree to which health predicts employment arrangements. Finally, we distinguish between people who prefer working under nonstandard arrangements and those who would rather work under a standard contract.

INTRODUCTION

In the United States and many industrialized countries, economic restructuring in the past several decades has led to changes in the occupational opportunity structure that could have important implications for population health. Firms have increasingly "decentralized" their workforces and pursued a model of "flexible work," separating employees into a core group with stable, continuous and secure jobs, and a peripheral group employed in involuntary and at-will nonstandard jobs (Tilly 1996). Kalleberg (2000) characterizes standard work as full time, with the expectation of continued employment, and at the employer's place of business under the employer's direction. Nonstandard work then encompasses alternate employment relationships that vary on these bases, including on-call work and day labor, temporary-help agency employment, employment with contract companies, independent contracting, other self-employment, and part-time employment in otherwise "conventional" jobs (Kalleberg, Reskin, and Hudson 2000). By one measure, these categories taken together made up almost 30% of the U.S. workforce in 1995 (U.S. Bureau of Labor Statistics 1997). However, labor law, collective bargaining, and social security systems were designed on the basis of standard work; nonstandard workers are not equally protected and often do not receive fringe benefits such as health insurance and pensions. For this and other reasons, nonstandard employment has been identified as an emerging population health issue (Benach, Benavides, Platt, Diez-Roux, and Muntaner 2000; Hurrell 1998), but existing research findings are inadequate to inform health or labor policy discussions (Kalleberg 1995). Our proposed research will increase understanding of how nonstandard working arrangements may harm people, and the specific population groups at greatest risk.

Does Nonstandard Work Harm Health?

Nonstandard work may negatively impact health because it is a chronic social stressor, working through mechanisms similar to those that characterize the acute experience of a job loss. Potential pathways

include low earnings and reduced employment-related benefits (e.g., health insurance and pension benefits) resulting in financial strain (Kalleberg, Reskin, and Hudson 2000; Kessler, House, and Turner 1987), or limited access to the other potential benefits of work, including time structure, social contacts, social purpose, status and activity (Jahoda 1982). The working conditions experienced by nonstandard workers may also differ from those of standard workers (Aronsson 2001; Kalleberg, Rasell, Cassirer, Reskin, Hudson, Webster, Applebaum, and Spalter-Roth 1997); for example, perceived control over the way work is done may be lower for nonstandard workers, or feelings of satisfaction with the job may be lower (Benach, Gimeno, Benavides, Martinez, and Torne 2004a; Kahn and Morrow 1991). There may also be psychological strain associated with heightened feelings of job insecurity, one of the main mechanisms to have been investigated (Benach, Amable, Muntaner, and Benavides 2002; Sverke, Gallagher, and Hellgren 2000; Virtanen, Vaherta, Kivimaki, Pentti, and Ferrie 2002). Aside from the impact of working arrangements themselves, people working under nonstandard arrangements may have poorer health because they differ from standard workers on set of characteristics and resources than predict health, independently of working arrangements. For example, women, racial/ethnic minority group members, and people of low socioeconomic position have traditionally been more likely to work under nonstandard arrangements (Hipple 2001), and these groups often report poorer health than white men and people of higher social standing.

The empirical evidence linking nonstandard work and health is extremely limited, and the results are mixed; some studies show a negative impact of nonstandard work on physical (Benach, Gimeno, Benavides, Martinez, and Torne 2004b; Friedland and Price 2003; Hertzog, House, and Morgan 1991) and mental health (Beiser, Johnson, and Turner 1993; Dooley and Prause 2004). Others find that individuals in nonstandard contracts are as healthy or healthier than their peers who work under standard arrangements (Bardasi and Francesconi 2004; Virtanen, Kivimaki, Elovainio, Vaherta, and Ferrie 2003).

These mixed results could result from the variety of circumstances under which people accept and perform nonstandard work. Some people are compelled to take nonstandard for lack of other opportunities, due to deficiencies in the qualifications employers demand, such as education; for these individuals we would expect the negative health consequences of nonstandard work to be greatest. Furthermore, people in poorer health to begin with may be more likely to be hired for a nonstandard position than a standard job (Schur 2003), and their health outcomes will be poorer because of earlier health deficits, not working arrangements. However, there is some evidence that for young families, people nearing or past the legal retirement age (Christensen 1990; Wenger and Appelbaum 2004), and people with disabilities (Schur 2003), alternative working arrangements may be preferable and could result in better health outcomes than standard working arrangements. The health impacts of nonstandard work may be mediated by several key factors: the availability of alternate sources of economic resources, nonpecuniary resources such as social support (e.g., from a spouse), and the abovementioned preference for nonstandard working arrangements.

The difficulty in prior research on the relationship between nonstandard work and health has been in disentangling these potential mechanisms and mediators. The proposed work represents an advance because we have access to extensive information on the sociodemographic characteristics of workers in nonstandard (and standard) employment, their access to resources to cope with their more marginalized status, and their substantive working conditions. Using unique data on health and economic shocks, as well as repeated measures of respondents' health over time, we can do a better job of assessing the degree to which health predicts employment arrangements. Finally and importantly, we can distinguish between people who prefer working under nonstandard arrangements and those who would rather work under a standard contract, providing a relatively unique contribution to the literature.

We focus on part-time employment in an otherwise "conventional" job, part-year, temporary, or seasonal work, and self-employment as they compare with standard employment.

RESEACH DESIGN

Data

The American's Changing Lives study (ACL) is a longitudinal cohort comprised of a stratified, multi-stage area probability sample of non-institutionalized adults 25 years and older, with oversampling of adults 60 and older and of African Americans. Weights have been designed to make the ACL respondents representative of the non-institutionalized population in the contiguous United States in 1986. In the baseline survey in 1986, face-to-face interviews were conducted with 3,617 men and women (representing 70% of sampled households and 68% of sampled individuals), and these individuals were followed up with subsequent waves of data collection in 1989, 1994 and 2001/2 with a response rate among survivors of about 78% at the last wave. The ACL was designed to collect longitudinal information about the independent and combined effects of a wide range of psychosocial risk factors on health and on social disparities in health. Further information about the longitudinal study design for the ACL can be found elsewhere (House, Kessler, Herzog, Mero, Kinney, and Breslow 1990; House, Lepkowski, Kinney, Mero, Kessler, and Herzog 1994). The Women's Employment Survey (WES) is a five wave, representative sample selected with equal probability from African American and white single mothers with children who received TANF in an urban Michigan county in February 1997. Face-to-face interviews were conducted in the fall of 1997, 1998, 1999, 2001 and 2003 with a response rate of 86% for wave 1 (N=753) and response rates of between 86 and 93% over all waves. The WES has comprehensive information based on well-validated measures of health problems, mental health, and women's employment over a period of about 79 months. Unlike previous studies, WES examines health problems over multiple years and in the context of a broad array of other contextual factors that co-occur

at high rates among welfare recipients and could influence work arrangements. By combining these data sources, we can: (a) examine the way nonstandard work and health are associated across the socioeconomic spectrum (ACL), as well as focusing on the lower, more vulnerable end (WES), (b) assess these relationships in a nationally-representative sample of men and women (ACL), as well as a locally-concentrated sample of women facing similar local labor market conditions and government benefits policies, and (c) employ extensive controls for partnership status, substantive working conditions, and receipt of different coverage and benefits (SSI and social security, welfare/food stamps, unemployment/disability, health insurance coverage, pension plan) as these change over time.

Methods

To examine the reciprocal causal relationships between working arrangements and health, we will exploit two aspects of the available data: repeated measures of health and working arrangements, and information about economic and health "shocks." At each wave of the surveys, respondents were asked an extensive set of questions about their current health, yielding measures of self-rated overall health, functional status, number of chronic conditions, depressive symptoms, BMI, and mortality (ACL only). Respondents were asked at each wave about employment arrangements, and about job losses or employment separations in the past few years. Workers were also asked about their preference for "more work," which can be used to distinguish people who are involuntarily part-time, part-year or temporary employees from those who prefer their arrangements. Using these data it is possible to assess the impact of nonstandard working arrangements in a given year on health status at a later year, while adjusting for the individual's health, sociodemographic and work characteristics at the earlier year. In addition, we can examine the likelihood of accepting nonstandard working arrangements in a given year as a function of working arrangements, sociodemographic and health characteristics measured in an earlier year.

In the ACL survey, respondents were also asked at each wave about the occurrence and timing of serious or life-threatening health events, involuntary job losses and serious financial problems in the past several years. Using these data it will be possible to identify persons who experienced health "shocks" that could explain declines in their health that might otherwise be attributed to their working arrangements. Considering individuals who experienced health shocks separately will provide a stronger control for health selection than is available in many studies. We can also identify individuals who responded to a serious financial problem by entering work; people who are compelled to enter the workforce under economic duress (or after a job loss) may take different kinds of work or suffer greater health consequences than others, or they may be more likely to already suffer from health problems themselves. We will also explore ways to incorporate measures of the accumulation of deficits in health-promoting working circumstances over time, by taking account of trajectories of nonstandard work experience in both the ACL and WES. We will create "stacked" person-period data files to make full use of the available data, and use Generalized Estimating Equations (GEE), and fixed and random-effects models to take account of within-subject correlation and to address issues of sample attrition.

PRELIMINARY RESULTS

An earlier study (Friedland and Price 2003) using the first two waves of the ACL tested for negative health effects of underemployment using categories drawn from the Labor Utilization Framework (Clogg 1979). Using the LUF categories and controlling for baseline health, people who experienced 'income underemployment' had subsequent worsened functional status and increased depression, compared to those in standard work. People who were involuntarily working part-time did not show physical or mental health differences compared with the adequately employed, once baseline health was controlled. However, preliminary work using all four waves of the ACL data suggests that nonstandard work is linked to poorer health outcomes (Table 1) and that people in poorer health may be more likely

to enter nonstandard work (Table 2), though there are important variations depending on preferences for type of work arrangements. People voluntarily working part-time or part-year (at t=1) do not have poorer health outcomes (at t=2) than those in standard work, while those who are *involuntarily* working part-time or part-year have significantly worse self-rated health (1 = excellent, 5 = poor), more psychological distress symptoms, and worse functional status (1= most severe, 4 = no impairment). Self-employed people, by contrast, have significantly better self-rated health than standard employees. These findings are generally robust to the inclusion of sociodemographic characteristics (M2), substantive work characteristics (M3), Time t=1 health (M4), and a health shock between t=1 and t=2 (M5).

Table 1. Estimated Difference in Health at Time t=2 Associated with Nonstandard Work at Time t=1 (compared with Standard Work), ACL men and women, GEE linear regression models of Self-rated Health, Psychological Distress, and Functional Status.

	SRH			Psychological Distress			Functional Status		
	Vol. PT-PY	Inv. PT-PY	Self-Empl.	Vol. PT-PY	Inv. PT-PY	Self-Empl.	Vol. PT-PY	Inv. PT-PY	Self-Empl.
M1. Basic relationship	0.015	0.211**	-0.123*	-0.014	0.360***	-0.067	-0.029	-0.119*	-0.052†
M2. M1+ Age, Sex, Race	-0.014	0.201**	-0.142*	-0.022	0.334***	-0.024	0.010	-0.110*	-0.028
M3: M2+ Substantive Work Characteristics	-0.011	0.202**	-0.121*	-0.016	0.336***	0.006	0.010	-0.111*	-0.031
M4: M2+ Time 1 Health	-0.010	0.097	-0.091*	0.009	0.202**	0.028	0.015	-0.091*	-0.031
M5: M4+ Health Shock	0.001	0.072	-0.085*	0.014	0.194**	0.033	0.008	-0.073†	-0.028

Notes: Based on author's calculations using ACL data. *** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, † $p < 0.10$. Model 3 substantive work characteristics include job satisfaction and enjoyment of job.

ACL respondents with relatively poor self-rated health, high psychological distress, and poor functional status are significantly more likely to be doing involuntary part-time or part-year work at t=2. People with poor functional status are also significantly more likely to be working part-time or part-year voluntarily. By contrast, self-employment is significantly less common among people with poor self-rated health or high psychological distress.

Table 2. Estimated Likelihood of Doing Nonstandard Work at Time t=2 as Predicted by Health at Time t=1.

M1: Basic relationship	Voluntary Part-time or Part-year	Involuntary Part-time or Part-year	Self-Employment
Self-rated health	0.056	0.302**	-0.134
CES-D	-0.049	0.305	-0.232*
Functional Status	-0.526**	-0.461*	-0.105
M2: M1+ Age, Sex, Race			
Self-rated health	0.003	0.279*	-0.167†
CES-D	-0.066	0.295**	-0.166†
Functional Status	-0.378*	-0.405*	0.066

Notes: Based on author's calculations using ACL data. *** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, † $p < 0.10$.

Previous analysis of WES data have shown that women who report physical or mental health problems at multiple interviews work fewer months (Corcoran, Danziger, and Tolman 2004). Rates of health problems in this population are high overall, and with the exception of depression, worsen over time as women adjust to new work requirements after welfare reforms. In our proposed work, we will examine the relationship between health at baseline, health changes over time, and the characteristics of work obtained by women in the WES sample, as detailed in our specific aims. While the preliminary results from ACL and WES look promising, the proposed project will evaluate and greatly expand on the early findings we present here.

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