The Role of Employment Relations in Reducing Health Inequalities

UNEMPLOYMENT, INFORMAL WORK, PRECARIOUS EMPLOYMENT, CHILD LABOR, SLAVERY, AND HEALTH INEQUALITIES: PATHWAYS AND MECHANISMS

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The study explores the pathways and mechanisms of the relation between employment conditions and health inequalities. A significant amount of published research has proved that workers in several risky types of labor—precarious employment, unemployment, informal labor, child and bonded labor—are exposed to behavioral, psychosocial, and physio-pathological pathways leading to physical and mental health problems. Other pathways, linking employment to health inequalities, are closely connected to hazardous working conditions (material and social deprivation, lack of social protection, and job insecurity), excessive demands, and unattainable work effort, with little power and few rewards (in salaries, fringe benefits, or job stability). Differences across countries in the social contexts and types of jobs result in varying pathways, but the general conceptual model suggests that formal and informal power relations between employees and employers can determine health conditions. In addition, welfare state regimes (unionization and employment protection) can increase or decrease the risk of mortality, morbidity, and occupational injury. In a multilevel context, however, these micro- and macro-level pathways have yet to be fully studied, especially in middle- and low-income countries. The authors recommend some future areas of study on the pathways leading to employment-related health inequalities, using worldwide standard definitions of the different forms of labor, authentic data, and a theoretical framework.

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In this article we explore the pathways linking employment conditions to social health inequalities. "Employment conditions" concern the organization of employment in terms of contract (or absence of contract), rewards, and other mutual expectations between workers and employers. Together with "working conditions," which include the general physical and psychosocial conditions of work, these are the main determinants of an individual's work experience—and, as such, are strong determinants of health. Where working conditions have regularly been incorporated into models explaining social health inequalities, the impact of employment conditions has remained largely unaddressed. Nonetheless, employment conditions have become increasingly important as health determinants. As a consequence of socioeconomic changes and the rise of neoliberal policies, the notion of a standard employment contract, characterized by full-time permanent employment, providing regular pay for work performed in a fixed organization during daytime hours, has started to erode (1). The latter constitutes an "ideal type" of regular employment in 20th-century Western countries, from which the "nonstandard employment conditions" now increasingly common in high-income countries, as well as most of the employment conditions in the rest of the world, deviate to varying degrees.

One of the reasons for the limited attention to employment conditions as social determinants of health may be the lack of clarity on how nonstandard employment conditions can be qualified conceptually, especially because different types of employment incorporate considerable internal variation. A promising solution is to assess the health impact of different specific forms of employment according to their more generic characteristics of precariousness (2). Using the ideal-type features of the standard employment contract as a reference, Amable (3) described six dimensions of precariousness: (*a*) employment instability, (*b*) the potential for workers' empowerment, (*c*) the extent of vulnerability to management discipline, (*d*) the sustainability of wages, (*e*) the entitlement to workers' rights, and (*f*) the capacity to exercise these rights. Such an approach avoids the risk of largely unproductive analyses of specific categories of employment.

As yet, very little evidence that uses a generic concept of employment precariousness is available; therefore, in this article, we use the concept as a general guideline when discussing the pathways to health inequalities of more specific employment conditions. In relating specific types of employment conditions to the health of workers, both somewhat generic and specific social, psychological, and biological pathways are at work. We present, first, a general framework linking employment conditions to health inequalities, then discuss more specific pathways for nonstandard (formal) forms of employment, informal employment, forced employment, and child labor. Each of these types incorporates one or more dimensions of employment precariousness. In this way, a realistic perspective on current knowledge is adopted (see the article on study methods by Benach et al. in this special section of the Journal, p. 209), explicitly aimed—in an attempt to overcome the "Western bias" in much social epidemiological research—at

including employment conditions that might be more important in low- and middle-income countries. We end the article with an overview of some remaining gaps in knowledge and suggestions for further study.

A GENERAL CONCEPTUAL FRAMEWORK

Both employment conditions and working conditions are largely determined by the prevailing employment relations. "Employment relations" refer to the mutual relations between employees and employers, inter-individual and collective, as well as formal and informal. These, in turn, are clearly related to the "distribution of power" between the actors involved, both in specific situations and at the macro and meso levels (national, regional, or supranational) of society, economic sectors, and organizations. The higher-level (macro-level) determinants are explained at length by Muntaner et al. earlier in this special section (p. 215), and these are indispensable for fully comprehending how employment conditions affect health inequalities.

The macro framework situates employment relations in their larger institutional context, where they are determined by social institutions and social relations that ultimately respond to the place of countries and activities in a global division of production and its underlying historical determinants. Power relations between relevant organized actors (unions, corporate groups, nongovernmental organizations, etc.) have a broad influence over the "architecture" of the labor market and welfare state, which are important and closely related institutions in determining the nature of employment (and the consequences of non-employment) (4). It is precisely this macro-level balance of power that is the force behind largely interrelated socioeconomic transformations, such as a reduction of social safety nets, job losses in the public sector, the growth of precarious employment, a weakening of regulatory protections, and so forth, throughout the world (see Muntaner et al., p. 215). When moving to the micro level, the multidimensional concept of employment precariousness allows us to qualify specific employment situations with reference to the ideal type of standard full-time employment. At this point, power differentials attached to "structural social positions" such as gender, race/ethnicity, social class, or immigrant status enter into the equation. As is shown in the article on employment conditions by Benach et al. (p. 269), different precarious and nonstandard employment situations not only are unequally distributed across the global system of production, but also are distributed to the disadvantage of women, ethnic minorities, and lower-skilled or subordinate workers. Social epidemiology has largely neglected these structural social determinants of health inequalities (5). Therefore, an important goal of our study is to show the socio-structural links between employment conditions and health inequalities, both directly and through working conditions.

The association between unequally distributed employment conditions and health generally follows behavioral, psychosocial, and physio-pathological

pathways (see Benach et al.'s article on the micro-level model, p. 223). These relationships with health outcomes can be direct—for example, as a consequence of psychological stress caused by unemployment or of injuries caused by forced employment. But employment conditions also affect health in indirect ways. A first important indirect pathway runs through the distribution of adverse working conditions, as it is shown that nonstandard forms of employment often entail more adverse physical and psychosocial working conditions (6). The same cross-cutting social positions (class, gender, race/ethnicity, etc.) underlie both adverse employment conditions and adverse working conditions, which, as a result, construct an additive pathway toward work-related health inequalities (see Benach et al. p. 209). Furthermore, the conditions of employment also interact with factors outside the immediate context of work. Precarious and other nonstandard employment conditions are associated with material consequences (insufficient or uncertain income) and access to health care and other social benefits.

Having described these general pathways, we need to clarify that in each specific situation, both general and more specific mechanisms are at play. For example, general psychosocial pathways, linking negatively perceived social experiences to health via psychosocial coping reactions, may be related to different employment conditions, such as unemployment, uncertain employment as a consequence of temporary or informal work, and so on. On the other hand, very specific pathways are running through developmental disorders related to child labor. After briefly outlining empirical material illustrating the close link between health inequalities, employment conditions, and broader (labor-)institutional characteristics at the level of nation-states, we outline specific pathways for types of employment conditions in more detail.

MACRO-SOCIOLOGICAL EMPLOYMENT RELATIONS (AND MACRO-LEVEL HEALTH INEQUALITIES)

Labor market indicators at the national level have been incorporated in just a small number of recent population health studies (7–10). Particularly interesting in the European context is the association between indicators of union strength—which largely overlap with typologies of welfare state regimes (4)—and national-level health outcomes (9). Our own analyses show that among high-income countries, three clusters exist, based on their unionization rate and their level of employment protection legislation. The clusters largely correspond with Esping-Andersen's welfare state regime types, with social democratic countries showing higher unionization rates and employment protection than corporatist and liberal countries—and liberal countries showing lower employment protection. Although labor institution indicators are largely unavailable here, the low- and medium-income countries can be ordered into six clusters based on the extent of labor market inequality, defined on the basis of, among other factors,

the amount of child and slave labor, poverty wages, and underemployment, and the size of the informal labor market. The amount of labor market inequality in low- and medium-income countries correlates significantly with various outcomes of mortality, healthy-life expectancy, and injury rates; among the high-income countries, the liberal cluster has the worst indicators.

These findings provide some macro-social evidence for the extent of labor market inequality as a proxy for understanding the population health impact of employment relations at the macro level—an association already suggested by, among others, Rose (11), Susser (12), and Schwartz (13). In addition, this illustrates the close link between employment relations and welfare state redistribution policies—they are related to workers' health via social compensation systems, as well as by the conditions of work and employment.

PATHWAYS LINKING SPECIFIC EMPLOYMENT CONDITIONS TO HEALTH INEQUALITIES

Precarious and Nonstandard Employment

The standard employment contract can be considered as a reference against which to compare nonstandard employment conditions. However, these standard employment arrangements also vary in their level of physical and psychosocial hazards (14, 15), job insecurity (16), managerial pressure (17), and social protection and, as a result, can also be precarious to a certain extent. Nevertheless, the adverse health effects of precarious jobs have been shown to run through both the risks inherent to the employment situation (material or social deprivation, lack of protection, etc.) and hazardous working conditions (2).

Compared with standard employment, temporary jobs, on average, yield fewer material rewards and benefits such as paid vacations, sick leave, unemployment insurance, access to training, and/or knowledge about work-related hazards (18). All these adverse characteristics may have direct effects on health, or indirect effects via psychological and behavioral coping mechanisms (19). Also, the experience of (chronic) job insecurity is related to psychosocial stress reactions leading to poorer physical and mental health outcomes (16, 20). The impact of job insecurity on mental well-being is also described in the context of currently industrializing countries. In addition, downsizing—an objective condition underlying job insecurity—is related to long periods of sick leave (21), self-reported health problems (22), and other physical and mental health outcomes (23, 24). Nonstandard or unstable jobs and the possible consequences of job insecurity are more concentrated among workers in lower-grade occupations, women, ethnic minorities, and immigrants (25–27). Furthermore, there is evidence that the effects of uncertain employment may be higher among those with poor labor market chances.

In general, precarious jobs are associated with more hazardous working conditions (6) and have less involvement with such bodies as health and safety committees (28). These facts are reflected in higher risks of occupational injury for temporary employees than for permanent employees (29, 30). Moreover, workers in precarious employment may face greater demands or have lower control over the work process, leading to higher levels of stress, higher levels of dissatisfaction, and more adverse health outcomes (31–34). In fact, the common concept of "control" is much broader under precarious employment conditions, because it also attaches to uncertainty of expectations regarding future work, income, benefits, or schedules. Individuals engaged in precarious work are working under different power relations than those in standard jobs.

Self-employment status implies self-responsibility for safety precautions, which in the context of manual jobs can result in lower compliance and higher risk of occupational injuries and diseases: in the United States, the injury rate among the self-employed is double the national average.

Unemployment

Situations of precarious employment and unemployment share several characteristics. In fact, conceptually, unemployment can be considered as the most extreme stage of job instability, which is one of the important dimensions underlying employment precariousness (see Benach et al., p. 269). The health consequences of unemployment, for both men and women, are well known. Available research supports the hypothesis that the strongest causal direction goes from exposure to unemployment to health effects (35–38). Theoretically, several causal explanations for the health effects of unemployment have been proposed.

The economic deprivation model stresses the deteriorated economic position of the unemployed person, which in turn undermines the prerequisites for good health (39). This pathway most likely involves the strongest effects for those without unemployment benefits or the financially worst off (40). As a consequence, this pathway may be stronger in countries with less-developed social security systems.

According to the stress theory (41), unemployment and employment uncertainty are stressors that lead to physiological changes, including impairments of the immune system and risky health-related behaviors (42). The social support model is closely connected to the stress model and suggests that unemployment leads to increased social isolation, resulting in both direct and indirect health effects (14, 43). The model of latent function (44) stresses the role of several implicit functions that are normally provided by employment: time structure, regularly shared experiences and contacts, status and identity, opportunities for collective goal-attainment, and so forth.

Informal Employment

Relations between informal employment conditions and work-related health outcomes are seldom studied. Overall, occupational data for the informal economy are scarce and, where available, are of poor quality. The causes are the difficulty in collecting official statistics on workers in the informal economy, the scattered spatial distribution of informal-employment shops and workers, and the uniqueness of the workplaces, as well as the concentration in low- and medium-income countries. Other methodological problems are the lack of an accepted standard definition of informal employment, the internal heterogeneity of activities and employment conditions covered by the concept of informal employment, and its strong association with poverty, which makes it difficult to disentangle the specific effects of each. Current research largely comprises qualitative descriptive case studies (45, 46) and community-based surveys that compare informally with formally hired workers (47–50). Despite the internal variation and methodological shortcomings, the available evidence consistently shows less favorable health indicators for informal workers (51). Macro-level analyses have shown a strong positive association between a country's proportion of informal jobs and its statistics on years of life lost and disability-adjusted life years (DALYs).

Mental distress caused by employment insecurity probably constitutes an important pathway to adverse health effects. Informal employment relations have a high probability of being strongly imbalanced (52) in terms of effort spent by workers and their reward in terms of salaries, recognition, and job stability. Situations of effort-reward-imbalance may be exacerbated in contexts where workers lack any enforceable rights. This pathway is supported by studies comparing minor mental disorders among workers in informal and formal employment (48, 53, 54). Other pathways to adverse health outcomes are exposure to violence and/or sexual abuse. Apart from their physical consequences, these hazards also operate as psychosocial stressors (55, 56). The same holds for discrimination (55, 57, 58). Furthermore, more adverse physical and psychosocial working conditions generally are expected in informal employment. A good example is provided by the work pressure put on informally employed female weavers in Thailand (46).

Forced Labor and Child Labor

Even after the legal abolition of slavery, it still persists to some extent—with important health consequences. The links between forms of forced labor and health are very complex and challenging, due to the clandestine nature of these types of labor and the pervasive denial of their existence by authorities. This kind of work environment directly determines the health of forced laborers because of the physical and mental trauma produced by coercive action, including restriction of movement, physical force, violence, and constant fear. A specific category

is undocumented workers who are victims of forced labor, whose fear of detection and deportation can leave them reluctant to access health and social services when needed. Moreover, with this particularly exploitative employee-employer relationship, other factors such as malnutrition, lack of food security, hazardous working conditions, social isolation, and lack of access to health care, compensation, and rehabilitation often arise (59, 60).

A specific employment condition in this category is child labor. Apart from the child's possibly being forced to work, health problems are, inherently, among the most important adverse effects of child labor. These effects vary in nature, ranging from "adult" occupation-related diseases and injuries to specific hazards such as children's increased vulnerability to biological or toxic agents, ergonomic risks resulting from inadequate equipment, and impairment of physical, mental, and social development (see Benach et al., p. 269). A number of studies show associations of child labor with issues of future development (59, 61, 62) and later health outcomes (63, 64). However, the long-term physiological repercussions are underestimated because they generally do not appear in current statistics on child labor and, later in life, health care professionals seldom make the link between an individual's health condition and former child labor (65, 66).

For child labor, the quality of the current evidence, as well as the difficulty in disentangling child labor from related phenomena associated with poverty, remains a challenge for epidemiologists. Direct pathways to health effects are, first of all, related to the nature of the activities performed by some children, such as warfare, prostitution, or drug trafficking (67). These are not marginal phenomena. For example, child prostitution is estimated to affect 10 million individuals worldwide and is found across the globe—and most frequently in Asia (68). Child prostitution is not just a clear form of mental and physical abuse, it is also related to drug addiction, sexually transmitted diseases, and undesired pregnancy, among other factors (59). Apart from the direct effects of very specific employment conditions, the working conditions of child laborers—given a child's limited capacities—can be very demanding. Extreme workloads may lead to various disorders resulting from children's lesser bone elasticity, strength, and capacity to support heavy workloads (69, 70). A lot of child laborers (69%) are employed in agriculture, which is one of the most hazardous employment sectors; hazards include exposure to pesticides, extreme weather conditions, repetitive work, and hazardous equipment (59, 67), all leading to a number of immediate and long-term health consequences (59, 70–72). In urban areas, child labor prevails in the informal economy, such as home-based production, street selling, recycling, childcare and domestic work, and various low-skilled activities, all of which are known for their poor working conditions (59, 67, 72).

Apart from its direct effects, child labor can also indirectly determine health inequities at the population level, as it constitutes a major cause of illiteracy, low education, and poorly trained, low-skilled workers. Thus, societies that have a lot of child laborers are further penalized in terms of human capital, an important

determinant of productivity and wealth. Moreover, parental educational levels are important determinants of children's health status and later socioeconomic position (59, 63), and thus child labor constitutes a chain of disadvantage over generations for entire societies.

DISCUSSION

Many employment- and work-related health inequalities are socially "invisible" or neglected. Comparisons across countries are difficult, given the diversity of forms of employment and working conditions and the ensuing barriers to reaching worldwide, standardized definitions. Empirical evidence on the impact of employment relations on health inequalities is particularly scarce for low-income countries, small firms, and rural settings.

International and national health information systems lack data on employment relations and health inequalities, a problem that is particularly acute for low- and middle-income countries. Two examples are the lack of comparable data on informal employment and on the health-related consequences of forced labor. Governments and health agencies should therefore establish adequate surveillance information systems and research programs to gather public health data associated with employment conditions, and all forms of precarious employment and work, giving attention to the singularities of each context.

There is a lack of theoretical and empirical research on the mechanisms and explanations linking employment conditions to poor health outcomes. More longitudinal empirical research and reviews are needed on issues such as the mediating mechanisms between employment dimensions, their interrelation, and several health outcomes. Studies of employment dimensions should stratify data by social class, gender, age, race/ethnicity, and immigration/migration status. There is also a need to investigate externalities and spillover effects on the health of other workers, families and children, and the community. The use of mixed methods, integrating quantitative, qualitative, and historical research, could contribute to a better understanding of the pathways, mechanisms, and explanations linking employment dimensions and health inequalities.

Another important area in need of further research is the evaluation of employment policies and other employment interventions to reduce health inequalities. There is a need to develop better explanatory models, both for guiding and for evaluating public health interventions.

Some of the main research gaps in employment dimensions studied in this article, and in other articles in this special section, can be summarized as follows.

1. *Full-time permanent employment*. Multiple dimensions of full-time permanent employment need to be captured in different social contexts and for different types of workers—that is, causal linkages between social, political, and economic contexts, and traditional physical and psychosocial workplace

conditions. Likewise, it is necessary to evaluate policies and employment interventions at various levels (labor market, organizational).

2. *Unemployment*. Research should focus on: mediating mechanisms between unemployment and physical health, health behaviors, and mental health; differentiating between the reasons for job loss, to enhance the characterization of mechanisms; conducting more studies with an ecological perspective on the impact of levels of (and changes in) unemployment on the health of the entire workforce and the entire population; investigating interrelations between increased unemployment and parallel changes in precarious and informal employment, as well as loss of workers' rights and power; and investigating the impact of unemployment on health inequalities in middle- and low-income countries. Differences in the effects of unemployment related to receipt of benefits should also be taken into account in future research. Health impact assessments of actual or potential unemployment policies should be carried out and delivered to policymakers.

3. *Precarious employment*. There is an urgent need to: identify general dimensions that can capture multiple situations of precariousness in different social contexts and for different types of jobs and workers, moving beyond the use of partial indicators such as temporary status and perceived insecurity; generate data of higher quality with more refined health information systems, especially in middle- and low-income countries; and come up with more potent theories of precariousness. Also lacking are theoretical frameworks showing the links and pathways between the political and economic contexts, the generation of precarious employment, and poor health outcomes. The main psychosocial models may not be able to capture distal structural social factors related to inequalities in power, class relations, and work organization. There is also a need for: epidemiological designs that integrate several levels of individual and contextual variables at the national and regional level; studies that integrate quantitative and qualitative data; studies on the differential impact of unemployment/precariousness according to class, gender, age, race/ethnicity, and immigration/migration status, and its mechanisms (linked, for instance, to the economic safety net); and evaluations of policy interventions at various levels. Research should be mainly focused on preventing precarious employment.

4. *Informal employment*. Lacking here are clear definitions, reliable estimations of prevalence, and empirical evidence on the impact of informal employment on health and health inequalities, particularly in rural settings and poor countries. Heterogeneity in informal employment should be taken into account, as it relates to a diversity of social and health hazards. The close links with other social and occupational factors need to be more carefully considered, particularly their role as confounders or intermediary variables, in the analyses, because they may represent part of the construct of informality in labor market placement rather than an extraneous artifact in the causal pathways. Qualitative studies or participatory research may help clarify some remaining issues. Policies on

informal employment should be evaluated, taking into account the broader spectrum of employment relations and health consequences. Cooperative models of organization and production management based on solidarity need to be developed, and their impact evaluated in relation to individual bank loans.

5. *Child labor*. Despite the concentration of child labor in developing and poor countries, the phenomenon in developed countries should be studied as well, with specific attention to at-risk population groups such as immigrants. The lasting effects of child labor on health inequities are insufficiently studied. There is a need to develop specific criteria to assess to what degree children's health is damaged by work, because most of the measures are currently based on adult standards. In poor countries, there is a massive gap in data regarding work-related injuries among children. Health care professionals must be trained to help produce better statistics on the links between child labor and health.

6. *Slavery and bonded labor*. Knowledge on forced labor and health dimensions is still very limited, due to the secrecy, inadequate understanding, and lack of proactive roles of concerned authorities in this area. Studies on slavery and bonded labor have mainly given a qualitative picture of disease patterns and the role of social determinants. There is little understanding, however, of the demand pattern for forced labor in different sectors, and hence it is necessary to construct detailed spatial and temporal analyses of existing and emerging regions of economic growth and movement of the child labor force. Studies should also focus on the chances of survival of victims that become old and physically disabled. More institutionalized research and outreach activities for case detection and management involving medical professionals, social workers, and cooperating employer organizations are also needed. More attention should be paid to the economic and political dimensions that promote and sustain bonded and slave labor, and its health consequences, and to identifying the precise health and medical consequences of forced labor: the nature of the maladies and their duration, the best practices to identify and administer services to survivors, and the level of recovery to be expected following treatment. This information should be used to develop screening protocols to help health care professionals identify preexisting or potential health problems.

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