The Links Between Labour-Market Experiences and Health:
Towards a Research Framework

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ABSTRACT

Policy challenges that involve the nature and distribution of labour-market experiences and research agendas related to the health consequences of these experiences have not evolved in tandem. Moreover, new policy challenges have not stimulated new research agendas. I developed a research framework with which to conceptualize and plan research on the health consequences of labour-market experiences. The first half of the framework comprises a typology of labour-market experiences: twelve experiences related to the availability of work (discouraged worker, unemployed, underemployed, fully employed, fear of unemployment, and overemployed/overworked, each considered across a two-category time dimension) and fourteen experiences related to the nature of work (grouped by job characteristics, job position within the firm, and organizational characteristics of the firm, each considered at a point in time or as a change over time). The second half of the framework comprises the range of possible health and economic consequences of these experiences. Using the framework I identified the most serious gaps in the research literature: limited attention to interactions between experiences related to the availability of work and those related to the nature of work and to interactions between labour-market experiences and the context for these experiences; limited or no attention to some increasingly prevalent experiences like involuntary part-time employment or self-employment; and no simultaneous measurement of health and economic outcomes. A more relevant and focused research agenda in this area could help to improve employers’ and governments’ ability to articulate the trade-offs that are otherwise implicit in their policies with multiple consequences.
INTRODUCTION

Policy challenges that involve the nature and distribution of labour-market experiences and research agendas related to the health consequences of these experiences have not evolved in tandem. Moreover, new policy challenges have not stimulated new research agendas. The old challenges for those who could influence labour-market experiences -- employers and governments -- involved choosing between a small number of hiring and employment policies that affected a particular category of labour-market experiences, most notably unemployment and the characteristics of a job, or choosing between a small number of public policies that affected hiring and employment decisions or the labour-market experiences that result from these decisions. The new challenges involve choosing between many different policies that affect labour-market experiences, each of which has a unique combination of consequences. Health researchers, on the other hand, have tended to concentrate on one particular category of labour-market experiences (eg. unemployment or job characteristics) and to study that experience and its health consequences in isolation from other labour-market experiences and other (non-health) consequences. A new research agenda could improve employers' and governments' ability to articulate the trade-offs that are otherwise implicit in their policies with multiple consequences and (if they choose) develop different policies or better respond to their health consequences. To this end, I developed a research framework with which to conceptualize and plan research on the health consequences of labour-market experiences.

I present the context for the development of a framework, the framework, and an application of the framework in four parts. First, I provide an overview of policy challenges and research agendas that involve labour-market experiences. This overview provides the context for the framework's development. Second, I develop a typology of labour-market experiences. Third, I describe the range of possible health and economic consequences of these experiences. Labour-market experiences and their consequences comprise the two components of the research framework. Fourth, I use the framework to identify important gaps in the research literature. A more relevant and focused research agenda would help to articulate the health consequences of labour-market experiences -- a largely ignored component of the trade-offs implicit in the decisions made by employers and governments when they develop policies that influence these experiences -- and the economic consequences with these health consequences compete.
The Context for a Framework: 
Policy Challenges and Research Agendas

From an employer's perspective, the forces of globalization, trade competition, and rapid technological innovation have necessitated a number of adaptations, including changes in its demand for labour and in its employment strategies. For example, in the search for competitive advantage, some employers have adopted “flexible staffing”: hiring part-time workers provides versatility while avoiding costly benefit packages; keeping a core of long term employees and hiring full-time workers for short-term jobs creates a mixture of continuity and dynamism; and moving away from job or employment security and towards contingent employment facilitates adjustment to market shifts. But not only hiring practices have been affected by the search for competitive advantage; the nature of the tasks that are required and the organizational options available to support the completion of these tasks have also changed. Increasing the task-related demands on experienced workers can increase productivity, for example, and contracting with self-employed workers working off-site can mean lower overhead, wage, and benefit costs.

From a worker's perspective, changes in the availability of work has translated into changes in labour-market experiences. The experience of unemployment or living in fear of unemployment, for example, now affects many people, and people from a broader range of backgrounds than previously. As a commentary on how non-cyclical unemployment has touched one historically privileged group -- highly educated, white men -- G.J. Meyer (1995) struck a chord with his nonfiction essay, “Dancing with headhunters: Scenes from a downsized life”. Although concerns remain about the potential for cyclical unemployment associated with recessions, new concerns have arisen about the possibility that some types of jobs have been or will be lost permanently. Many skills that were once enough to get a decent job no longer match the jobs that are available. Even those with jobs now face uncertain futures: for many, job security has become an oxymoron.

Changes in the nature of work, that is in the type of jobs available and in their organizational context, have also translated into changes in labour-market experiences. In the structural shift from an economy built on a manufacturing base to one built on the service sector, and hence from an industrial to a post-industrial economy, work has become less physical and more cognitive. Psychological demands have largely superseded physical demands. Also, corporate restructuring often means more demands on fewer employees, flatter organizations with fewer opportunities for career mobility, and more contracting with self-employed workers or with suppliers of “casual” workers (who would once have experienced the financial and social ad-
vantages of in-house employment, with its relatively high degree of employment stability).

The new policy challenges for employers involve choosing between different hiring and employment policies, each of which carries with it a unique distribution of gains and losses. Given the environments that employers face and the drive for survival and profitability that motivate them, many choices are driven by a consideration of economic consequences alone, not health and economic consequences taken together. But at least some of their economic objectives could be met through a number of different hiring and employment policies. For example, flexible staffing can be accomplished through hiring part-time workers, hiring full-time workers for short-term jobs, or contracting with self-employed workers who can work off-site. Each of these policies likely has different health consequences. The trade-offs implicit in such policies are rarely articulated, and perhaps even recognized, at the level of an employer or, once aggregated across employers, at the level of a country or other political jurisdiction.

The new policy challenges for governments involve choosing between different public policies that can affect the increasingly broad range of hiring and employment policies available to employers or the labour-market experiences that result from these decisions. Again, each of these public policies carries with it a unique distribution of gains and losses. Like employers, many government choices are driven by a consideration of economic consequences alone, but at least some of their economic objectives could be met through a number of different public policies. For example, governments could put in place regulatory structures or financial incentives that promote some approaches to flexible staffing over others. Alternatively, they could alter some of the experiences that result from flexible staffing by, for example, mandating the provision of health-insurance coverage for part-time workers but not self-employed workers.

The negative health consequences of labour-market experiences represent a loss borne not only by the employer but by the worker, his or her family or friends, or society at large. In the case of unemployment, a partial list of these consequences has been found to include increased serum cholesterol (eg. Kasl, Cobb and Brooks, 1968), increased body weight (eg. Morris, Cook and Shaper, 1992), increased health-care utilization (eg. Iversen, Sabroe and Damsgaard, 1989), increased risk of minor psychiatric disorders (eg. Graetz, 1993), and premature mortality (eg. Morris, Cook and Shaper, 1994). Even the burden of paying higher premiums for employer-sponsored health-care plans when health-care utilization increases can be expected to be passed from employers to workers (Summers, 1989; Gruber, 1994). Although these health consequences compete with economic consequences, like absenteeism or productivity, almost no empirical research has been conducted on trade-offs between these two types of consequences.
Two main features of current research agendas related to the health consequences of labour-market experiences limit our ability to respond to the conceptual and practical issues raised by these policy challenges. First, instead of an integrated research agenda on labour-market experiences, the research agenda is fragmented into separate research programs on the links between unemployment and health, job insecurity and health, overwork and health, job characteristics and health, employment grade and health, and work organization and health. Recent reviews have perpetuated these boundaries between fields of inquiry (see, for example, Dooley, Fielding and Levi, 1996 on unemployment and Schnall and Landsbergis, 1994 on job characteristics). This fragmentation hinders the study of interactions between different types of labour-market experiences and the study of new or newly prevalent labour-market experiences. Second, researchers do not typically consider the breadth of outcomes -- both health and economic -- necessary to articulate better the trade-offs that are otherwise implicit in employers' and governments' policy choices. Yet the new policy challenges involve trade-offs: trade-offs between labour-market experiences and trade-offs between the consequences of these policies. Less unemployment may mean more underemployment, for example, and better health consequences may mean lower productivity.

**The First Step Towards a Framework:**
**A Typology of Labour-Market Experiences**

The first half of the framework comprises a typology of labour-market experiences. To develop the typology I identified two broad labour-market issues -- the availability of work and the nature of work -- and the categories of labour-market experiences related to these issues. Each of the five categories related to the availability of work and the seven categories related to the nature of work can be considered across time, generating ten unique labour-market experiences related to the availability of work and fourteen labour-market experiences related to the nature of work. After describing each of the two broad labour-market issues and their related categories of labour-market experiences, I review current and evolving patterns in their distribution as a precursor to an assessment of whether research agendas have responded to the new policy challenges. While I often draw examples of patterns in the distribution of labour-market experiences from Canada, almost all of these patterns typify those in other Western post-industrial economies.

I propose six categories of labour-market experience related to the availability of work (Table 1). Three types of experience represent "underwork" -- discouraged worker, unemployed, underemployed -- and a fourth represents fear of such an experience. The other two types of
experiences are fully employed and overemployed/overworked. The terms unemployed, fear of unemployment and overworked are self-explanatory, although their precise definition may vary across jurisdictions and needs to be precisely operationalized in any research study and preferably standardized across research studies. Discouraged workers are workers who are not working and would like to, but have given up looking because of a lack of opportunities (World Bank, 1995, p. 28). Underemployed workers are workers who work less than full-time or who work in positions requiring fewer skills or less training than they have acquired, not because they choose to but because more work, or work more appropriate to their skills or training, is unavailable.

Incorporating a time dimension into a consideration of the availability of work provides more detail with which to specify unique experiences. The time dimension can be explicit, as in the distinction between short- and long-term unemployment, where the latter is commonly taken to mean unemployment lasting for longer than twelve months (eg. ILO, 1994, p. 14). Alternatively, the time dimension can be implicit, subsumed under a distinction between cyclical and structural, where for example cyclical unemployment reflects a (usually short-term) business cycle-related demand deficiency and hence a lack of work, whereas structural unemployment reflects a (usually long-term) mismatch between the skills or location of workers and the available work.

These five categories of labour-market experience and their consideration across a time dimension generate ten unique types of labour-market experiences related to the availability of work, examples of which are provided in Table 1. As an illustration of one type of experience, take the case of a fear of unemployment. The mutterings of bosses or ruminations of fellow workers during a recession can lead to fears about the loss of a currently held job (job insecurity) or, more generally, about the loss of any type of employment within a given organization (employment insecurity) - even a lower paid, less challenging job that may be offered to replace the currently held job temporarily. But in addition, scans through the newspaper or glimpses of television reports can lead to fears about whether one’s skills are still good enough to get any kind of job (employability insecurity).

Further distinctions can be made within each of these ten experiences and the specific character of these experiences will vary across jurisdictions. Experiences related to the availability of work will be different depending upon a worker’s sociodemographic characteristics, especially his or her age (eg. young or near retirement) and skill level (eg. low or high). Table 1 can easily be expanded into other dimensions to allow for such factors. Unemployment offers a good example of how the same experience can have very different meanings in different jurisdic-
tions. Unlike in countries with public health-insurance systems, becoming unemployed in the United States often carries with it the additional burden of losing health-insurance coverage. As an indication of the importance of this particular aspect of the American unemployment experience, increasing concern about job security has been argued by many to have played a role in pushing health care reform to the top of the American political agenda in 1993 (see, for example, Yankelovich, 1995, p. 14), and may again.

With employability insecurity a possible exception, the nature of experiences related to the availability of work has not changed but the distribution of these experiences has changed. For example, in Canada the total unemployment rate in 1996 was 9.7 per cent, the tenth highest among the 29 member countries of the OECD; the long-term unemployed represented 13.9 percent of those unemployed in that year (OECD, 1998a; OECD, 1998b). Public opinion polls provide one measure of job insecurity: the Angus Reid Group, for example, found in April, 1996 that 29 percent of Canadians surveyed expressed anxiety about the security of their job over the next twelve months (Angus Reid Group, 1996). Involuntary part-time employment represents one measure of underemployment: in 1995, 31 percent of part-time Canadian workers reported that part-time work was the only work they could find (Perusse, 1997). More generally, there has been a steady increase in the proportion of Canadians (both male and female) working part-time between 1983 and 1991 (Morissette and Sunter, 1994; Morissette, Myles & Picot, 1995). Using a second measure of underemployment, the Angus Reid Group (1996) found that 24 percent of Canadians surveyed described themselves as "someone [who] has specific training or skills but is unable to get work in that area, and is therefore working at a less skilled, often lower-paying job." As for overwork, in November 1995 6.4 percent of Canadians surveyed preferred fewer hours for less pay. University graduates, professionals, managers and individuals employed in natural and social sciences were more likely than others to prefer fewer hours for less pay. Workers with high hourly wage rates, many work hours, long job tenure, permanent jobs and jobs covered by pension plans were also more likely than others to have such a preference. (Drolet & Morissette, 1997).

I propose seven categories of labour-market experience related to the nature of work and these categories can be grouped under job characteristics, job position within the firm\(^1\) or society, and the organizational characteristics of the firm (Table 2). Experiences specific to a job

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\(^1\) By firm I mean the full range of work organizations, including traditional for-profit businesses, government bureaucracies, and not-for-profit agencies.
can be defined using a single characteristic, like the repetitiveness of the work performed as part of the job, or using multiple characteristics like the psychological demands of the job and the worker’s decision latitude in the task (Karasek and Theorell, 1990). Job position within the firm or society means some measure of the worker’s employment grade. In the United Kingdom, for example, citizens are classified into five social classes -- professional, intermediate, skilled non-manual or manual, partly skilled manual, and unskilled manual -- on the basis of their occupation (Whitehead, 1990, p. 227-228). Experiences related to the organizational characteristics of the firm can involve the ways in which work is organized, workers are paid, skills are upgraded or expanded, and the workplace is governed (O’Grady, 1993).

As with experiences related to the availability of work, incorporating a time dimension into this categorization gives more analytical leverage with which to explore experiences related to the nature of work. These experiences can be considered at a single point in time or at multiple points over time, the latter enabling the documentation of change or lack of change. The seven categories of labour-market experience and the potential for a static or dynamic analysis generate fourteen unique experiences, examples of which are provided in Table 2. Job position within a firm or society can be used to illustrate one pair of such experiences. A static analysis could identify a worker’s grade of employment: the work experience of an unskilled manual labourer would clearly be different from that of a professional. A dynamic analysis could identify a worker’s career mobility, either within a firm or across firms.

Further distinctions can be made within each of these experiences. For example, experiences related to the nature of work may be very different depending on a worker’s age or sex. A lack of career mobility can mean much more to a young worker than to an older worker nearing retirement. Also, experiences will vary across jurisdictions. In the United States, health-insurance contracts, especially those that exclude from coverage people with pre-existing conditions, can act as a powerful incentive to stay in a job even though conditions may be worse than in another firm. This predicament, referred to as job-lock and unknown to the citizens of countries with public health-insurance systems, affects many American workers.

With the growth in the service sector, the context for experiences related to the nature of work has become one where the social environment for work overshadows the physical environment. Psychological demands have largely superseded physical demands and exposure to mental strain has largely superseded exposure to biomechanical strain, irritants or toxins. In industrialized countries between 1965 and 1989-91, the proportion of workers employed in the service sector grew from 41 percent to 67 percent, while the proportion in the agriculture sector shrank.
from 22 to 7 percent and the proportion in the industrial sector shrank from 37 to 26 percent (ILO, 1995, p. 29). Compared with 21 high-income OECD countries, Canada has the largest proportion of workers employed in the service sector: 72.1 percent, with only 3.5 percent in agricultural and 24.4 percent in industry (World Bank, 1995, p. 148). These shifts are expected to become more pronounced in Canada with the implementation of the Uruguay Round trade agreement: for example, researchers predict declines in employment in agriculture (-11.6 percent) and light industries (-33.3 percent), but growth in both "high tech" manufacturing (+4.0 percent) and services (+0.7 percent) (Nguyen, Perroni & Wigle, 1993 as quoted in ILO, 1995, p. 39).

The transition from an industrial to a post-industrial economy, in conjunction with other forces that affect employment strategies, brings with it a shift in the distribution of labour-market experiences related to the nature of work. Take, for example, the experiences defined by the characteristics of a job. Job demands have increased for many workers, whether such demands are measured by the number of hours worked or by the amount of job strain experienced on the job. There has been a steady increase in the proportion of Canadians working long hours between 1983 and 1991; this represents the flip-side of the growth in part-time employment, a trend occurring simultaneously (Morissette and Sunter, 1994; Morissette, Myles and Picot, 1995). Also, some evidence suggests that (on average) the psychological demands of work have increased and decision latitude has declined (see references quoted in Karasek and Theorell, 1990, p. 25 and 47), leading to a net increase in job strain over time.

The distribution of job positions within the firm or society has also changed. Service-sector employers often lack rigid demarcations between executives, managers and labourers, possessing instead an evolving set of employment categories within or between firms. These employment categories may one day resemble the polarized employment categories predicted by some analysts: knowledge workers -- the intellectual, cultural and business elite who are mobile and independent -- and service workers who are immobile and dependent (according to Drucker, 1993) or symbolic-analytic service providers, in-person service providers, and routine production service providers (according to Reich, 1991). Many employers have moved away from a simple seniority-based promotion system within the firm and toward one predicated on performance - a system that makes sense for the employer but that has profound implications for aging workers. Many low-skill jobs are disappearing in Canada, as more and more low value-added production activities are relocated to low wage countries (see again Nguyen, Perroni and Wigle, 1993 as quoted in ILO, 1995, p. 39) and technological innovation puts unskilled workers at a disadvantage. This change parallels one in England, where the proportion of unskilled manual
workers (social class five in the Registrar General’s classification) has been steadily declining, a transition attributable to an upward shift in occupations, to unemployment, and to upward mobility (Whitehead, 1990, p. 257)

Like the distribution of job characteristics and job positions within the firm or society, the distribution of the ways in which work is organized is changing. For example, in the 1980s there was a reversal of the long-term trend of declining self-employment across OECD countries, with Canada recording the fifth highest contribution of self-employment to overall job creation (OECD, 1994, p. 20). The unwillingly self-employed include the “reluctant consultants” working out of their homes. In November 1995, 12 percent of Canadians surveyed reported that their main reason for being self-employed was an inability to find other work (Perusse, 1997). Contingent employment -- hiring temporary workers on a short-term basis to meet specific needs -- also appears to be on the rise: the increase in the proportion of short-term jobs and stable proportion of long-term jobs can be taken as support for the hypothesis that employers are increasingly using a core of long term employees and hiring contingent workers only when the need arises (Heisz, 1995). Unfortunately there is no ongoing approach to measuring the incidence of changes in work organization. However O’Grady (1993), using a number of direct and indirect measures, recently estimated that only 8 to 16 percent of Canadian workplaces have moved towards more skill-intensive forms of job design and work organization.

Current and evolving patterns in the distribution of labour-market experiences and in the decisions that give rise to them suggest a very different set of policy challenges from those that confronted employers and governments in the past. The last few decades have seen many stories unfold; one is a story of polarization: polarization in the duration of unemployment, polarization in the number of hours worked, polarization in job tenure. But there are many other stories and the purpose of the framework is to distil these stories down to their most salient features -- one or more labour-market experiences -- and then to determine the health and economic consequences of these experiences and of governments’ and employers’ choices that give rise to them.
The Second Step Towards a Framework: Possible Consequences of Labour-Market Experiences

The second half of the framework comprises a typology of the possible health and economic consequences of labour-market experiences. To develop the typology I drew on a broader framework for the determinants of health (Evans and Stoddart, 1990). This framework has three components: environments and endowment (which includes the social environment, the physical environment, and genetic endowment), individual responses, and outcomes. The typology of labour-market experiences provides perspective on one dimension of the social environment, the centre-piece of the broader framework. The other two components of Evans and Stoddart's framework -- individual responses and outcomes -- provide perspective on the possible health and economic consequences of labour-market experiences. After describing these possible consequences, I provide illustrative examples of recent research on the links between labour-market experiences and health. Because unemployment has been more extensively examined than any other labour-market experience, I draw these examples from longitudinal studies of the links between unemployment and health.

An individual’s response to his or her labour-market experiences can include both behavioural and biological elements, and the response may be health-enhancing or health-damaging, inherited or acquired. Behavioural responses cover a range of meaningful categories of action, from consumption (eg. smoking, drinking, drug use) to help-seeking (eg. seeking social support, visiting a health care provider, contacting a local politician) and avoidance (eg. repeatedly missing days of work). These behaviours reflect in part the coping strategies that individuals use to respond to their social environment, and the choice of behaviour and extent to which it is engaged in reflects the personal and financial resources that individuals have amassed in the context of their environments and endowments. Biological responses include, for example, neuroendocrine, immunologic, and physiologic responses. These responses are presumably less amenable to direct intervention than behavioural ones.

In the case of unemployment, more attention has focused on behavioural responses than on biological responses. A number of longitudinal studies have examined risky behaviours like smoking (eg. Kasl and Cobb, 1980; Morris, Cook and Shaper, 1992) or drinking (eg. Power and Estaugh, 1990; Morris, Cook and Shaper, 1992) or markers for risky behaviours like body weight (eg. Kasl and Cobb, 1980; Morris, Cook and Shaper, 1992). Other longitudinal studies have examined health-care utilization, including physician visits, number of medications, and hospital admissions (eg. Linn, Sandifer and Stein, 1985; Beale and Nethercott, 1985; Iversen, Sabroe and
Longitudinal studies of biological responses have almost all looked at serum cholesterol, with occasional studies also looking at serum uric acid, serum calcium, serum cortisol, blood pressure, and pulse rate (e.g., Kasl, Cobb and Brooks, 1968; Kasl and Cobb, 1980; Arnetz, Brenner, Levi et al., 1991). One study has examined neuroendocrine and immunologic responses (Arnetz, Brenner, Levi et al., 1991).

Outcomes, the final component of the framework, include health outcomes like disease and disability or health and function and a broader but related outcome, well-being. The first category of health outcome, disease and disability, includes professionally-designated medical conditions. The second category, mental and physical health and function, represents an individual’s, not a health care provider’s, interpretation of his or her health. Both of these concepts are in turn distinguished from a higher order concept, well-being, which represents an individual’s interpretation of his or her general happiness. Health is assumed to be one of the constituent elements of well-being but individuals may be willing to sacrifice some gains in health status for more of something else, like a higher income, which translates more directly into improved well-being.

Longitudinal studies of the links between unemployment and health have tended to focus either on mental and physical health and function or on mortality. Unlike research on the links between job characteristics and health (Schnall and Landsbergis, 1994), no studies of the links between unemployment and specific diseases have been conducted. Studies of mental health have tended to focus on scales or indexes related to depression or minor psychiatric disorders (e.g., Linn, Sandifer and Stein, 1985; Graetz, 1993), while studies of physical health have tended to focus on illness symptoms and days affected by illness (e.g., Gore, 1978; Linn, Sandifer and Stein, 1985). Research on the links between unemployment and mortality has examined both all-cause mortality and cause-specific mortality (e.g., Moser, Fox and Jones, 1984; Iversen, Andersen, Andersen et al., 1987).

The fourth type of outcome -- economic outcomes -- is critical to the articulation of the trade-offs between the multiple consequences of employers' and governments' decisions, yet is consistently ignored by health researchers. Economic outcomes often drive decision-making, and these outcomes can include compensation-plan premiums (which reflect only risk adjustments related to physical injury), absenteeism (which may or may not be health-related), and productivity. Productivity refers to the effectiveness of productive effort and is the outcome to which improvements in health may contribute or against which improvements in health must compete. If one alternative available to a employer leads to both an improvement in health status
and an improvement in productivity then the case can easily be made for adopting this alternative. If these outcomes diverge then the case is much less clear: from an employer's perspective, the alternative leading to an improvement in productivity makes sense but from a societal perspective, the choice presents a dilemma. Unfortunately studies on the links between labour-market experiences and health have not measured both health and economic consequences concurrently.

For the sake of simplicity, the framework ignores a number of relationships. All of the outcomes can be affected by relationships that have not been described. For example, labour-market experiences can have a direct effect on well-being, not just through their effect on health and function. By focusing on particular relationships and ignoring others, I do not mean to imply that some relationships are unimportant; rather, I seek to highlight those relationships whose elucidation is most critical to an articulation of the trade-offs implicit in employers’ and governments' choices.

An Application of the Framework: Identifying Gaps in Research

This framework can be used to identify important gaps in the research literature on the links between labour-market experiences and health. In identifying gaps I restrict my comments to longitudinal studies -- not cross-sectional studies or time-series analyses -- because this design offers the most potential to provide evidence that supports the existence of causal relationships (although not all studies have successfully made use of this potential). I address three research gaps in turn: limited attention to interactions between experiences related to the availability of work and those related to the nature of work and to interactions between labour-market experiences and the context for these experiences; limited or no attention to some increasingly prevalent experiences like involuntary part-time employment or self-employment; and no simultaneous measurement of health and economic outcomes.

Although trade-offs between the quantity and quality of work represent one of the key new policy challenges, remarkably little attention has been paid by researchers to interactions between experiences related to the availability of work and those related to the nature of work. Graetz (1993) provided one of the few studies of such interactions. Using data from four waves of the annual Australian Longitudinal Survey, he explored the links between unemployment, employment, and psychological health (as measured by the 12-item version of the General Health Questionnaire). He found that the health consequences of employment and unemployment were
directly contingent on the quality of work: unemployed young adults had levels of health risk intermediate between dissatisfied workers and satisfied workers. His results suggest that a bad job (as subjectively determined using a simple measure of job satisfaction) can be worse than no job for young adults. This result needs to be confirmed using more precise criteria for exposure to unemployment and work, a better measure of job quality, and simultaneous adjustments for important confounders at regular intervals during the study period. If confirmed, however, the result has important implications for efforts to improve the labour-market experiences of young adults.

Limited attention has also been paid to interactions between labour-market experiences and the context for these experiences, yet contextual factors may modify the relationship between labour-market experiences and health, thereby suggesting potential intervention strategies. Four studies have examined the interaction between an individual's employment status and the local unemployment rate: two studies found that the mortality rate for the unemployed group was higher in areas (Iversen, Andersen, Andersen et al., 1987) or periods (Martikainen and Valkonen, 1996) with low unemployment rates; one study found that the local unemployment rate was not a statistically significant independent predictor of mortality (Martikainen, 1990); and another study found that the mortality rate for the unemployed group was higher in areas with higher unemployment rates (Moser, Fox, Jones and Goldblatt, 1986). Gore (1978) has examined the interaction between unemployment and social support. Unemployed people with low levels of social support had higher elevations and more changes in measures of cholesterol and illness symptoms than did those with high levels of support. An examination of interactions like these may provide policy-relevant information, such as the means to identify and so provide assistance to those most at risk of negative health consequences (eg. those living in an area with low unemployment rates) or a target for more direct intervention (eg. social support after job loss).

In large part the limited attention paid to interactions between experiences related to the availability of work and those related to the nature of work and between labour-market experiences and between labour-market experiences and the context for these experiences can be traced to the fragmented research agenda on the links between labour-market experiences and health. Studies of the health consequences of unemployment, for example, never discuss the nature of lost jobs or the nature of those jobs that are available in the local labour-market (Jin, Shah and Svoboda, 1995; Dooley, Fielding and Levi, 1996). Presumably unemployment could be health-improving if the lost job was repetitive, psychologically demanding, and offered little decision latitude. Similarly, studies of the health consequences of job strain never discuss issues related to the availability of work, an important contextual factor (Karasek and Theorell, 1990; Schnall, Landsbergis and Baker, 1994). Yet pre-
sumably job insecurity could exacerbate the negative health consequences of a high strain job. Separate research programs on unemployment, job insecurity, overwork, job characteristics, employment grade, and work organization make integrative policy-relevant research very difficult.

Labour-market experiences related to the availability of work that are prevalent or increasingly prevalent have not received attention commensurate with their prevalence or change in prevalence. This paradox constitutes part of the second research gap. The literature on the health consequences of experiences related to the availability of work evolved in the context or aftermath of the Great Depression and subsequent recessions, not from a period of economic growth and non-cyclical changes in the demand for labour and in employment strategies. Consequently, when addressing experiences related to the availability of work, most studies have focused on unemployment experiences. Despite the increasing prevalence of involuntary part-time employment and job or employment insecurity, no studies have examined the health consequences of underemployment and only a handful of longitudinal studies have examined the health consequences of job or employment insecurity (e.g. Arnetz, Brenner, Levi et al., 1991; Heaney, Israel and House, 1994). In one of the few studies of job insecurity, Heaney, Israel and House (1994) found that extended periods of job insecurity increased the number of physical symptoms reported, over and above the effects of job insecurity at any single point in time.

Labour-market experiences related to the nature of work have also often not received attention commensurate with their prevalence or increasing prevalence. Most studies about the nature of work have focussed almost exclusively on job characteristics (especially tests of a single model that incorporates two characteristics - see, for example, Karasek and Theorell, 1990) and job position within the firm or society (see, for example, Marmot, Rose, Shipley and Hamilton, 1978). Only a handful of longitudinal studies have addressed the organizational characteristics of work (i.e. the ways in which work is organized, workers are paid, skills are upgraded or expanded, and the workplace is governed) and none of these studies have addressed unwilling self-employment or contingent employment, two labour-market experiences that are becoming increasingly prevalent.

The final gap in research is the lack of simultaneous measurement of health and economic outcomes, which severely limits efforts to improve employers' and governments' ability to articulate trade-offs between these two types of consequences. Some studies have examined absenteeism as a proxy for health status (North, Syme, Feeney et al., 1993) but no longitudinal studies have looked at both health and economic outcomes at the same time. If one alternative
available to a employer leads to both an improvement in health status and an improvement in productivity, then the case can easily be made for adopting this alternative. When health and economic outcomes diverge, however, research could be used to weigh one policy against another.

**CONCLUSION**

A more relevant and focused research agenda on the links between labour-market experiences and health could improve employers' and governments' ability to articulate trade-offs that are otherwise implicit in their policies with multiple consequences. The research framework developed in this paper and the gaps in the research literature that were identified by using the framework can inform the conceptualization and planning of future research in this area. Three concrete actions would move forward research in this area: integrating the currently fragmented research agenda on the links between labour-market experiences and health, focusing attention on those experiences that are prevalent or increasing in prevalence, and extending the range of outcomes for which data are collected.

First, researchers should integrate the currently fragmented research agenda on the links between labour-market experiences and health. Studies of one particular category of labour-market experiences, without explicit consideration of the context in which it was experienced, miss opportunities to provide results that can more directly inform the types of trade-offs made by employers and governments. An examination of interactions between the quantity and quality of work can suggest whether no jobs are better than "bad" jobs. A study of contextual factors that may modify the relationship between labour-market experiences and health can suggest the means to identify and so provide assistance to those most at risk of negative health consequences or can suggest a target for more direct intervention.

Second, researchers should focus attention on those experiences that are prevalent or increasing in prevalence. Current and changing patterns in the demand for labour and in employment strategies suggest that involuntary part-time employment, job or employment insecurity, unwilling self-employment and contingent employment are becoming more prevalent experiences. An examination of the health consequences of these labour-market experiences could inform further changes to employers' hiring and employment policies or governments' policies that affect hiring and employment policies or the labour-market experiences that result from these decisions.
Third, researchers should simultaneously measure the health and economic consequences of labour-market experiences. Whenever possible, data on economic outcomes like absenteeism and productivity should be collected at the same time as data on health outcomes. For research to improve employers' and governments' ability to articulate trade-offs, employers and governments need to know what is being gained and at what cost. As with the other two suggested actions, this recommendation poses methodological challenges. Productivity alone can be difficult to measure but attributing changes in productivity to changes in forms of work organization, for example, can be even more difficult. Research agendas should respond to policy challenges and their related methodologic challenges, however, not avoid them.

Of course, the lack of policy-relevant research represents only a part of the problem: better articulating trade-offs is one thing, influencing these trade-offs is quite another. Employers' choices are often driven by economic considerations alone. Introducing health consequences as an additional consideration will require time and effort.
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Appendix: Tables referenced in the paper

Table 1
Labour-market experiences related to the availability of work

<table>
<thead>
<tr>
<th>labour-market experiences</th>
<th>from a short-term and/or cyclical perspective</th>
<th>from a long-term and/or structural perspective</th>
</tr>
</thead>
<tbody>
<tr>
<td>discouraged workers</td>
<td>eg. lack of work</td>
<td>eg. lack of skills</td>
</tr>
<tr>
<td>unemployed</td>
<td>eg. temporary lay-off</td>
<td>eg. permanent job loss</td>
</tr>
<tr>
<td>underemployed</td>
<td>eg. forced work-sharing</td>
<td>eg. unwilling part-time employment</td>
</tr>
<tr>
<td>fear of unemployment</td>
<td>eg. job or employment insecurity</td>
<td>eg. employability insecurity</td>
</tr>
<tr>
<td>fully employed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>overemployed/overworked</td>
<td>eg. temporary increase in work hours</td>
<td>eg. permanent increase in work hours</td>
</tr>
</tbody>
</table>
The Links Between Labour-Market Experiences and Health:
Towards a Research Framework

John Lavis