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Implications of work time flexibility for health promoting behaviours

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Abstract

Support for labour market flexibility has been growing internationally and in Australia for several decades (Sala et al. 2012; SEO 2013), leading to a more fluid set of working times. Employment and working times are recognised as a determinant of worker health, and while the effects of employment can be positive or negative for health, the distinguishing factor is the quality of the job characteristics, such as hours, income, flexibility, and degree of control (D'Souza et al. 2003). We review evidence regarding the influence of flexible work time on health behaviour and outcomes as relevant to Australia and New Zealand. The quality of evidence is generally of a high standard. While a clear cut answer regarding the positive or negative influence of working time flexibility is not apparent, current research indicates that flexibility policies may have detrimental effects on health through their impact on specific health behaviours.

Evidence indicates that working time is now is a major impediment for healthy eating, physical activity and sufficient sleep (Hill et al. 2008; Kamp et al. 2011). These activities are linked to major preventable chronic diseases, in particular obesity (Begg 2007). At present, the national economy loses $8 billion per year from obesity related health conditions alone, with productivity losses accounting for 44% of this total and health system costs amounting to 24% (Australian Government Bulletin 2005). A further loss to the Australian economy comes in the form of higher social welfare payments due to the greater likelihood of obese people receiving unemployment benefits (Australian Government Bulletin 2005). These figures do not include conditions associated with obesity, including Type 2 diabetes, cardiovascular disease and some cancers, or the cost of lost wellbeing borne by obese individuals most recently estimated to be $50 billion (Access Economics 2011). Despite this, the labour market and health are often treated as separate policy domains.

Within public health, time is considered a mediator of basic health behaviours which have been linked to obesity and its related conditions, including healthy eating and physical activity (Strazdins 2008; Strazdins et al. 2016). These require careful scheduling and appropriate time allocation (Strazdins et al. 2011; Dixon et al. 2013). Changes to working time can therefore have major effects on health due to limiting the amount of time that can be spent on healthy protecting behaviours (i.e. exercise, preparing healthy food) (OECD 2013).

This review highlights the links between health and labour market transitions that have occurred over the last 30 years, with a particular focus on the growth of flexible work hours and its impact on available time. Flexibility is a growing feature of the Australian labour market and one that has been enshrined in the Fair Work Act (Rogers et al. 2010). Yet, the implications of new working time flexibilities for health are largely unknown (Dixon et al. 2014). Specifically, the review will focus on research linking new forms of work with health and identify trends of flexibility in working time and in health behaviours. The review is timely given recent changes to flexibility legislation in Australia, and public discourse regarding its importance for ensuring a wide range of benefits to

working citizens. Yet, current research indicates that there may be a 'dark side' to flexibility – leading to greater work-life interference which, in turn, has flow on effects for wellbeing and health outcomes. Our recommendations from this review are that the health dimensions of working time arrangements need greater consideration in policy design. Specifically, we suggest regulation to protect workers from the negative effects of flexibility, and recommend against removing current regulations that limit hours, provide a premium for working unsociable hours, and provide stability to working time arrangements.

Activity, health outcomes and time: a brief overview

The changing experience of time

Feeling rushed or 'pressed' for time is an increasing characteristic of the modern Australian workforce (Skinner et al. 2012). The Australia Institute has reported that 67% of workers experience significant time pressure, with women more affected than men and individuals combining paid work and care most affected of all. For the majority of Australian workers, work often adversely affects other aspects of life (family, friends, community).

Structural changes to households, along with the way time is used, may be key to understanding our collective sense of time pressure. While individuals may have adequate leisure time, fragmentation of schedules within the household could be the cause of 'time pressure'. Time use in families is structured around multiple timetables (work, school, hobbies) which all need to be integrated, but are shifting away from the standard 'working week' (Natti et al. 2012). As Southerton et al (2001, 18) argue: 'Scheduling and coordinating is as much, if not more so, a challenge of the world inside paid employment as it is outside of it, and it the interrelationship between the two that is at the core of harriedness'.

Similarly, Southerton draws attention to how we organize time and tasks (Southerton et al. 2001; Southerton 2009). For example, the intensity at which we undertake both paid and non-paid tasks is changing (known as 'intensification'), along with the way that we allocate tasks, or structure our tasks within time (e.g. sequencing and coordination) at both the individual and societal level. Industrialized economies have seen us 'break down' work tasks into components and sequence or coordinate them in ways that maximize time and efficiency. This breaking down of tasks and the intensification it leads to has taken place broadly across occupations and sectors (Green 2004; Greenfeld 2005). A wide array of explanations for this exist in the literature, including:

- Market competition pressures being passed on to workers
- Technological change – monitoring, control, spill over
- Rise of human resources – linking incentives with pay and output with pay
- Supply changes in the labour market
- Decreasing unionism since the 1970s (Glucksmann 2009)

While widespread, intensification is slightly more pronounced in white collar 'knowledge' workers and women, both of which are thought to be dealing with competing demands by working faster, more efficiently and doing more at once (Green 2004). Meanwhile, Bittman's Australian time diary analysis suggests that experiences of time pressure may be isolated to particular groups of people and households, i.e. those with children and dual earners (Bittman 2004).

Dugan contends that this structuring of tasks and time (and subsequent intensification) has bled over from work to non-work activities, where non-work tasks are done faster, in parallel or sequenced in particular ways to get the most 'out of time', but having the unintended consequence of creating sense of urgency (Dugan et al. 2012). Hence, how time is organized and ordered affects the experience over and above the total of volume of time worked or available for a given task (Southerton et al. 2001; Southerton et al. 2001). Similarly, in exploring experiences of 'harried leisure', Bittman and Wajcman found that when aggregate leisure time was stable, the fragmentation of time led to experiences of feeling 'rushed' and that leisure time is scarce (Bittman and Wajcman 2000; Wajcman 2008; Bittman et al. 2009). Like many other dimensions of time, this was found to be different for men and women, with women tending to have more fragmented (and less restful) leisure time (Bittman and Wajcman 2000; Bittman and Rice 2002; Aguiar and Hurst 2007; Bittman et al. 2009). Hence, the quality of leisure time matters as much, if not more than, the quantity.

Paradoxically, the unintended consequences of many strategies to manage time is that they take time themselves, leaving people feeling more harried:

> the impression of speeding-up is a consequence of changing socio-temporal constraints which, at the same

> time, reinforce perceived needs to control time through mechanisms like schedules, diaries, lists, and personal organisers which then become constraints in their own right (Southerton et al. 2001 18).

Within some professional spheres and classes, there is also an emerging normative element to being harried, where it has come to be seen as a hallmark of success in professional life (Southerton 2009). This is consistent with Moen's idea that paid work is the 'path to the good life', and should therefore be prioritized above all other domains of life (Leccardi 2005; Moen and Roehling 2005) (see also Gleick 1999; Schwartz 2004; Szollos 2009).

Robinson and Godbey use the term 'time deepening' to capture a similar sentiment, where we work faster, participate in 'tight scheduling' or conduct more tasks at once; we are increasingly aware of the need to be efficient in our use and control of time, no matter which domain of our lives we are operating in (Robinson and Godby 1997). For home life, this taylorization and sequencing (or the 'getting the most out of' time) makes the 'second shift' (i.e. non-paid household work) feel pressured, with intensified anxieties about time use. Hochschild thinks this may be flowing onto a 'third shift', where quality time with families becomes similarly controlled and structured (Hochschild 1997). He posits an interesting paradox of both too many and too few 'institutionally' timed events, such as work times, family meals and so on, making the management of time fractured and difficult (Hochschild 1997).

Sense of time pressure within families appears to both influence, and be influenced by, labour market characteristics (i.e. both characteristics of families and households and characteristics of jobs impact time pressure) (Laurijssen and Glorieux 2013). Time pressure is more common amongst families with young children, particularly where both parents work (Maher et al. 2008; Maher et al. 2010). As Grzywacz suggests, 'time is a finite resource that, when consumed by work, makes it difficult to satisfy family-related responsibilities' (Grzywacz et al. 2006, 423).

Time and health

It is well established that poor diet and sedentary behaviour is linked to poor health outcomes (Ball et al. 2015; Friel et al. 2016). Poor diet has been linked to: ischaemic heart disease, stroke, atherosclerosis, insulin resistance, diabetes, chronic kidney disease, osteoporosis, dental decay, gall bladder disease, and some cancers (Friel et al. 2016). Similarly, physical activity has been linked to reduced risk and morbidity associated with cardiovasclar disease, overweight and obesity, high blood pressure, type 2 diabetes, some cancers, osteoporosis and musculoskeletal impairments (Ball et al. 2015). What is less clear, however, is the factors that enable or prevent individuals from achieving healthy diets and levels of physical activities. Emerging research indicates that work, and work time, plays a role in this. To set the scene for this review we begin with an overview of the links between time, health and work broadly.

While job quality is known to impact health (Marmot et al. 2010), the link between health and time spent at work is not as definitive or well researched (Kim et al. 2012). For example, while precarious employment intuitively seems as though it would have negative implications for health, research has not consistently shown non-permanent forms of work to be bad for health. Permanent employees tend to have higher stress ratings than non-permanent (Lewchuk et al. 2008), which has significant flow on effects for health. However, insecure employment has been found to be negatively associated with self-reported health, depression, anxiety and lower levels of physical activity (Burchell and Ladipo 2002; D'Souza et al. 2003; Bohle et al. 2004; Lewchuk et al. 2008). Long hours on their own, particularly when individuals choose to work them, have not been found to impact health (Wooden et al. 2009). When long hours are combined with intensification, however, we start to see more clear cut outcomes for health (Wooden et al. 2009).

High work time loading and pressure is known to impact leisure and exercise (D'Souza et al. 2003; Kalenkoski and Hamrick 2013; Moen et al. 2013). Similarly, time poverty, work stress and long work hours have been found to be connected to unhealthy lifestyles; time poor individuals are less likely to engage in active travel (Kalenkoski and Hamrick 2013; Kirk and Rhodes 2011). When participating in exercise and physical activity, time poor individuals will tend to seek out unstructured activities, presumably because they cannot commit to a structured schedule (Spinney and Millward 2010). Not only do these individuals miss out on the benefits of social connection facilitated by structured activities, structured exercise programs have a greater impact on health than unstructured activities (Dunn et al. 1998).

While research in this area is in its infancy, findings thus far suggest that, at least from a public health and social policy perspective, time poverty may be more important than income poverty as a barrier to regular physical activity.

Time poverty has also been linked to poor eating habits, with flow on effects to poor health outcomes (Mothersbaugh et al. 1993), with work time 'spill over' associated with lower fruit and vegetable intake (Devine et al. 2007). Job stress and long work hours cause individuals to seek out convenience food, which is usually less healthy than food prepared at home (Devine et al. 2003). The 'family dinner' is known to be protective of health and good eating habits, but is in decline (Hetherington et al. 2006; Allen et al. 2008; Allen et al. 2013). This is part of a broader international trend towards eating out of the home (Warde 1999; Warde et al. 2007). Allen attributes this to changes within the workplace and work patterning. Longer work hours, reduced flexibility and less work support leads to greater work-family interference (Byron 2005), and reduces the likelihood that families will eat together (Allen et al. 2008; Allen et al. 2013).

The literature examining the dietary choices of employed adults demonstrates that individuals with low job status, poor job conditions, high work demands, low control at work, and high levels of work-life stress are less likely to have a healthy diet (Devine et al. 2003; Devine et al. 2006; Jabs and Devine 2006; Devine et al. 2007; Devine et al. 2009). In families, parents' eating behavior is known to impact their children's health (Patrick and Nicklas, 2005). Mothers' paid employment in particular impacts child health outcomes, including obesity (Hawkins et al. 2008; Hawkins et al. 2009; Brown et al. 2010; Morrissey et al. 2011; Bauer et al. 2012). The UK Millennium cohort study found that any amount of maternal employment after birth was associated with a rise in early childhood overweight, and working mothers and their children were less likely to consume fruit and vegetables (Hawkins et al. 2008; Hawkins et al. 2009). Moreover, maternal employment had a greater impact on childhood obesity than income poverty (Hawkins et al. 2008).

Debates on work flexibility

Historically, flexibility has been described as wholly positive (for both employers and employees) and necessary (Manuti 2005). Mantui (2005), analysing flexibility in the European context, found that it is often couched in medical terms, that is, to cure the 'ills' of the economy and labour market. Here, flexibility is seen as 'an indispensable pre-condition to the survival of markets, for economic growth and global competition' (Manuti 2005, 392); to oppose such changes would be to be selfish and damaging to the broader community. Mantui points out that this framing of flexibility places the responsibility for the economy and societal wellbeing (through labour market transformation) on the workforce itself, which can create persuasive, normative arguments for engaging workplace flexibility.

Importantly, Hill distinguishes between 'organizational flexibility' (i.e. employer flexibility) – where the emphasis is on the needs of the organization and its ability to adapt to the market, with only a secondary regard for workers – and 'worker flexibility' (i.e. employee flexibility), which centers around the needs of workers (Hill et al. 2008). Worker flexibility tends to be associated with more 'highly paid, skilled jobs commanding a cluster of benefits including control and flexibility over work hours' (Dixon et al. 2013, 2), whereas organizational flexibility tends to occur in less skilled jobs such as hospitality or call centre work, where the risks associated with shift work and non-standard hours are passed to the worker rather than carried by the workplace.

Here, the concern is with the ability of workers to make engagement with the labour market fit around other commitments – workers' needs are central. The employee perspective hinges on choice, 'highlighting the salience of workers in interaction with their employers' in terms of both the existence of workplace flexibility entitlements and the ability to choose to access them (Hill et al. 2008) (p 153). Box 1 (adapted from Hill et al. 2008) draws out and delineates the different dimensions and possibilities for workplace flexibility.

Box 1: A typology of flexibility

Flexibility and time

Options in work schedules: For example, varying the beginning and ending times of the work day (either occasionally or frequently); working a compressed schedule such as four 10-hour days.

Options in work hours: For example, working less than the typical 35-40 hour full-time work week and/or working for fewer weeks than the standard work year. Three of the most common forms of reduced-hours work are part-time positions, job shares, and phased retirement.

Options for entering and exiting the labor force: For example, being able to leave the workforce for an extended period of time.

Options to manage unexpected personal and family responsibilities: For example, being able to occasionally take time off during the workday to care for an elderly relative.

Flexibility in employment structures

Options for employment and career paths: For example, being able to vary the traditional sequencing of education, employment, and retirement; having opportunities to change careers and occupations; being able to reduce the scope of jobs or the level of responsibilities.

Options in the employment contract: For example, being able to structure a job as a wage/salaried job, as a temporary position, or as contract work (as a consultant or contractor).

Benefits flexibility

Options in benefits selection: For example, having choice about which benefits (and the level of benefits) that best fit the employee's personal/family circumstances (up to a specified cost limit).

Flexibility and place of work

Options to work off-site: For example, being able to work from home either occasionally, for part of the work week, or on a full-time basis.

Options to select one or more worksite locations: For example, being able to select and periodically/seasonally change the worksite location (if the employer has more than a single worksite).

Aims of the review

This review focuses on the links between working time and health behaviours (particularly healthy eating and obesity), with a particular focus on the impact of flexibility in working time. Workplace flexibility is a poorly understood and ambiguously defined concept, despite its widespread use in both the academic and policy literature (Hill et al. 2008; Allen et al. 2013). The lack of conceptual clarity has led some authors to argue that much of the theoretical and empirical work on flexibility and its effects is very limited, and can only be progressed by tackling the 'confusing puzzle of elements' at the heart of flexibility debates (Golden and Powell 2000; Wadhwa and Rao 2002; Dunford et al. 2013, 88). Broadly, work flexibility refers to the ability of workers to make choices influencing when, where, and for how long they engage in work-related tasks (Hill et al. 2008). However, as Dixon et al. (2013) note, the distinction between 'flexible' and 'inflexible' in not clear cut. Rather, conceptualizing work flexibility as a continuum may be more accurate, where 'precarious jobs and jobs of low pay and adverse conditions' are at one end, while 'highly paid, skilled jobs commanding a cluster of benefits including control and flexibility over work hours' are at the other (Dixon et al. 2013, 2; Dooley 2003).

No systematic review of evidence has been conducted on the links between changes to working time and health behaviors, despite a growing diversity in working time stemming from the 'flexibilised' 24/7 economy (comprising long hours and underemployment, shift work, and unsociable and unpredictable work hours). The review will:

1. Categorise the empirical evidence that connects flexibility in working time to obesity related health behaviors (i.e. healthy eating and physical activity) and outcomes.
2. Make an assessment on the quality of the evidence found.
3. Synthesise the empirical evidence into a narrative review that draws conclusions about the influence of the flexibility discourse on the interpretation of research findings.

Scope

The major scoping is the focus on increased labour market flexibility rather than the inclusion of other labour market trends, including the growing precariousness of

work (Standing 2011). This review assesses empirical studies of the impact of both organization flexibility and worker flexibility on health behaviours and outcome.

Search procedure

The search was conducted in the academic literature from May 2016 to June 2016, and comprised database searches of ProQuest, Sociological Abstracts, PubMed, Web of Science, Science Citation Index, Social Sciences Citation Index, MEDLINE, Academic Onefile, ScienceDirect, Expanded Academic and EBSCO. We used a combination of the following search terms (Table 1).

We reviewed the abstracts of 137 articles, reports and reviews that were identified using these search terms. We selected appropriate studies for inclusion in the review based on criteria as follows:

1. The study must be empirical, rather than conceptual or a commentary.
2. The study must include quantitative measures of, or qualitative reference to:

   a. implications of flexible work time trends on health behaviours and outcomes, and

   b. implications of flexible work time trends on other social determinants that flow on to health, such as work/life balance, work/family conflict or stress.

3. The study must use 'time' consistently with the notion of time as a social determinant of health, rather than other uses of time such as Occupational Health interpretations (e.g. 'work time') or clinical research (e.g. 'real time cell analysis').
4. The study must be published in a peer-reviewed journal or in grey literature (e.g. industry research, discussion or review reports) and released between 2000 and 2016.
5. The study must be published in English.
6. Exclusion of studies that test health prevention interventions, such as trials to reduce sitting time at work.

Upon review of the abstracts, 116 articles were excluded on the basis of the criteria, primarily for being non-empirical work. When deeper assessment of the articles began, a further 21 articles were excluded on the basis of the same criteria listed above, leaving a total of 48 articles for review. Categorization of the articles occurred according to the conceptualization of flexibility used in the text, comprising studies that focus on organizational flexibility, worker flexibility, studies that include both definitions, and studies that don't clearly differentiate between organizational and worker flexibility. These categories are presented briefly in turn, and themes from each are synthesized into an assessment of the discourse of working time flexibility and health (Dixon-Woods et al. 2005).

Table 1: Search terms

Time	Work Flexibility	Health
Time, harried, pressure, intensification, busyness	Work hours, employ*, work flexibility, work insecurity, work scheduling,	Health, family, food, eating, meal, physical activity, inequalit*, inequit*, equit*, inequal*

Methodological comments

The search included academic literature only. The empirical work reviewed on the influence of flexible working time on health behaviours and outcomes is generally of a high standard. There is a mixture of qualitative and quantitative data collected, ranging from large-scale datasets including time diaries (for example the Longitudinal Study of Australian Youth), to case study focused interviews. Many studies rely upon self-reporting from participants and are vulnerable to the usual sensitivities and forgetfulness that all self-report methods face (Stone et al. 2000). The strongest articles have a nuanced understanding of working time flexibility and the influence that the flexibility discourse can have on the interpretation of results (for example: MacEachen et al. 2008; Strazdins et al. 2016).

Findings

The articles identified from the search procedure above are categorised according to their use of flexibility as follows (Table 2).

Organisational flexibility: empirical work

Studies that focus on organisational flexibility framed flexibility as something that primarily meets the goals

Table 2: Research results by category

Categories	Number	References	Description
Flexibility trends	8	OECD 1994; Breedveld 1998; Anner and Caraway 2010; Sala et al. 2012; SEO 2013; Todd and Binns 2013; Kant and Graubard 2015; Steiber and Pichler 2015	Studies on work time flexibility trends
Organisational flexibility	11	Hyman 2005; Lambert 2008; Blair-Loy 2009; Skinner and Pocock 2010; Lambert et al. 2012; Richardson et al. 2012; Dixon et al. 2013; Green and Leeves 2013; Hewison and Kalleberg 2013; Moen et al. 2013; Hämmig and Bauer 2014; Suzuki et al. 2016	Studies that focus on the impact of organisational flexibility on health behaviour and outcomes
Worker flexibility	11	Eaton 2003; Janssen and Nachreiner 2004; Halpern 2005; Kelly and Moen 2007; Butler et al. 2009; Baxter 2011; Skinner and Pocock 2011; Troup 2011; Fan et al. 2014; Okonkwo 2014; Cooklin et al. 2015	Studies that focus on the impact of worker flexibility on health behaviour and outcomes
Combined flexibility	7	Henly et al. 2006; MacEachen et al. 2008; Hannif et al. 2010; Allen et al. 2013; Berg et al. 2014; Kelly et al. 2014; Strazdins et al. 2016	Studies that consider the impact of both organisational and worker flexibility on health behaviour and outcomes
No differentiation	11	Bartoll et al. 2014; Cullati 2014; Kleiner and Pavalko 2014; Nabe-Nielsen et al. 2014; Chen et al. 2015; Fein and Skinner 2015; Hergenrather et al. 2015; Kim and von dem Knesebeck 2015; Kleiner et al. 2015; Cooklin et al. 2016; Nigatu et al. 2016	Studies that don't clearly differentiate between employee led or employer led flexibility but draw conclusions based on the number of hours worked (ie full time or part time) and health behaviour/ outcomes.

of the business or organisation rather than the worker, or used case studies of flexibility that indicated this kind of orientation. This includes businesses that require non-standard hours, and demand-driven work in which hours may change at short notice.

Flexibility that is heavily focused on organisational needs has been shown to be detrimental to a worker's work-life balance and is associated with poorer health outcomes for workers (Janssen and Nachreiner 2004; Skinner and Pocock 2010; Lambert et al. 2012; Richardson et al. 2012; Dixon et al. 2013; Green and Leeves 2013; Suzuki et al. 2016). This effect is increased when organisational flexibility is coupled with precarious, contract based work (Hewison and Kalleberg 2013). In a study of the strategies that professional workers use to deal with time strain due to higher status and higher time demanding jobs, Moen (2013) found that adaptive strategies are often more work-friendly than family-friendly.

The effects of organisational flexibility are less pronounced when workers gain some autonomy, but this does not completely compensate for the effects of organisational flexibility on poorer health outcomes (Janssen and Nachreiner 2004; Cooklin et al. 2015). In workplaces that require organisational focused flexibility, such as client focused employment that requires worker attention on demand, organisational rigidity in working hours has shown to contribute to a better work-life balance by requiring workers to arrive and leave at set times (Blair-Loy 2009), suggesting that local workplace policy matters in cases of organisational flexibility.

Importantly, Lambert (2008) frames organisational flexibility as passing the risk of flexible work hours onto the employee, rather than the business internalising any losses associated with allowing flexible schedules.

Worker flexibility: empirical evidence

The influence of worker focused or worker led flexibility on healthy eating and exercise, and associated outcomes, has conflicting evidence. In some cases, greater autonomy over work time is associated with more frequent visits to health care professionals to monitor and maintain health (Butler et al. 2009a), and engaging in health eating or exercise (Strazdins et al. 2016). Conversely, other studies have shown that worker flexibility leads to working long hours, overtime, and a sense that work is never completely separate from home life (MacEachen et al. 2008; Blair-Loy 2009; Fan et al. 2014).

While this review primarily focuses on obesity related behaviours, it is worth noting that Cooklin et al. (2016) found that work-family conflict is a key determinant of poorer mental health for Australian parents, and that gender disparities persist in this space. Another multivariate analysis of worker flexibility and the Longitudinal Study of Australian Children found that flexible hours may be beneficial for parents but only weakly translated to more time with their children (Baxter 2011), with flow on effects for children's health behaviours such as healthy eating. This suggests that work time policies have impacts for health beyond obesity and related chronic diseases.

Combined flexibility

Studies that took a combined perspective on flexibility were not consistent in evidence for flexibility as positive or negative for worker health. Some studies frame flexibility as a 'win-win' for businesses and employee health (Halpern 2005; Hannif et al. 2010). In contrast, there is evidence that the notion of a 'work-life balance' is seen to be in conflict with the profit and functional goals of businesses in Australia (Todd and Binns 2013).

Some studies present worker autonomy over their work schedule to be of primary importance in creating a work-life balance (Kelly and Moen 2007; Hannif et al. 2010), along with a workplace culture that encourages the uptake of flexible arrangements (Eaton 2003; Troup 2011). However, other studies were more reflective on the discourse of flexible work and claim that work time flexibility can blur the line between home and work life:

> the discourse of flexibility, and the work practices they foster, make possible and reinforce an increased intensity of work that is driven by the demands of technological pace and change (MacEachen et al. 2008, 1019).

Discussion

International and national trends in work time flexibility

Concepts of flexible labor emerged after the great depression, when the need for organisations to be able to respond quickly to dramatic shifts in the market became a major concern (Dunford et al. 2013). However, more recent preoccupation with labour market flexibility as a vital prerequisite for economic growth can be traced back to the 1994 OECD 'Jobs Study' (OECD 1994; Freeman 2005). The Jobs Study blamed the economic problems of advanced European countries on inflexible, highly-regulated labour markets. The answer, correspondingly, was greater labour market deregulation through an emphasis on increased flexibility across a range of domains including: increased flexibility of working time and place, flexible wage and labour costs and the removal of legislative barriers to flexibility (Byford 2013).

Internationally, flexible labour has been growing for several decades (OECD 2004; Potrafke 2010; Sala et al. 2012; SEO 2013). Across Canada, Japan and most European countries, flexible labour now accounts for as much as 30 percent of total employment (SEO 2013). At the other extreme sits the US, with 11 percent of employment classified as 'flexible'. Australia is considered 'moderate', at 15 percent. The trend towards flexible labour is set to continue, despite a slight decline after the Global Financial Crisis, as flexible labour correlates with economic growth (SEO 2013).

Flexibility reached new prominence in Australian labour market debates after the Labor Government's creation of the 2009 Fair Work Act (Rogers et al. 2010). The Fair Work Act included a new 'right to request' for flexible work arrangements, on the grounds of family or carer responsibilities. Under the Act, employees have the right to request flexibility in location or hours worked. The Act became effective at the beginning of 2010 and, while welcomed, is thought to take a 'light touch' approach to supporting employee-driven flexibility – creating a duty for employers to 'consider' 'reasonable' requests (Skinner and Pocock 2011; Skinner et al. 2012). Moreover, the new flexibility provisions are not extended to all employees, only those with 12 months continuous employ-

ment (or 'long term' casuals) (Rogers et al. 2010). The Fair Work Act follows in the footsteps of the UK, the Netherlands, Germany and New Zealand, who have all put flexible work legislation in place. However, it is generally considered weaker because it is available only to select employees (i.e. those with childcare duties) and there are no true enforcement mechanisms, despite creating stronger employer obligations regarding flexibility requests (Skinner and Pocock 2011).

This 'weakness' is supported by the data, which to date have shown no increase in requests for flexible work arrangements between 2009 and 2012 (Skinner et al. 2012). The Australian Work And Life Index (AWALI) found that in 2012, many workers were still unaware of the Act and its implications for work flexibility: only 30 percent of those surveyed were aware of the right to request (Skinner et al. 2012). Awareness was particularly low among those eligible to make requests: only 23.5 per cent of mothers with young children knew about their right and approximately 34 percent of fathers (Skinner et al. 2012). Not surprisingly, awareness was higher for high socioeconomic groups and those with managerial/professional positions.

Interestingly, empirical studies that have sought to link labour market flexibility to performance have been inconclusive (particularly because cross-country comparisons have many confounders) (Freeman 2005). Yet the march towards deregulation and flexible labour markets continues, despite conflicting empirical evidence, highlighting the powerful, normative nature of flexibility discourses. Flexibility is now seen not only in terms of its ability to enhance business, but in fact as a prerequisite for merely sustaining it; flexibility 'has become so important to organisations that it may have a critical role as a success factor in its own right' (Golden and Powell 2000; Dunford et al. 2013, 375).

Work-life interference and its relationship with flexible labour

In Australia, work and family policy has been progressively concerned with employee orientated flexibility (Heron and Charlesworth 2012). Despite the limited impact of the Fair Work Act found by the AWALI study, right to request has been lauded as the answer to facilitating flexible work, particularly for women (Heron and Charlesworth 2012). For women, flexibility has been framed as critical for facilitating workforce participation, and the ability to meet family, work and community responsibilities (ACTU 2011).

Work-life interference is a significant motivator for requesting flexible work, particularly for women (Skinner and Pocock 2011; Pocock et al. 2012; Skinner et al. 2012). Most requests are made to accommodate childcare or study (21.2 percent of women's requests in 2009 were for childcare, and 6 percent for men) (Skinner and Pocock 2011). Women working part time were still likely to request flexibility (25 percent), suggesting that part-time work alone is not a panacea for work-life tensions (Skinner and Pocock 2011).

The positive framing of work flexibility is not without grounds. Flexible work arrangements have been found to increase organizational commitment and productivity, while reducing absenteeism and stress (Woodland et al. 2004; Halpern 2005; Kelly and Moen 2007). However, the relationship between flexible work practices and wellbeing is far from clear cut. Having control over one's schedule could facilitate excessively high levels of work (Kelly and Moen 2007; Michel 2014). This can be seen in the AWALI survey results, where the majority of Australians have some flexibility around their work, but over half feel they have too much work. Flexible work can also increase senses of time pressure (Manuti 2005; Dixon et al. 2013).

In their meta review of flexibility studies, Allen et al (2013) found that flextime and flexiplace policies were more likely to create work interference with home than the reverse – suggesting a privileging of work activities over other responsibilities and demands. Similarly, Moen has argued that flexibility facilitates the shift of more time to work activities (Moen and Roehling 2005; Moen et al. 2013). For example, Moen et al. (2013, 106) found that flexibility in the form of greater schedule control can further erode boundaries between work and home: 'employers now have the flexibility and control to prioritize, scale up and unbind work obligations so that work can impinge on all aspects of employees' non-work time'. This 'extra' work may also be unpaid and not compensated for by employers (Janssen and Nachreiner 2004; Jansen et al. 2010).

Recent research has also found that flexibility policies are used as management tools within modern workplaces. For example, human resource managers can use flexibility as a strategy to encourage employees to meet demanding deadlines and heavy workloads through long hours (MacEachen et al. 2008). Michel provides perhaps the most extreme case study in the negative impacts of unregulated, flexible working arrangements (Michel 2014). Following a small group of investment bankers over a period of 12 years, Michel found that 'completely flexible work

arrangements' created a dangerous long work hour culture, with employees working up to 120 hours a week, and forgoing regular sleep and food (Michel 2014). Perhaps most damningly, these employees were unable to readjust to normal practices once leaving the banking industry, imposing long hour work culture on subsequent workplaces despite the serious physical and psychological consequences they experienced themselves.

At a population level, Hannif et al. (2010) found that flexibility is often sought on employers terms, leading to increased casualization of the workforce, more shift work, a growth in unsociable hours and more part-time roles. Hannif's observations concerning 'employer' versus 'employee' directed flexibility relate to significant definitional issues in both the academic and policy literature regarding what 'workplace flexibility' means. The greater uptake of flexible work arrangements by women is also thought to entrench gender inequities in the labour market (Lewis and Campbell 2007; Skinner and Pocock 2011). Flexible work and (or) work-family policies that attempt to accommodate caring work by providing rights to carers, but lack a strong commitment to gender equity, end up reinforcing existing divisions within the labour market (Daly 2011; Heron and Charlesworth 2012).

Flexibility and its impact on health

As with much of the literature on flexibility, the relationships between flexibility and health are not clear (Grzywacz et al. 2008). While inflexibility (viewed as part of overall poor job quality) is known to impact negatively on the health of individuals and their families (Byron 2005; Gajendran and Harrison 2007; Strazdins et al. 2010), certain 'unhealthy' work practices (such as greater interference with non-work time and overwork) are also thought to be facilitated by flexibilisation (Janssen and Nachreiner 2004).

Advocates argue that flexibility contributes to health because it improves work-life balance, and enables workers to maintain a healthier lifestyle (i.e. more time to exercise and prepare healthy food) (Grzywacz et al. 2008; Grzywacz and Tucker 2008; Butler et al. 2009). Here, flexibility is depicted as providing a 'concrete mechanism for improving population health' (Grzywacz et al. 2008, 200), and – in turn – for worker productivity.

In contrast, others argue that the evidence is not reliable. In part, these claims stem from the definitional issues concerning what constitutes 'flexibility' (Janssen and Nachreiner 2004; Dunford et al. 2013), but also from the difficulties associated with controlled and comparative studies across different types of flexible and non-flexible working arrangements (Heron and Charlesworth 2012). It is worth noting, however, that the effect sizes of flexible work on health are unknown.

While employee-controlled flexibilation may contribute to better work-life balance and health outcomes, employer controlled flexibility has been found to be associated with increased impairments in health and wellbeing (Janssen and Nachreiner 2004, 16):

> Flexible working hours therefore have to be considered against such detrimental effects to health and well being, even if on the other hand there are also some positive effects, as might be expected, from gaining more autonomy over one's working conditions and being able to adapt one's working hours to personal preferences or needs.

Similarly, Dixon et al. (2013) suggest that with increased self-reported 'time pressure' the assumption that flexibility can help to achieve individual and family health is questionable. If anything, they argue, there is an amplifying, not easing, of work-life pressures.

Discourses of flexibility

A small, but growing, body of work points to the ways in which flexibility discourses can be subversive in nature. As noted above, 'flexibility' as 'ideal' has become a hegemony (Gregg 2008). How much 'flexibilization' is benefiting the whole of society is questionable (Breedveld 1998; Southerton et al. 2001). Flexibility doesn't always deliver the increased control it is meant to. Consistent with Gregg's analysis, higher educated people gain more control from flexible work practices than the lower educated (drawing on an analysis of trends in the Netherlands).

In particular, the availability and effects of flexibilization appear to be highly class-based. For example, working class 'manual' labour often underpins flexibility options for middle class women engaged in knowledge and professional work (i.e. through outsourcing of domestic labour) (Ross 2004; Gregg 2008). In the Netherlands, Breevaeld found that those with higher socio-economic status have more access to employee-determined flexibility, thereby gaining greater control over their daily use of time due to the autonomy awarded by white collar jobs (Breedveld 1998; Southerton and Tomlinson 2005). Flexibility in lower socio-economic status jobs tends to be employer-determined, leading to more detrimental effects on work-life balance.

Within organisations, the strong positive connotations of 'flexibility' make it a powerful discourse for influencing organisational change (Dugan et al. 2012). In a study of knowledge workers, Landen found a significant paradox at the heart of organisational approaches to flexibility (Kvande 2009; Landén 2012). While couched in terms of greater freedom for workers, flexibility policies were accompanied by a strong emphasis on control through strict performance measures. Hence, while workplace flexibility is often linked with high-status jobs and autonomy, workplace auditing practices (such as the establishment of Key Performance Indicators) closely track the achievements of employees. As a result, employees self-regulate, leading to long hours and greater work-life interference (Michel 2014). Similarly, Dugan has argued that flexibility should lead organisations away from formal and regulated bureaucratic structures, supporting experimentation and improvisation (Dunford et al. 2013). Yet increasingly, researchers are finding that old and new practices can co-exist in work environments. In some instances, the co-existence of old (regulating) structures and new (flexible) practices can help organisations adapt to change (Dunford et al. 2007; Dunford et al. 2013), and in others workers find themselves in engaging in highly undesirable work practices (Janssen and Nachreiner 2004; MacEachen et al. 2008; Michel 2014).

This apparent paradox may go some way to explaining the findings that workplace flexibility can lead to long hours, overworked employees and greater work-life interference. As Shore and Wright (1999, 559) argue, flexibility has seen the 're-invention of professionals…as units of resource whose performance and productivity must constantly be audited so that it can be enhanced'. In turn, this reshapes the way workers interact with one another and authority, seemingly leading to more competitive environments which can negatively impact health by limiting time for health promoting behaviors. Hence, both too much and/or too little flexibility appears to be problematic for employees. The evidence therefore suggests that is it not the quantity of flexibility that matters but the autonomy utilisation and stigma around using work time flexibly.

Conclusion

Two images of flexibility emerge from the literature. The first views it as positive, able to accommodate both employees' and employers' needs, and an important prerequisite for work-life balance, the competitiveness of organisations, and economic productivity. The second casts flexibility as a negative trend in which flexible workers lack security and stability in an increasingly precarious labor market. Here, flexibility is behind increases in experiences of time pressure and work intensification which result in negative health outcomes. While no conclusive link between flexible work and obesity exists, much of the empirical literature points to negative associations between overwork (which can be a result of flexibility policies) and health.

The empirical literature indicates that these two images of flexibility may co-exist, with some parts of the labour market reaping the benefits of flexibilization, while other parts are left with the undesirable unintended consequences, creating higher levels of obesity and rising health system costs. The conditions that drive positive or negative 'flexibility' effects for different individuals remain unclear. Some emerging work suggests that worker autonomy over schedules can mitigate the negative effects of flexibility, however control over work time combined with increased demands on the worker can lead to the blurring of work and home life.

We conclude from this review that greater attention needs to be given in policy design to the second account of work flexibility, whereby flexibility on the terms of *organisations* (rather than *individuals*) is leading to an increase in precarious work and job insecurity. This includes examining what conditions flexibility is being accessed under (i.e. in aid of individuals or organisations) and tailoring workplace policies and legislation to prioritise the needs of workers.

Secondly, there is evidence to suggest that flexibility is creating greater work-life interference. This, in turn has flow on effects for wellbeing and health outcomes (through impacting health protecting and promoting behaviours). Our recommendations from this review are that the health dimensions of working time arrangements need greater consideration in policy design. Whilst there are multiple and complex barriers to healthy eating and physical activity, working time is part of the mix, and there is clearly a need for additional regulations to protect and promote the health of workers. Moreover, the evidence suggests that the removal of regulations that limit hours, provide a premium for working unsociable hours, and provide stability to working time arrangements would have poor impacts on health and be costly to governments due to an increased burden on the health system.

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