



# Your money or your time? How both types of scarcity matter to physical activity and healthy eating



Danielle Venn, Lyndall Strazdins\*

National Centre for Epidemiology and Population Health, Research School of Population Health, ANU College of Medicine, Biology and Environment, The Australian National University, 62 Mills Road, Acton, ACT 2601, Australia

## ARTICLE INFO

### Article history:

Received 6 June 2016

Received in revised form

13 October 2016

Accepted 21 October 2016

Available online 11 November 2016

### Keywords:

Australia

Endogeneity

Gender inequality

Healthy eating

Health inequality

Physical activity

Social determinants of health

Time poverty

## ABSTRACT

**Rationale:** Lack of time is one of the most common reasons people give for not exercising or eating healthy food, yet few studies explicitly test its relationship with health behaviours.

**Objective:** Conceptualising time as a social determinant we estimate how scarcity — of income or time — generate barriers to health behaviours.

**Methods:** Using longitudinal, nationally-representative survey data on Australians aged 25–54 years, our design addresses endogeneity and reverse causation by considering how new episodes of scarcity are related to changes in healthy eating and physical activity. Regression models estimated how scarcity of income (low income or feeling poor) or time (heavy time commitments or feeling rushed for time) predicted change over two consecutive years.

**Results:** We find that both income and time scarcity reduce physical activity and, in some cases, lead people to consume less fruit and vegetables, eat out more and eat more discretionary calories (food high in salt, sugar or fat). Further, income and time scarcity operate independently to constrain healthy choices, although for more than one in ten people they synergistically increase risk.

**Conclusion:** Because income and time scarcity are patterned by socio-economic status and gender, our results underline the need to address both if public health interventions are to be more effective and fair.

© 2016 Elsevier Ltd. All rights reserved.

## 1. Introduction

Worldwide, insufficient physical activity accounts for 6–10% of chronic disease burden (Lee et al., 2012). Similarly, adoption of diets high in vegetables and fruit and low in salt, sugar and discretionary calories would significantly reduce cardiovascular and cancer disease risk (Lock et al., 2005). However, a healthy diet and being active must be feasible, which depends on resources not everyone has, creating socially-patterned barriers to health. Income is one key resource: Its lack can constrain people's capacity to buy fresh food and access to the amenities and services that support physical activity (Humphreys and Ruseski, 2011; Turrell et al., 2003). Such income-based constraints are not the same for everyone, because there are systematic differences in income that are linked to age, gender, education, skill and family composition. This patterning means that income scarcity is a determinant of healthy eating and physical inactivity and through these factors, health inequalities.

Time is another resource people need to be healthy: Being active takes time as does provisioning and preparing nutritious food. Like income, time commitments and constraints are unequally distributed, with women, lone parents, and caregivers especially likely to be time scarce (Strazdins et al., 2016). Australian women, for example, spend almost double the time on household work as men, whereas men are more likely to allocate time to the labour market (Australian Bureau of Statistics, 2009). Unlike income, time-related constraints are not yet well integrated into theory, evidence or action to increase physical activity and healthy eating. There is relatively little evidence assessing associations between time scarcity and health behaviours, and few interventions explicitly address these socially-patterned time barriers. This lack is surprising, because when asked, the most common reason people in developed nations give for physical inactivity or an unhealthy diet is insufficient time (Andajani-Sutjahjo et al., 2004; Booth et al., 1997; Brown et al., 2001a; Inglis et al., 2005; Spinney and Millward, 2010; Welch et al., 2009).

The current study, to our knowledge, is the first to use longitudinal data to examine how both forms of scarcity — income and

\* Corresponding author.

E-mail address: [lyndall.strazdins@anu.edu.au](mailto:lyndall.strazdins@anu.edu.au) (L. Strazdins).

time — may be driving unhealthy lifestyles. We estimate their significance for physical activity and healthy eating over a consecutive two-year period, exploiting survey-based measures embedded within a longitudinal study. This design allows us to move beyond a cross-sectional analysis (which characterises previous research) to address problems of endogeneity and reverse causation. We investigate whether a new episode of scarcity leads to a new occurrence of unhealthy behaviour among people who had previously reported good health. We study four behaviours: (1) physical inactivity; (2) eating meals from fast food outlets or restaurants; (3) discretionary calories from food high in salt, sugar, or fats and; (4) eating less than recommended amounts of fresh fruit or vegetables. We further test if behaviour change is more likely when scarcity persists for two years and if multiple forms of scarcity combine to constrain healthy behaviour.

### 1.1. Theorising scarcity and its social patterning

Scarcity is the feeling of having less than is needed, an assessment that takes into account the resource's amount and the demands placed upon it (Mullainathan and Shafir, 2013). This definition recognises that scarcity, like poverty, is difficult to define in any fixed way because it is socially contextualised and relative. Measures of income and time scarcity that include amount (measured in dollars or hours) and people's own assessment (the experience of being poor or feeling rushed and pressed for time) provide a more nuanced picture of scarcity, and the present study therefore includes both.

Because income and time are resources linked to social structure, both types of scarcity are socially patterned. It is well established that people with poor health, poor education, and low skills are at risk of income scarcity. They are unable to secure well-paid work and low income further reinforces powerlessness, exclusion and subordinate status. Time is also finite, like income, but unlike income, everyone has 24 h in a day. In this sense time distribution is equal, yet demands on time, how people's time is valued as well as capacity to control time varies by social status. Marx first articulated time's essential role in defining social relations. He described how, in the labour market, time (in terms of how long and how quickly people worked) is exchanged for wages, and the terms of this wage-time exchange reflects and reinforces bargaining power (Nyland, 1986; Thompson, 1967). From this strictly market perspective, what people can earn (income) and how long or how fast they must work to earn it (time) are distinctive measures of social standing.

What is devalued and not counted also reflects social standing, and this is particularly evident when considering time. There is almost universal evidence that women are more likely to experience time poverty compared with men because of domestic work and caregiving. In both developed and developing nations, women have less time free from care or domestic work, limiting their capacity to engage in paid work and creating time-based divisions in households and resources (Jacobs and Gerson, 2004; time, work, money, power, knowledge and health are the six indicators guiding EU gender equality policy, see Pascall and Lewis, 2004). Lack of free time changes women's behaviour, especially their leisure and rest, and all are relevant to health behaviour.

### 1.2. Income scarcity and healthy behaviour

Relationships between income and health behaviours are well established (see Trost et al., 2002; Darmon and Drewnowski, 2008; Pampel et al., 2010 for reviews). Lower household income and perceived ability to cope financially is associated with significantly less leisure-time physical activity, sport participation and

moderate/vigorous physical activity (Cerin and Leslie, 2008; Cleland et al., 2012; Downward, 2007; Farrell and Shields, 2002; Humphreys and Ruseski, 2011; Spinney and Millward, 2010). Low income has also been associated with buying and eating unhealthy food (Ricciuto and Tarasuk, 2007; Turrell et al., 2003), although Lee et al. (2016) show that healthy food is not necessarily more expensive than unhealthy food; instead, what differs is the proportion of disposable income low income households allocate. Self-assessed financial strain appears to exert an additional effect over and above that of low income, possibly reflecting assessment of demands on income as well as amount received (Lallukka et al., 2007; Macy et al., 2013).

### 1.3. Time scarcity and healthy behaviour

There are several, cross-sectional studies examining the link between time use and healthy behaviour. They find that having fewer hours of free time or feeling rushed is associated with physical inactivity (Brown et al., 2001b; Kalenkoski and Hamrick, 2013; Spinney and Millward, 2010). Time is also needed for healthy eating because of the planning, shopping, preparation, cooking, eating and cleaning involved (Jabs and Devine, 2006; Storer-Isser and Musher-Eizenman, 2013). For example, people who report being rushed while preparing meals are less likely to avoid foods high in salt or sugar, or eat fruit and vegetables (Mothersbaugh et al., 1993).

Studies on work time typically find long hours are associated with less physical activity (Artazcoz et al., 2009; Burton and Turrell, 2000; Loh, 2009; Popham and Mitchell, 2006) and unhealthy eating (Bauer et al., 2012). Long commute times, volunteering, and sedentary leisure are associated with poorer health behaviours (Smith et al., 2014); long hours of domestic work and caregiving also generate health risks (Bird, 1999; Bird and Fremont, 1991; Strazdins et al., 2016).

### 1.4. Addressing endogeneity

One problem for understanding how income or time scarcity shape health is that most studies assume causality runs from scarcity to health, failing to account for the reverse possibility (Pagán, 2013). Addressing endogeneity is critical for advancing evidence on the social determinants of health because it biases estimates of time-health and income-health relationships. For example, Sacker et al. (2013), using sophisticated modelling techniques, found that the relationship between self-rated health and income is reciprocal.

Endogeneity is less obvious in the case of health behaviours. In the short term, insufficient physical activity or unhealthy eating is unlikely to affect the likelihood of experiencing time or income scarcity. More likely, however, is that a health shock simultaneously changes health behaviours and people's capacity to work or undertake other committed activities. Either way, income or time scarcity could be endogenous, making the observed relationships between scarcity and healthy behaviour spurious. Relatively few studies deal with these methodological issues. Those that do typically find that some of the cross-sectional results attenuate or disappear (Brown and Roberts, 2011; Kalenkoski and Hamrick, 2013; Popham and Mitchell, 2006), underlining the need to address endogeneity in any analysis of scarcity and health.

### 1.5. Summary and research questions

We expect income scarcity will constrain physical activity and increase the frequency of eating unhealthy food (which tends to be cheaper) and inadequate fresh fruit or vegetable consumption

Download English Version:

<https://daneshyari.com/en/article/5046792>

Download Persian Version:

<https://daneshyari.com/article/5046792>

[Daneshyari.com](https://daneshyari.com)