What's casual? What's causal? Advancing research on employment relationships and health

Trevor Peckham , Noah S Seixas

INTRODUCTION

The 'changing nature of work' has received increasing levels of attention within lay and research communities. In addition to the technologies of work, scrutiny has been focused on major shifts in the relationship between workers and their 'employer'—namely the general trend of employers externalising economic and legal risk onto workers, producing more precarious and insecure labour market experiences. Such concerns have led researchers to investigate potential adverse health implications of working within various forms of temporary employment, which is typically framed as an objective marker of job insecurity.

As with other areas of occupational health research, careful definition and ascertainment of the 'exposure' are paramount to the interpretation of such studies. However, employment arrangements research continues to suffer from a lack of definitional clarity, stemming from underdeveloped theory about how employment relationships affect worker health. More challenging, this line of research also differs from classical occupational health studies in that the social context of the work and workers is integral to formulating and interpreting analyses. In this way, employment arrangements research requires a multilevel approach.

The article by Hahn *et al*[1] in this issue exemplifies the importance of these definitional and contextual aspects of epidemiological research on relational aspects of employment, such as *casual employment* in the *Australian context* addressed in their paper. In this commentary, we explore further aspects of exposure definition and the importance of context in the interpretation of findings, in relation to the work by Hahn *et al*.

Environmental and Occupational Health Sciences, University of Washington, Seattle, Washington, USA

Correspondence to Trevor Peckham, Environmental and Occupational Health Sciences, University of Washington, Seattle, WA 98105, USA; tpeckham@uw.edu

OBSERVATION 1: MANY HETEROGENEOUS DEFINITIONS OF 'TEMPORARY EMPLOYMENT' HAVE BEEN APPLIED WITHOUT STRONG THEORETICAL RATIONALES

Definitions of employment arrangements have been a morass of confusion, with many different but related concepts being conflated.[2] This can be seen in several of the longitudinal studies cited by Hahn *et al*, which operationalise 'temporary employment' as different combinations of multiple non-permanent employment forms, including fixed-term, seasonal, casual and temporary agency arrangements. While each of these arrangements shares the quality of being inherently contingent, workers' experience within these types of employment, and the mechanisms leading to adverse health, may vary. For example, temporary agency work is distinct from most other contingent employment in that multiple employers share responsibility for the health and safety of workers in this arrangement. This may lead to confusion and diffusion of such responsibilities across agency and worksite employers, a unique mechanism that may contribute to the relatively consistent finding of increased injury risk among these workers.[3] As a result of these myriad definitions, comparisons of results across studies is difficult, as different arrangements might elicit different experience and have different health consequences.

OBSERVATION 2: EMPLOYMENT RELATIONS ARE COMPLEX AND REQUIRE A MULTIDIMENSIONAL DEFINITION

More generally, we submit that measuring contract type alone is not sufficient to characterise the complex and inter-related aspects of the employment relationship that contribute to workers' experience of insecurity or poor health. Permanent workers can also experience job insecurity, and, indeed, some scholars are concerned that insecurity has become a structural phenomenon in modern working life, such that contract permanence is less able to distinguish experiences thereof.[4] Instead, researchers need to move towards conceptualisations of the employment relationship that span multiple dimensions. Rather than just risk of job loss or ability to find a similar job, workers' experience of security depends on factors such as control over work processes, wage and benefit levels, and protection against an unfair treatment like discrimination or arbitrary dismissal—all of which are at least partially structured by the terms and conditions of employment.

Perhaps the most influential multidimensional measure of employment relationships is the Employment Precariousness Scale (EPRES), now validated in several countries, which incorporates six dimensions of precariousness. Beyond the temporariness of the contract, the measure also integrates dimensions related to wages, rights and protections, and aspects of worker–employer power dynamics.[5] The EPRES scale was recently compared with unidimensional measures of contract permanence, showing that the latter leads to large misclassification of the experience of precariousness[6] and less ability to distinguish health differences within working populations.[7] Rather than dimensional scales, other researchers have used more holistic approaches to operationalise multidimensional measures, such as using latent class analysis, finding substantial heterogeneity in the patterning of modern employment and that worker health may depend on specific configurations of multiple employment conditions.[8] This area of research is still evolving. Development of precise, measurable constructs, improving surveillance systems to capture relevant data and methods for incorporating multidimensional constructs into epidemiological analyses remain significant challenges. Further, only a few studies have examined multidimensional conceptualisations of employment relations within longitudinal designs.[9]

From an exposure assessment perspective, Hahn *et al* are to be commended on several fronts. The authors differentiate casual from fixed-term and permanent employment, avoiding unnecessary ambiguity of potentially distinct exposures. Further, they extend their analysis beyond the contract type alone. When they examined contract type and irregularity of work schedule simultaneously, the combination of irregular, temporary employment suggested lower emotional and mental health, especially among women (table 3). Irregular scheduling may indicate poor worker–employer power relations—in particular, a lack of control over one's work/non-work life schedule—and better characterise how employment

transmits insecurity and precariousness onto workers.

OBSERVATION 3: POLICY CONTEXT MATTERS: CASUAL EMPLOYMENT MEANS SOMETHING VERY SPECIFIC IN AUSTRALIA

However, we further argue that to properly interpret the results of their analysis requires understanding the social and policy contexts with which these employment arrangements and workers are embedded. Most critically, casual employees in Australia are legally entitled to wage premiums (>20% higher wages compared with permanent workers doing the same job), as well as certain opportunities for unpaid leave (eg, up to 12-month unpaid parental leave for long-term casual employees). Such provisions specifically compensate workers for the inherent insecurity of this arrangement. Recent survey data[10] also suggest that a large majority of these workers expect to be with their current employer in 12 months (81% compared with 93% of permanent workers), belying the generally accepted concept of casual employment being temporary. Further, casual labour has represented a substantial proportion (~25%) of the overall Australian labour force for many decades, reducing possible stigma felt by workers in this type of arrangement. Australian casual employment thus seems to be distinct from many other forms of minimally attached labour arrangements found in other national contexts.

OBSERVATION 4: WORKERS' INDIVIDUAL CONTEXT MATTERS: VOLUNTARINESS AND WORKER-SIDE FLEXIBILITY

Individual-level contexts are also important: they shape and constrain workers' preferences and ability to choose their employment circumstances. For example, those with significant childcare responsibilities—especially single parents and women as a class—may be more adversely affected by irregular schedules. In contrast, casual employment may offer some worker-side flexibility that could be health-supportive, allowing increased ability to attend to non-work-related social obligations and interests. More generally, factors such as economic resources and social class are critical determinants of a worker's level of agency and may further help distinguish experiences of beneficial 'flexibility' versus adverse 'insecurity'. A recent study of Italian workers found that voluntariness was a key determinant of mental health among temporary and permanent part-time workers: only those involuntarily engaged in such arrangements had worse health compared with permanent employees.[11] Thus, worker-level characteristics potentially contribute to both modification of the employment–health relationship and social stratification of workers into different forms of employment.

We quickly note that the latter issue is a potential limitation to the validity of Hahn *et al*'s analysis, independent of health selection effects thoroughly accounted for in their models. If workers of certain sociodemographic profiles are disproportionately sorted into different employment arrangements, this can cause 'structural confounding', which can be exacerbated by covariate adjustment due to non-overlapping distributions of these covariates across exposure categories.[12] Without knowing if this is relevant to the Hahn *et al* study, it is nevertheless interesting to note that the few longitudinal studies that applied methods such as propensity scores, which improves exchangeability across comparison groups, have found evidence of causal associations between temporary employment and poor health.[13–15]

Meaningfully integrating this contextual information into our exposure and health analyses is a difficult but critical task. We have argued that, within occupational health, researchers should strive to characterise employment relationships as objectively as possible and then subsequently incorporate social and policy contexts into their analyses (eg, as predictors of exposure, effect modifiers, mediators).[16] We believe such an approach is most useful to develop a structural understanding of actual employment conditions, their relationship with health and effective intervention strategies.

CONCLUSION

In closing, we believe the previously mentioned issues help us make sense of Hahn *et al*'s null findings. Casual employment is a different concept in Australia than is largely assumed in many other countries. As a result, the conclusions should not be over-interpreted to suggest that contingent forms of employment have no health implications generally. Further, future research will need to incorporate the multidimensional aspects of employment relations, as well as social and policy contexts in which they are embedded, that are likely to affect workers' experience of work-related security and health. Despite these limitations, an optimistic interpretation of Hahn *et al*'s well-done study is that it may be possible to modify employment relationships, through social policy, such that workers in non-permanent arrangements are at least somewhat protected against the inherent precariousness of market-based labour relations.

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ORCID iD
Trevor Peckham http://orcid.org/0000-0001-8196-4298

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