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Measuring poor job quality amongst employees: the VicWAL job quality index

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Job quality is a central, though contested, concern of contemporary employment relations. Our focus in this article is on *poor* job quality, which can have a major impact on employee well-being and work–life outcomes. We report on the construction of a job quality index (JQI) using items from the 2009 Victorian Work and Life (VicWAL) survey, which had 3007 employee respondents. The VicWAL JQI is composed of 15 items, subsumed in six components that are recognised in the literature as contributing to job quality: working-time autonomy, job security, job control, workload, skill development and access to work–life provisions. Our measure counts aggregate job quality deficits across the six components. The VicWAL JQI performs as expected in regard to several key screening variables, including contract status and occupation, and has a significant linear relationship with a measure of work–life interference. We find almost one-fifth of respondents are located in very poor-quality jobs (two or more reported deficits in components), with considerable diversity in these jobs and in the deficits reported. High workloads were reported in almost half the sample. The article explores the intriguing impact of workload on the VicWAL JQI and highlights the implications of the measure for the assessment of job quality in Australia.

Keywords: job quality measurement; poor job quality; working conditions; work–life balance; workload

Introduction

A rich literature on job quality has emerged in recent years, mainly in Europe (Green 2006; Rubery & Grimshaw 2007; Burchell et al. 2012) but also in North America (Lowe 2007; Kalleberg 2011) and increasingly in Australia (Chalmers et al. 2005; Strazdins et al. 2010; Knox et al. 2011). There is broad agreement in most OECD countries that poor-quality jobs exert costs on individual workers, families, communities and economic competitiveness (Carré et al. 2012: 1). Yet, even where the quality of work is an explicit policy objective, as in the European Union (EU), there has been surprisingly little policy development and action to ameliorate what appears to be a widespread problem of poor and in some cases deteriorating job quality (Bothfeld & Leschke 2012).

One barrier to policy development is the difficulty in measuring and comparing job quality. This article presents a new job quality index (JQI) using items from the 2009

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Victorian Work and Life (VicWAL) survey (Haynes et al. 2010a). Given the costs linked to poor-quality work, we focus here on the measurement of poor job quality, taking into account key working conditions and characteristics of jobs held by employees in Australia. This will, we hope, offer a richer account of the composition and distribution of poor- and better-quality jobs across different segments of the Australian workforce than the use of single job characteristics, such as casual status.

The next section outlines current scholarship on job quality. We then sketch out the different approaches and benchmarks used in the measurement of job quality. In the following sections, we set out the main features of the VicWAL survey, describe the construction of the VicWAL JQI and report on two tests of its usefulness, based on its patterning among subgroups of employees in Victoria and its impact on work–life balance. We highlight the problem of workload that emerged in the validity testing of the VicWAL JQI, focusing on the impact of high workloads on otherwise better-quality jobs and on the assessment of relative job quality between different employee groups. Our conclusion highlights the broader implications of our study for the assessment of job quality in the Australian context.

Job quality: an overview

Burchell et al. (2012) and Bothfeld and Leschke (2012) link the development of interest in job quality to research around the ‘quality of working life’ in the late 1960s and 1970s, which drew on growing concerns with the social ramifications of economic and social change. Recent interest has also been fuelled by international policy initiatives, such as the ‘decent work’ agenda of the International Labour Organisation, first articulated in 1999, and the EU’s ‘more and better jobs’ agenda in the early 2000s. While the global financial crisis has arguably shifted policy and political focus to job preservation and growth, job quality remains a central although contested concern of contemporary employment relations.

Job quality is sometimes loosely identified with single job characteristics such as wages or job security (contract status) (Antón et al. 2012). But most scholars agree that job quality is better viewed as a multifaceted phenomenon (Leschke et al. 2008). Various dimensions of job quality, as well as its antecedents and consequences, have been explored from diverse theoretical perspectives and at the different levels of the job, the firm and the labour market (Burchell et al. 2012: 4–5). While there is little consensus about exactly what constitutes a good-quality job, there is reasonable agreement on the perspective from which job quality is assessed – that of the worker. Thus, job quality can be usefully defined as constituting ‘the set of work features which foster the well-being of the worker’ (Green 2006: 9). In this sense, the concept is mainly employed to distinguish between those jobs that foster the well-being of workers (‘good’ jobs) and those that do not (‘bad’ jobs) (Tilly 1996).

The impact of poor-quality jobs is a major concern for researchers and policy-makers, overlapping with the emerging concern with precarious work (Vosko et al. 2009; Kalleberg 2011). As in the case of precarious work, researchers are conscious of different impacts for different labour market groups, patterned according to gender and spatial location (Smith et al. 2008; Vosko et al. 2009) and the polarisation between better- and poor-quality jobs (Kalleberg 2011). There is now a rich literature on the influence of various dimensions of job quality on worker well-being and the overall quality of life (Gallie 2007; Kalleberg 2011; Eurofound 2012). For example, high work demands and little control over one’s job have been identified as a key social determinant of poor health

and well-being outcomes such as cardiovascular disease and stress (Wilkinson & Marmot 2003). Poor job quality may also have an impact beyond the individual worker, with recent work highlighting the negative impact of parents' poor job quality on the mental health of their children (Strazdins et al. 2010).

One important focus in the literature has been the impact of poor-quality jobs on work–life balance, with particular attention paid to the effect of non-wage dimensions such as job insecurity, long hours and high workloads (Kalleberg 2011; Pocock et al. 2012). A recent review of the international evidence on the influence of working-time arrangements found there is broad consensus that the volume and scheduling of hours of work impact both directly and indirectly on the well-being and work–life balance of workers and their families, with long hours and regularly working non-standard schedules having significant negative effects on work–life 'fit' (Fagan et al. 2012: 40). The adverse impacts of different dimensions of poor job quality can have a cumulative effect, including on work–life balance outcomes (Drobnič et al. 2010: 222). While the effects of some aspects of poor job quality may be ameliorated to some extent by the presence of other more positive aspects, such counteracting effects may be limited. For example, the positive effects of autonomy and control over work schedules may be insufficient to counteract the negative effects of long hours or unsocial schedules on work–life balance (Fagan et al. 2012: 39). This suggests that it is important to take a holistic approach to job quality wherein the interaction of various dimensions of job quality can be assessed.

Discussion of job quality is at the heart of contemporary policy debates. However, as in the EU's 'more and better jobs' agenda, tensions remain about the relative importance of the *quantum* of jobs and the *quality* of those jobs (alternatively expressed, a need for greater employer flexibility and a need for greater employee job security). In Australia, there is growing concern within the union movement and in the community more widely about the consequences of insecure and precarious jobs, reflected in evidence before the Australian Council of Trade Union (ACTU) Independent Inquiry into Insecure Work (ACTU 2012; Sheehan 2013). However, as in the EU, debate continues over whether the policy focus should be on the quality or quantity of jobs.

Measuring job quality

Different approaches or methodologies are used to measure job quality (Burchell et al. 2012). One main approach draws on economics and psychology (Muñoz de Bustillo et al. 2009: 51) and is generally described as more 'subjective'. Job quality is understood here as the 'utility that a worker derives from his or her job' (Eurofound 2012: 10). This approach typically focuses on extrinsic characteristics or outcomes of jobs such as job satisfaction, which expresses the overall judgments that the workers make of their job (Muñoz de Bustillo et al. 2009: 69). In these cases, it is the worker's evaluation that is measured, not the features of the job itself. While such evaluations may well reflect job features such as wages and hours, they are also relative to the aspirations and expectations workers may have about the quality of their job (Burgess 2005: 37). This is reflected, for example, in the higher reported job satisfaction of part-time and female workers (Wooden & Warren 2004).

A second main approach draws on the sociological literature and on what are more 'objective' or intrinsic features of the job, such as wages and job security (Eurofound 2012: 10). While these characteristics are self-reported by individual workers, these workers are arguably the people who know most about the features of the jobs in which they work (Green 2006: 49). Muñoz de Bustillo et al. (2009: 47–51) point to conditions

and characteristics of jobs (both within firms and the labour market) such as contractual status, job security, opportunities for skill development and career progression. Concern with work–life balance, especially in a context of increasing female employment participation (Gallie 2007), has in turn focused attention on working-time conditions, including the hours, scheduling, flexibility and predictability of working time, work intensity and the boundaries between working and non-working life (Muñoz de Bustillo et al. 2009: 51).

Concern with the divide between good-quality and poor-quality jobs often leads to an approach that emphasises and defines minimum standards. Jobs that do not meet the prescribed standards are effectively deemed poor-quality jobs, while the attributes of a good-quality or decent job are identified by looking at jobs that stand above broad minimum standards (Burgess 2005: 35). For example, the European Foundation for the Improvement of Living and Working Conditions (Eurofound 2002: 6) sets out a conceptual framework for the measurement of job quality that comprises four broad objectives or criteria: career and employment security; health and well-being; skill development and the reconciliation of work and non-work life (Eurofound 2002: 6). The extent to which the existing jobs rate against each objective is then used to highlight challenges, such as the higher work intensity in jobs held by those on temporary or fixed term contracts compared with those in ongoing contracts. This approach is also reflected in the Canadian research, which has focused on similar aspects of job quality both within the Canadian labour market (Lowe 2007) and in international comparison (Brisbois 2003). A similar approach is evident in a preliminary assessment of 10 dimensions of job quality relevant to part-time jobs in Australia (Chalmers et al. 2005).

Reflecting the different subjective and objective approaches to measuring job quality, a variety of job quality indices have been developed to take advantage of large-scale data sets that enquire about jobs and working conditions (Burgess 2005). These indices may focus either on specific conditions or on the quality of jobs as a whole, employing the more subjective psychosocial measures or the more objective intrinsic features of the job. Such indices can be used to measure and compare job quality at the cross-national level and/or at the national and industry/sector levels (Burchell et al. 2012). For example, drawing on population survey data, Kalleberg et al. (2000) construct a composite labour market-level measure of ‘bad jobs’ based on the presence of low-wage jobs and jobs without health and pension benefits in the United States. A major recent study (Eurofound 2012: 13–15) adopts a more detailed approach to measuring job quality in and across the 27 countries of the EU. It uses self-reported features of jobs in the fifth European Working Conditions Survey to construct four separate indices: earnings (net monthly earnings), prospects (job security, prospects for advancement, contract quality), intrinsic job quality (skill use and discretion, social environment/support, physical environment, work intensity including the pace of work) and working-time quality (the extent to which working-time duration, scheduling, discretion and short-term flexibility over working time meets workers’ needs for good work–life balance).

Any assessment of job quality, particularly cross-national assessment, is of course constrained by the availability and content of suitable data sets (Burchell et al. 2012) as well as the approach taken to job quality. In Australia, JQIs have been constructed using the Longitudinal Study of Australian Children (LSAC) (Strazdins et al. 2007) and the Household, Income and Labour Dynamics in Australia (HILDA) survey (Leach et al. 2010) data sets. Both JQIs are concerned with non-wage dimensions of job quality, and each has a specific focus. The 2007 LSAC JQI is a count measure of parental job quality. It draws on more objective dimensions of job quality, classifying jobs by the presence of

four working conditions reported in LSAC wave 1: job control, perceived job security, flexibility and the provision of paid family-related leave (Strazdins et al. 2007: 208). In a further study, an additional item on workload in the LSAC wave 2 allowed an extension to a five-component JQI (Charlesworth et al. 2011). The HILDA JQI uses an array of subjective and objective measures. It includes 12 items that assess different psychosocial characteristics of work, organised into three components of psychosocial adversity: job demands and complexity, job control and job security (Leach et al. 2010).

Both the LSAC JQI and the HILDA JQI are useful measures of job quality in contemporary Australia. However, in providing an aggregate assessment of the key job characteristics that underpin employee job quality, both have limitations. The LSAC JQI, in both its four- and five-component versions, does not include dimensions such as control over the schedule of hours or opportunities for skill development that would allow a richer appraisal of both overall job quality and the impact of job quality on work–life balance. While it provides an important mechanism to link job quality and health outcomes, the HILDA JQI is focused more on psychosocial job quality and on the extrinsic outcomes of jobs than on the conditions and characteristics of jobs. If we want to better understand the conditions of work that produce poor- or better-quality jobs in Australia, we need to focus as much as possible on the dimensions of job quality that are directly related to the job (Munoz de Bustillo et al. 2011: 457).

To that end, the next section introduces a new JQI, derived from items from a representative employee survey, the VicWAL survey. We draw generally on the more objective approach to job quality in that the elements of our JQI include key characteristics of jobs ‘that meet workers’ needs from work’ (Eurofound 2012: 10).

The development of the VicWAL JQI

The VicWAL survey

The VicWAL survey was a computer-assisted telephone interview survey, run in July 2009 to examine how working conditions and work–family–community balance differ according to regional or metro location. The survey included the following topics: socio-demographic characteristics, employment conditions, employment characteristics, organisational culture, work–life balance and adequacy of community services. The target population was adults (18 years of age and over) who were residents of private households in Victoria and who were working for a salary or wage. People who were self-employed were included only if they also held another job as an employee. Employees living outside Melbourne were over-sampled to ensure a sample size that is large enough for meaningful analyses of differences between regional Victoria and Melbourne. A total of 3007 employees were interviewed (see Haynes et al. 2010a).

Two weighting variables, based on ABS August 2009 Victorian labour force data for employed persons 15 years and over, were developed to ensure the VicWAL survey data were broadly representative of the Victorian metro and regional employee populations. The first variable weights by age and sex within the two locations – metro and regional – and is used when comparing respondents from the different locations. The second weights by age, sex and location and is used when examining the Victorian population. This latter weight is used in the analysis in this article. While the weighted sample closely resembles the relevant ABS data in terms of age and sex, there are some differences with regard to occupation and industry. Compared with the ABS data, those in professional occupations are slightly over-represented in the VicWAL survey, while workers in the manufacturing

industry are under-represented, particularly males in regional Victoria. In addition, women who worked part-time are slightly over-represented in the sample, while both male and female casual employees are under-represented (see Haynes et al. 2010b).

Conceptual framework for the VicWAL JQI

Job quality is a multifaceted phenomenon (Leschke et al. 2008) with both direct and indirect effects on a worker's well-being. To investigate the nature and extent of job quality for employees in the Australian context and the consequences for work-life outcomes, we draw on the VicWAL survey described above. Our approach to the development of a measure of job quality is focused on poor job quality and the clear absence of job features that are necessary to support the well-being of workers (Munoz de Bustillo et al. 2011: 455) and to facilitate choice for individuals in the way they combine work and life (Chalmers et al. 2005: 49). The development of our measure is thus focused on identifying key job quality deficits.

To that end, we have developed six components that relate to the conditions of jobs held by the VicWAL sample and that allow us to measure and aggregate key dimensions of job quality in a single measure. These job characteristics are of course not the only dimensions that influence job quality. Indeed, a major limitation of the VicWAL survey, as with the LSAC survey, is that it does not have data on individual wages, a key dimension of job quality. Nevertheless, the VicWAL survey does provide data on a broad range of key non-wage job characteristics that the literature canvassed above strongly suggests contribute to job quality.

The six components or dimensions in the VicWAL JQI are working-time autonomy, job security, job control, workload, skill development and access to work-life provisions. Definitions of each of the six components, together with a brief account of the items used for each component, are outlined below and are presented in Table 1.

Working-time autonomy. This dimension refers to the control over the quantum and scheduling of hours an employee has and includes both employee-orientated and employer-orientated control over working time. Individual working-time autonomy is necessary to provide for the diversity of working-time preferences of employees (Fagan 2001: 240). Four items contribute to this component. The first, drawn from the HILDA survey, uses the survey questions that asked both full-time and part-time employees if they could choose the number of hours they work each week in their main employee job, and taking into account how that would affect their income, would they prefer to work fewer hours, about the same number of hours or more hours. As set out in Table 1, the answers to these questions were then recoded as a dichotomous *work-hour mismatch*, where possible responses are: wanting to work about the same hours and wanting more or fewer hours. The second item is adapted from the 4th European Working Conditions Survey (Fernández Macías et al. 2007) and goes to the *degree of control* employees have over their work schedule (that is the number of hours and when those hours are worked). The four possible responses are set out in Table 1. The next two items are adapted from Whitehouse et al. (2009). One asks respondents how often they are asked to change their work schedule at *short notice*, while the other asks respondents whether they could access (in their main employee job) flexible start and finish times if they needed to. This second question assesses the extent to which employees' needs for *short-term flexibility* in the scheduling of their hours are likely to be met.

Table 1. VicWAL job quality items and components.

Component	Number of items	Items	Score range	Response coding		
				1 'poor'	0 'all else'	
Working-time autonomy	4	Work hour mismatch	0, 1	More or fewer hours	About the same	
		How work schedule is set	1-4	Employer sets with no possibility of change	Several fixed schedules/can adapt work times within limits/great deal of freedom	
Job security	2	Asked to change schedule at short notice	1-4	Sometimes, often	Never, rarely	
		If needed, have access to flexible hours	0-2	No/ don't know	Yes	
		How likely to lose job in next 12 months	1-4	Very likely/fairly likely	Not too likely/not at all likely	
		How easy or difficult would be to find a new job as good as the current one	1-4	Quite difficult/very difficult	Very easy/quite easy	
Job control	2	I have freedom to decide how I do my work	1-5	Disagree/strongly disagree	Strongly agree/agree, neither agree/disagree	
		I have been consulted about changes in work or job	0-2	No, don't know	Yes	
Workload	1	I never have enough time to do everything in my job	1-5	Strongly agree/agree	Disagree/strongly disagree, neither agree/disagree	
Skill development	1	Opportunities for learning and skill development in your job?	0-2	No/don't know	Yes	
Access to work-life provisions if needed	5	Part-time or reduced hours	0-2	No/don't know	Yes	
		Paid parental or carers leave	0-2	No/don't know	Yes	
		Unpaid parental or carers leave	0-2	No/don't know	Yes	
		Annual leave at time of choosing	0-2	No/don't know	Yes	
		Work from home	0-2	No/don't know	Yes	

Job security. This dimension captures how secure a worker feels in their current job and the impact of losing it (Strazdins et al. 2007: 204). This more subjective concept of job security is a fundamental underpinning of employee job quality, with job *insecurity* seen as ‘the loss of welfare that comes from uncertainty at work’ (Green 2006: 130). As in Table 1, we use two items drawn from VicWAL questions that ask first about the risk of job loss and then about the cost of job loss in terms of finding a comparable job. We note that this component does not capture job security in the sense that the job offers the prospect of advancement (Eurofound 2012: 13–14), which is better reflected in the component on skill development below.

Job control. This dimension generally refers to control over the methods, pace and order of tasks and the taking of breaks (Eurofound 2002: 8). As shown in Table 1, our job control component picks up on the discretion employees have over the way they perform their jobs. This draws first on the concept of *task autonomy*, which refers to the discretion to use one’s skills and the authority one has to make decisions about one’s work (Chalmers et al. 2005: 60). Second, it draws on the concept of *employee voice* in the sense of having a say about the performance of one’s job and being consulted about any changes to that job or the conditions of that job, which is narrower than having influence over organisational decision-making more generally (Green 2006: 98).

Workload. This concept generally refers to the amount of work expected to be done in any particular job (Charlesworth et al. 2011: 39). In many analyses of job quality, several indicators are used to measure work intensity in order to capture the range of physical, cognitive and emotional demands placed on workers in their job (Eurofound 2012: 14). These might include the pace or speed of work, working to tight deadlines and not having enough time to get the job done (Leschke et al. 2008: 13). The VicWAL survey has only one relevant item to capture any aspect of work intensity and this is *workload* – the extent to which the respondent has enough time to get everything done in their job.

Skill development. This dimension refers to the opportunities for skill development a worker has in their current job. Skill utilisation and enhancement is increasingly a marker of good and bad jobs (Green 2006: 16) and is directly linked to whether a job offers its incumbent the prospects of advancement (Eurofound 2012: 13–14). This single-item component draws on the VicWAL survey question which asked respondents whether there are *opportunities for learning and skill development* in their main employee job.

Access to work–life provisions. Job quality can be assessed in terms of an employee’s practical access, if required, to certain adjustments to working time, including paid and unpaid leave and the quantum, scheduling and location of hours. The five VicWAL items used in this component, adapted from Whitehouse et al. (2009), drew on survey questions asking respondents whether, if they needed to, they could access (in their main employee job) various work–life provisions. As shown in Table 1, the items on carers and parental leave are aggregated into paid and unpaid leave.

The measure of poor quality

Our aim is to develop a measure of job quality examining the patterns of distribution over key demographic and employment characteristics. Our method takes a simple yet statistically sound approach in meeting that aim, constructing a count measure of the items

which represent key working conditions that contribute to job quality. The VicWAL JQI is composed of 15 items which together make up the six components of job quality. The advantage of this method is that it does not rely on the components to be highly correlated (which are not necessarily expected), and it is easily interpreted and replicated. Missing data were deleted pairwise.

Item scoring. Cut points were imposed on the response categories for all 15 individual items. Table 1 details which response categories were placed into the ‘poor’ and ‘all else’ categories. Because there were differing score ranges and response codings, we converted each item to a dichotomous 0/1 measure, with ‘1’ representing a ‘poor’ score, that is where responses indicated the clear absence or deficit in that item in terms of job quality. ‘0’ represents all other responses.

Component scoring. To avoid artificially over-weighting one component simply because it has more items, items within each component were added to create a component score which was converted to a 0/1 measure (1 represented the poorest score and 0 all other scores). Given the overall aim is to create a measure of poor job quality, we selected those that were in the poorest response group for each component and classed other responses as ‘all else’. In effect, the VicWAL JQI is a conservative measure of poor job quality where it is the poorest possible job quality of each component or dimension that is counted. For example, in respect of work time security, it is only where a respondent reports that they have a work-hour mismatch, *and* their employer sets their work schedule with no possibility of change *and* they are sometimes or often asked to change their hours at short notice *and* they don’t have or don’t know if they have access to flexible start and finish times that the overall component will be scored ‘1’.

Building the index. To create the VicWAL JQI, the six (0/1)-component score is then added to create a count measure of the number of components against which each respondent scored poorly. Given our holistic approach to job quality, we assigned the six components equal weight. Our approach has the advantage of simplicity and interpretability, and it avoids having to make a subjective assessment or imposing a statistical weight on the relative importance on JQI components that are very different in nature (see Leschke et al. 2008: 15) and that will vary in relative importance for different groups of workers. The dichotomous scores for the six components were added together to form the VicWAL JQI. This count measure sums the number of times each respondent reported a poor score. Scores could range from 0 to 6, with the higher scores representing poorer job quality.

The correlations between the six components of the VicWAL JQI can be seen in Table 2. Most of the components were consistently and positively associated with one

Table 2. Correlations between the VicWAL job quality components.

	WTA	JS	JC	SD	WLP
JS	.015				
JC	.214***	-.005			
SD	.110***	.081***	.143***		
WLP	.305***	.058**	.241***	.215***	
WL	.101***	-.005	-.085***	-.059**	-.133***

Note: *** $p < .001$, ** $p < .01$.

another, with the exception of job security and workload. Job security was related to skill development and work–life provisions but unrelated to work time security, job control and workload. Workload was, in contrast, negatively associated with job control, skill development and work–life flexibility. The finding that workload is significantly negatively associated with a number of other dimensions of job quality suggests that while workload is an important dimension of job quality, heavy workloads might be the trade-off for at least some better job conditions.

Table 3 details the number and proportion of the jobs in the VicWAL sample rated as ‘poor’ and ‘all else’ against each component. As can be seen, high workload is reported by almost half the sample, with no access to skill development and little job control both reported by over 1 in 10 of the sample population.

The 0- to 6-item measure of job quality does not contain enough response categories to be considered continuous and does not have a normal distribution. Given this, we decided to convert the measure into a categorical measure of job quality that measures ‘very poor job quality’, ‘poor job quality’ and ‘better job quality’. The cut points for this measure and the proportion of the VICWAL sample that fell into each of our three job quality categories are set out in Table 4. Almost a fifth of the sample (17.8%) were in very poor-quality jobs, with deficits in two or more of the components (and in each of the items within those components). Almost half of the sample (46.1%) worked in poor-quality jobs. However, over a third of the VicWAL sample (36.2%) worked in jobs where no job quality deficit was recorded in any of the components.

Table 3. Number and percentage of sample classed as ‘poor’ or ‘all else’ on each job quality component.

	Poor score	Else score	Poor		Else	
			N	%	N	%
Working-time autonomy	4	0–3	97	3.2	2910	96.8
Job security	2	0–1	250	8.3	2757	91.7
Job control	2	0–1	374	12.4	2633	87.6
Workload	1	0	1397	46.5	1610	53.5
Skill development	1	0	398	13.2	2609	86.8
Access to work–life provisions	5	0–4	59	2.0	2948	98.0

Table 4. VicWAL JQI distribution.

Job quality label	JQI score range	Frequency	Per cent
Better job quality	0	1057	36.2
Poor job quality	1	1346	46.1
Very poor job quality	2–6 ¹	520	17.8
Total		2922	100.0

Note: Column percentages may not total 100 due to rounding.

¹As noted above, no respondent actually scored 6.

Validating the VicWAL JQI

A well-established literature links the quality of employment to other indicators of social and employment status (Kalleberg 2011; Burchell et al. 2012). Similarly, quality of employment has been consistently associated with better well-being (including work–life balance) (Muñoz de Bustillo et al. 2009; Eurofound 2012). To test the validity of our measure of job quality (the VicWAL JQI), we used two approaches. First, we examined the distribution of job quality across a number of key socio-demographic and employment characteristics of the sample which we would expect would show differences. The results are presented in Table 5. Chi-squares were computed to test the associations between the variables.

Table 5. The distribution of better-, poor- and very poor-quality jobs within the sample across selected socio-demographic characteristics.

	Better job quality <i>N</i> (%)	Poor job quality <i>N</i> (%)	Very poor job quality <i>N</i> (%)
Sex			
Men	588 (37.0)	733 (46.1)	268 (16.9)
Women	469 (35.2)	613 (46.0)	252 (18.9)
Age groups			
18–24	246 (52.9)	157 (33.8)	62 (13.3)
25–34	233 (35.4)	303 (46.0)	122 (18.5)
35–44	229 (33.5)	229 (49.1)	229 (17.4)
45–54	195 (30.9)	322 (50.9)	115 (18.2)
55–64	122 (31.0)	182 (46.3)	89 (22.6)
65+	28 (36.4)	40 (51.9)	9 (11.7)
Education			
Secondary school or less	474 (42.8)	423 (38.2)	210 (19.0)
Trade/apprenticeship/TAFE/diploma	194 (31.2)	308 (49.5)	120 (19.3)
University degree or more	384 (32.6)	603 (51.2)	190 (16.1)
Location			
Metropolitan	802 (36.4)	1017 (46.2)	383 (17.4)
Regional/rural	254 (35.3)	329 (45.8)	136 (18.9)
Contract type			
Casual	165 (39.3)	154 (36.7)	101 (24.0)
Permanent/fixed term	890 (35.6)	1191 (47.7)	418 (16.7)
Work hours			
Part-time	692 (34.9)	939 (47.4)	349 (17.6)
Full-time	365 (38.7)	407 (43.2)	171 (18.1)
Occupation			
Managers	122 (32.4)	218 (57.8)	37 (9.8)
Professionals	297 (34.8)	407 (47.7)	149 (17.5)
Technicians and Trades Workers	125 (38.2)	146 (44.6)	56 (17.1)
Community and Personal Service Workers	97 (35.9)	137 (50.7)	36 (13.3)
Clerical and Administrative Workers	155 (41.8)	143 (38.5)	73 (19.7)
Sales Workers	116 (38.2)	131 (43.1)	57 (18.8)
Machinery Operators and Drivers	40 (29.9)	63 (47.0)	31 (23.1)
Labourers	99 (37.5)	88 (33.3)	77 (29.2)

Note: Row percentages may not total 100 due to rounding.

The JQI scores revealed several expected differences in our sample. The measure detected differences between respondents in different age groups ($\chi^2 (10, 2909) = 78.12$, $p < 0.001$): respondents aged 18–24 years were significantly more likely to report better job quality and significantly less likely to report very poor job quality; those aged 45–54 and 55–64 were significantly less likely to report better job quality; respondents aged 55–64 were more likely to be in very poor job quality, the oldest respondents, those aged 65 years or older, were significantly less likely to be in very poor jobs. There were also significant differences by level of education ($\chi^2 (2, 2906) = 48.60$, $p < 0.000$), with those with secondary school education or below significantly less likely to be in better-quality jobs. Those with university-level education were significantly less likely to be in very poor-quality jobs. The measure identified significant differences in contract type ($\chi^2 (2, 2919) = 21.61$, $p < 0.000$); specifically casual employees were more likely to be in the poorest quality jobs compared to those on permanent or fixed-term contracts. There were also differences in occupation ($\chi^2 (14, 2900) = 74.11$, $p < 0.001$); machinery operators and drivers were more likely to be in the poorest quality jobs compared to managers, who were less likely to be in very poor jobs but more likely to be in somewhat poor jobs. However, unexpectedly, there were no statistical differences in job quality between men and women, those who worked full-time compared to part-time or those who lived in regional or rural locations compared to those in metropolitan locations.

A second approach to validation involved an examination of the impact of our measure of job quality on well-being. The well-being measure we use is *work–life interference* as the VicWAL survey contains the five-measure Australian Work and Life Index (AWALI). AWALI has been used since 2007 to measure the extent of work–life interference in Australia (Pocock et al. 2012). The five indicators of AWALI are: (i) general interference, (ii) time strain, (iii) work to community interaction, (iv) satisfaction with overall work–life balance and (v) feeling rushed or pressed for time. The index is scaled from 0 ‘best work–life interaction’ to 100 ‘worst work–life interaction’. The five-item index has satisfactory internal consistency (Cronbach's $\alpha = .82$) (Skinner & Pocock 2008).

A one-way analysis of variance was computed to test the differences in total AWALI scores between the three job quality categories. There was a significant difference between all three groups ($F (2, 2919) = 150.54$, $p < 0.001$), suggesting a linear relationship between job quality and work–life interference. Those with better job quality reported the lowest (best) work–life interference score ($M = 33.69$, $SD = 17.62$), followed by those with poor jobs ($M = 43.09$, $SD = 20.38$); those with the worst job quality also reported the highest (worst) work–life interference score ($M = 51.72$, $SD = 23.90$). These means are presented in Figure 1.

The strong linear relationship between our measure of job quality and the AWALI measure of work–life interference suggests that the VicWAL JQI reflects job characteristics that can assist employees reconcile work and life.

The workload dimension

Our validation analysis revealed that the differences in job quality between several of our socio-economic employment groups were not as strong as expected. One possible explanation for this result could be the role of workload in our measure. Almost half the sample reported high workload, but, as noted above, we found negative associations between this item and the other components in the index (with the exception of working-time

Figure 1. Mean work–life interference scores for each job quality group.

autonomy) (see Table 2). To explore these issues further, we decided to investigate how the concept of workload was performing in our JQI.

Our first analysis computed chi-squares to explore the social patterning of high workloads. The results of this analysis can be seen in Table 6 and revealed that it was those who were in what would otherwise be assessed as good-quality jobs who reported high workloads (that is, reported strongly agree or agree they never have enough time to do everything in their jobs). There was no statistical difference in the reported workload of men and women ($\chi^2(1, 3007) = 1.07, p > 0.05$). However, we found that those respondents who were aged 35–54 ($\chi^2(5, 2995) = 134.32, p < 0.001$), were highly educated ($\chi^2(2, 2989) = 80.29, p < 0.001$), in full-time compared to part-time work ($\chi^2(1, 3000) = 67.99, p < 0.001$), in permanent or fixed-term jobs compared to casual jobs ($\chi^2(1, 3001) = 65.97, p < 0.001$) and in high-status occupations ($\chi^2(7, 2987) = 66.06, p < 0.001$) reported the highest workloads. These findings provide some evidence that the inclusion of workload in our job quality measure captures an important dimension to contemporary jobs in Australia, but it also complicates the connections between social status and job quality.

Next, a sensitivity analysis was conducted to explore the role of workload. This was done by constructing a VicWAL JQI measure that excluded workload. Using a similar process to that outlined above, an alternative JQI was developed excluding the workload item. Scores ranged from 0 ‘no component scored poorly’ to 5 ‘all components scored poorly’. Like the original JQI, the distribution of scores was positively skewed, and it was subsequently converted to a categorical measure with three job quality categories: very poor jobs, poor and better jobs. The distribution of this measure can be seen in Table 7.

Chi-squares were computed to examine the distribution of this measure of job quality against the same socio-demographic and employment characteristics as in Tables 5 and 6.

Table 6. The distribution of high workloads within the sample across selected socio-demographic characteristics.

	Workload	
	Low <i>N</i> (%)	High <i>N</i> (%)
Sex		
Men	864 (52.7)	776 (47.3)
Women	746 (54.6)	621 (45.4)
Age categories		
18–24	366 (77.1)	109 (22.9)
25–34	346 (51.0)	332 (49.0)
35–44	331 (47.5)	366 (52.5)
45–54	302 (46.2)	351 (53.8)
55–64	208 (51.0)	200 (49.0)
65+	51 (60.7)	33 (39.3)
Education		
Secondary school or less	725 (63.8)	412 (36.2)
Trade/apprenticeship/TAFE/diploma	323 (49.7)	327 (50.3)
University degree or more	551 (45.8)	651 (54.2)
Location		
Metropolitan	1212 (53.6)	1051 (46.4)
Regional/ rural	398 (53.5)	346 (46.5)
Work hours		
Full-time	986 (48.4)	1051 (51.6)
Part-time	621 (64.5)	342 (35.5)
Contract type		
Casual	312 (71.4)	125 (28.6)
Permanent/ fixed term	1293 (50.4)	1271 (49.6)
Occupation		
Managers	166 (43.6)	215 (56.4)
Professionals	413 (47.0)	466 (53.0)
Technicians and Trades Workers	194 (57.1)	146 (42.9)
Community and Personal Service Workers	151 (54.5)	126 (45.5)
Clerical and Administrative Workers	215 (56.3)	167 (43.7)
Sales Workers	188 (60.6)	122 (39.4)
Machinery Operators and Drivers	102 (69.4)	45 (30.6)
Labourers	173 (63.8)	98 (36.2)

Table 7. The distribution of job quality (excluding workload).

Job quality label	Job quality score	Frequency	Per cent
Better jobs	0	2000	68.5
Poor jobs	1	735	25.2
Very poor jobs	2–5	187	6.4
Total		2922	100.0

Note: Column percentages may not total 100 due to rounding.

The results revealed that there were still significant associations between job quality and age groups, level of education, contract type, occupation and industry, but the measure also detected significant associations with sex ($\chi^2(2, 2923) = 12.53, p < 0.01$), work hours

Table 8. Patterning of job quality without workload across selected socio-demographic characteristics.

	Job quality index (excluding workload)		
	Better jobs <i>N</i> (%)	Poor jobs <i>N</i> (%)	Very poor jobs <i>N</i> (%)
Sex			
Men	1132 (71.2)	363 (22.8)	94 (5.9)
Women	869 (65.1)	372 (27.9)	93 (7.0)
Age			
18–24	310 (66.5)	127 (27.3)	29 (6.2)
25–34	451 (68.5)	181 (27.5)	26 (4.0)
35–44	492 (71.9)	148 (21.6)	44 (6.4)
45–54	443 (70.1)	147 (23.3)	42 (6.6)
55–64	245 (62.3)	108 (27.5)	40 (10.2)
65+	53 (68.8)	20 (26.0)	4 (5.2)
Education			
Secondary school or less	726 (65.6)	285 (25.7)	96 (8.7)
Trade/apprenticeship/TAFE/diploma	412 (66.3)	162 (26.1)	47 (7.6)
University degree or more	849 (72.1)	384 (24.1)	44 (3.7)
Location			
Metropolitan	1506 (68.4)	575 (26.1)	121 (5.5)
Regional/ rural	494 (68.6)	160 (22.2)	66 (9.2)
Contract type			
Casual	220 (52.3)	143 (34.0)	58 (13.8)
Permanent/ fixed term	1778 (71.1)	592 (23.7)	129 (5.2)
Work hours			
Full-time	1413 (71.4)	464 (23.4)	102 (5.2)
Part-time	587 (62.2)	271 (28.7)	85 (9.0)
Occupation			
Managers	307 (81.2)	58 (15.3)	13 (3.4)
Professionals	620 (72.7)	200 (23.4)	33 (3.9)
Technicians and Trades Workers	212 (65.0)	97 (29.8)	17 (5.2)
Community and Personal Service Workers	193 (71.5)	66 (24.4)	11 (4.1)
Clerical and Administrative Workers	256 (69.2)	81 (21.9)	33 (8.9)
Sales Workers	193 (63.5)	86 (28.3)	25 (8.2)
Machinery Operators and Drivers	63 (47.0)	56 (41.8)	15 (11.2)
Labourers	143 (54.0)	84 (31.7)	38 (14.3)

Note: Row percentages may not total 100 due to rounding.

(χ^2 (2, 2922) = 29.79, $p < 0.001$) and location (χ^2 (2, 2922) = 14.70, $p < 0.01$). The results of this analysis can be seen in Table 8.

In brief, when we remove workload from our JQI, we find results that are closer to the expected results of social patterning of job quality. Thus, compared to women, men were more likely to be in better-quality jobs. We also find that those who worked part-time were significantly more likely to be in poorer quality jobs compared to those who worked full-time, and respondents living in regional or rural locations were more likely to report poor and very poor job quality compared to those who lived in metropolitan areas.

Importantly, both the five-component (without workload) and the six-component (with workload) VicWAL JQI showed a similar linear relationship to the AWALI measure of work–life interference. The one-way analysis of variance for the five-component VicWAL JQI showed a significant difference between the three job quality categories ($F(2, 2919) = 32.42, p < 0.000$). Those with better job quality reported the lowest (best) work–life interference score ($M = 39.33, SD = 19.54$), followed by that with poor jobs ($M = 44.12, SD = 22.97$); those with the worst job quality reported the highest (worst) work–life interference score ($M = 50.19, SD = 26.05$).

Discussion

Our analysis is cross-sectional in nature and reflects our interest in developing a measure of job quality that allows us to examine patterns of distribution over different groups of workers. However, it is important to note that, partly because of the VicWAL survey instrument, the VicWAL JQI has several limitations. First, the JQI does not incorporate data on the wages of individual employees. Second, some of the six components were based on a limited number of items. In particular, we only had one item to measure workload unlike the three or four measures used in other indices (Burchell et al. 2009; Eurofound 2012). Nevertheless, as we briefly discuss below, the validity testing across demographics shows that our six-dimensional model of job quality is adequate to measure aggregate job quality in the Australian context and that it has an important relationship with work–life interference.

The VicWAL JQI provides a useful way of measuring the aggregate quality of employee jobs in contemporary Australia and their main constituent characteristics. It allows us to go beyond single job characteristics and even aggregate labour force data to highlight the importance of a range of dimensions on overall employee job quality. In particular, the results of our VicWAL JQI suggest that Australian concerns about the polarisation of jobs into good and poor jobs (ACTU 2012) have some basis as does the relationship between poorer quality jobs and worse work–life interference (Pocock et al. 2012).

Results from the VicWAL JQI show that almost a fifth of our sample held very poor-quality jobs (see Table 4). That is, they reported job quality deficits (the maximum poor score for each component) in at least two and up to five of the six components. Another 46% of the sample reported poor job quality, with a deficit in one of the six components. As noted above, our benchmark of very poor and poor job quality is a strict one, in that to record a deficit in a component, respondents had to report a poor score for *each* of the constituent items in a component. This means that for almost two-thirds of the sample, there was a deficit in their conditions of work in one or more of the key constituent dimensions of job quality. Well over a third of our sample reported no aggregate job quality deficits and were thus in better-quality jobs. However all this means is these jobs met the minimum standard or benchmark we set for each of the six job quality dimensions and it is thus not possible to identify the extent to which these jobs exceeded these standards.

These findings suggest that an exclusive focus on wages, casual status or other forms of non-standard work, such as part-time hours, as a proxy for poor job quality may miss other job features that undermine decent and sustainable jobs. The VicWAL JQI identifies other key intrinsic non-wage dimensions of job quality, four of which (working-time autonomy, job control, skill development and access to work–life provisions) are significantly and positively correlated with each other, with workload significantly

negatively associated with job control, skill development and access to work–life provisions.

The preliminary results of the application of the VicWAL JQI point to a diversity of poor jobs in the Australian context. That is, not all poor-quality jobs are the same, with poor and very poor-quality jobs being found in different occupations, in full-time and part-time jobs and in casual and non-casual jobs. Further, jobs may have deficits across different quality dimensions, which may in some cases be ‘traded off’ against each other. Our analysis shows, for example, good-quality jobs can be degraded by high workloads. We found high workload decreases overall job quality for a large number of survey respondents, particularly managers and professionals, those on full-time contracts and those working full-time (Tables 6). This is reflected in the lower proportion of those who are in poor and very poor jobs when we exclude workload from the VicWAL JQI (Table 7). However, including workload in the VicWAL JQI masks the relative differences between poor-quality jobs with high workloads and those without. In Table 6, this effect was shown clearly in terms of some key socio-demographic variables. When we remove workload from the VicWAL JQI as shown in Table 8, statistically significant differences between men and women, full-time and part-time workers and workers in metro and regional locations emerge. This suggests that in further analysis, the choice of which version of the VicWAL JQI to use will very much depend upon the aim of that analysis.

Finally, the importance of job quality to work–life outcomes as measured by both the six-component VicWAL JQI and the five-component VicWAL JQI (without workload) is demonstrated in the linear relationship between job quality and the AWALI measure of work–life interference. This suggests that while workload is important, the other five components are also independently associated with work–life interference.

Conclusion

This article introduces a measure of poor job quality derived from the VicWAL survey. The initial results demonstrate that our six-component/15-item measure can be successfully aggregated to assess job quality relevant to the Australian context. Moreover, the inclusion of key job quality components related to more intrinsic characteristics of jobs facilitates a more detailed appraisal of the conditions of work that produce poor- or better-quality jobs in Australia than possible with either the LSAC or HILDA JQIs outlined above. While the aim of our analysis has been to look at the distribution of poor- and better-quality jobs at a single point in time, it would be useful to be able to employ longitudinal methods to examine how workload plays out over time or how the JQI predicts work–life interference or balance. This is not possible with the VicWAL survey which was run in 2009 only. However, given the existence of an Australian longitudinal data set with similar variables in the Australia at work survey (van Wanrooy et al. 2009), it would be possible to construct a similar JQI to the VicWAL JQI and explore changes in job quality over time.

In our analysis of the patterns of distribution of job quality, the application of the VicWAL JQI highlights a number of expected differences between diverse groups of employees and has a strong connection with work–life outcomes as shown in its interaction with the AWALI measure, consistent with the Australian and international job quality literature. The initial application of the VicWAL JQI outlined here is broadly indicative. However, our analysis suggests that it provides a useful starting point for a deeper investigation of job quality, including study of how the six individual components, and the items that comprise them, contribute to overall job quality for diverse groups of

workers. In particular, the strict classification of poor-quality jobs provides a useful guide to where poor and very poor jobs may be located in the Australian labour market and where policy action might most usefully focus.

In the process of developing the VicWAL JQI, workload emerged as an important indicator of poor job quality in its own right. Our findings are consistent with trends documented in UK and EU surveys (Green 2006; Eurofound 2012) as well as in the 2012 Australian AWALI survey where 52% of respondents reported that they had too much work for one person to do (Skinner et al. 2012: 53). In our view, this is not an argument for excluding workload from the VicWAL JQI or other similar measures. Rather, it draws attention both to the way workload and other components operate in aggregate and to the diverse groups for whom workload makes a difference to their overall job quality. In the Australian context, in particular, dominant norms of long full-time hours and time-unbounded work in some professional occupations have been well-documented (Campbell et al. 2012). Indeed, the large proportion of employees reporting high workloads further points to the way work intensity and overwork are becoming widespread, spanning jobs traditionally defined as ‘good’ as well as those defined as ‘bad’. The initial findings of the application of the VicWAL JQI have important policy implications. They suggest a simple equation of poor-quality jobs with casual jobs is inadequate and that there is a diversity of poor and very poor-quality jobs in the Australian labour market. We also found that high workloads are endemic. While the implications of this for the measurement of job quality of work is not yet well theorised or discussed in the Australian context, this is not a reason to drop workload from a consideration of job quality but in our view a compelling reason to include it. Indeed, the extent of high workloads reported by our sample captures an important feature of global neoliberal capitalism – the capacity to intensify work without any regulatory or other disincentive.

Some dimensions of poor quality may be amenable to improved labour regulation, for example ‘through working-time minima that place caps on long weekly/daily hours or that provide for written agreement to changes to hours. However, other quality dimensions, such as skill development, may appear to be shaped most directly at the level of the firm, while dimensions such as job security are likely to be shaped by industry and location. Nevertheless, as Bothfeld and Leschke (2012) point out, job quality at the enterprise level is very much influenced by the broader regulatory and institutional context. This is because social and labour regulation sets the policy and institutional framework that encourages or discourages employers to provide, for example, opportunities for skill development and practical access to work–life provisions at the enterprise level.

Finally, there is significant potential in further exploring the interaction of the VICWAL JQI and its constituent components for particular groups of employees. Our initial single-item analysis of the VicWAL survey (Haynes et al. 2010b) suggested that there were important differences in job quality that depend not only on contract status but also on regional/metro and gender differences. It would be useful to investigate such differences in further analyses including differences between various groups by gender and location. In particular, given the evidence that part-time work is generally of poorer quality than comparable full-time work (Chalmers et al. 2005; Warren 2010), it would be useful to identify the key job conditions responsible, and who is most likely to encounter them. The design and size of the VicWAL survey makes such analyses possible.

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