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Dr Andrew R Timming

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Abstract

The Workplace Employment Relations Survey series is a tremendously useful source of data for industrial relations researchers. But, like all large-scale secondary datasets, it has a number of design problems. These have not been articulated previously in much depth. Looking at the 2004 instalment of the series, this paper aims to offer a critical appraisal of the survey of employees. The structure of the questionnaire and the validity of the items are critiqued. Recommendations are offered for the next edition of the Workplace Employment Relations Survey.

Keywords

Questionnaire Design, Validity, Workplace Employment Relations Survey

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WERS THE VALIDITY? A CRITIQUE OF THE 2004 WORKPLACE
EMPLOYMENT RELATIONS SURVEY OF EMPLOYEES

(Research Note)

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INTRODUCTION

For almost three decades, the UK's Workplace Employment Relations Survey (WERS) series has provided statisticians with arguably the most useful resource available anywhere on firms and industrial relations actors. The cross-sectional and panel datasets have been used extensively by employment researchers and policy-makers. According to the WERS Information and Advice Service (2008), the survey series has generated more than 250 journal articles and 15 books, among hundreds of chapters, working papers, conference presentations and other such output. The most recent (2004) instalment of the survey (Department of Trade and Industry, 2005) is now in the process of establishing an empirical presence (Fevre, 2007; Whitfield and Hoque, 2007, 2008; Peccei et al, 2008; Brown et al, 2008). This process is in its early stages, but soon it is likely to accelerate dramatically because of the unparalleled strengths of WERS 2004 vis-à-vis existing alternative datasets. Indeed, it would be fair to say that no other nationally constituted survey on work relations can match its breadth and depth.

However, like all sources of secondary data, it has several design problems that, as yet, have not been articulated in sufficient depth. Delbridge and Whitfield (2007), in an exploration of the reasons why the WERS data have been so sparsely used by HRM researchers, offer a critique of the claim that a cross-sectional survey can throw useful light on what amount to complex HR processes. But they do not look specifically at the validity of individual items. Addison and Belfield (2001), in trying to explain why a set of findings from the third (1990) instalment of the series could not be replicated using WERS 1998, go further in casting a critical shadow over the ways in which some items were measured. But their critique of the instrument is post-hoc and, at best, speculative.

McCarthy (1994) offers an unbalanced and sometimes long-winded criticism of the third (1990) instalment, but his grudge seems to be against the very concept of macro-survey research in general. More recently, Forth and McNabb (2008) looked at subjective and objective measures of performance in WERS 2004. But their criticism of the instrument is muted.

In spite of these few isolated critiques, a majority of data-users takes for granted that the WERS instruments actually measure what they claim to be measuring. To hold such an assumption in the background of any statistical results is risky, though, especially since invalid and weak metrics can often imply that ‘the researcher is not in a position to make confident interpretations about the data, because variabilities in scores may be ... a function of instrument error’ (Hartley and Barling, 1998: 167). Given the extent to which WERS-derived findings have been disseminated, a systematic, structural and validity-based critique of the survey is in order.

To this end, the paper aims to appraise critically the most recent (2004) instalment of the WERS series, with an empirical focus on the survey of employees. The study takes as its premise that the WERS dataset is, at an international level, the best single-country source of statistical information on work and employment, but that it suffers from several measurement deficiencies. The focus of the present critique is on the inter-related issues of questionnaire design and item validity (Oppenheim, 1992).

In the next section, I provide some background to the WERS series generally, and to the 2004 instalment particularly. Then, I set out the main body of the critique of the instrument. Finally, I conclude the paper and make a set of recommendations for a future version of WERS.

BACKGROUND

The Workplace Industrial Relations Survey (WIRS) in 1980 marked the first large-scale attempt to ‘map’ the industrial relations contours of Britain (Blanchflower et al, 2007). Generously sponsored by the Department of Employment, the Economic and Social Research Council and the Policy Studies Institute (with supplementary funding from the Leverhulme Trust), WIRS 1980 ‘was a far more ambitious enterprise than any workplace survey undertaken hitherto’ (Ibid: 285). Using systematic random sampling, the researchers conducted face-to-face interviews across roughly 2,000 establishments with more than 25 employees. Whereas previous surveys (Government Social Survey, 1968; Parker, 1974, 1975; Daniel, 1976; Brown, 1981) had focused on large firms in the manufacturing sector, WIRS 1980 embraced small and medium-sized enterprises (SMEs) and a broad spectrum of sectors and industries. Daniel and Millward (1983) report the preliminary results of this first of five instalments of the survey series.

The subsequent four instalments appeared in 1984 (Millward and Stevens, 1986), 1990 (Millward et al, 1992), 1998 (Cully et al, 1999) and 2004 (Kersley et al, 2006). These surveys, when examined longitudinally (Millward, et al, 2000), trace fundamental shifts in the industrial relations landscape in Britain, shifts which are reflected in the evolution of the project title from WIRS in 1980, 1984 and 1990 to WERS in 1998 and 2004. Across nearly three decades, employment researchers can chart the effect on firms and workers of 18 years of conservative government and, from 1998 to 2004, seven years of Labour Party rule. Key changes during this timeframe include: concomitant increases in female labour market participation and atypical employment, the adoption of several EU directives on employment, the decline of trade union power, the decentralization of

bargaining structures and the individualization of work as a result of the spread of direct HRM initiatives, among others. Throughout the years, the architects of the WIRS/WERS series sought, via consultation with academics and policy-makers (Suff, 2002), to strike the right balance between continuity (so as to allow for longitudinal analyses) and change (so as to accommodate the evolution of social, political and economic circumstances) in the design of the surveys.

The most recent instalment is also the most extensive and representative. An in-depth treatment of WERS 2004 can be found in Kersley et al (2006) and in the various technical reports (for example, Chaplin et al, 2005) that accompany the data. In short, WERS 2004 consists of five surveys: (i) the survey of managers, (ii), the survey of employee representatives, (iii) the survey of employees, (iv) a financial performance questionnaire and (v) a 1998-2004 panel survey of managers. The sample was drawn randomly from British workplaces listed in the Inter-Departmental Business Register with more than 5 employees, thus representing nearly 90 percent of all workers in the UK. The project was funded by the original three sponsors of WIRS 1980, plus the Advisory, Conciliation and Arbitration Service (ACAS). Piloting of the questionnaires took place in the second half of 2003 and the fieldwork itself was conducted between February 2004 and April 2005. In total, 2,295 firms were sampled using the survey of managers as a baseline.

The survey of employees, analysed in this paper, was introduced into the series in 1998 and then extended in WERS 2004. Because of the decline in union membership and the de-collectivization of employees more generally, the Steering Committee thought it useful to gather some data on non-union employees. Self-completed questionnaires were

administered to a random sample of 25 workers (or to all of the employees in firms with less than 25 workers) in 86 percent of organizations that were sampled. With a response rate of 60 percent, a total of 22,451 questionnaires were collated, thus making the survey of employees the largest, and most representative, source of data on workers in the UK. The respondents answered a series of questions about the characteristics of their jobs and workplaces, their attitudes toward work, representation structures and demographics.

The structural and validity-based critique articulated in the next section follows directly from the layout of this instrument. In order to grasp the critique, it will be useful for the reader to have the questionnaire at hand. The instrument is publicly available at: <http://www.wers2004.info/pdf/5294vol2SEQ.pdf>.

THE CRITIQUE

There is no shortage of praise for WERS 2004 (Whitfield and Huxley, 2007), most of which is both well placed and deserved. But legitimate praise needs to be situated within a broader framework of critique in order that the instrument stands up to scientific rigour and furthers knowledge. Only then can the survey be said to ‘add value’.

In short, the inadequacy of the design of the questionnaire and its items can be roughly categorized into five groups, each of which is explained below. Out of fairness, critiques are not made about variables that should have been included or variables that were included but thought to be irrelevant. Both criticisms would have been subjective.

Multi-Coded Items

Most ordinally measured variables are designed to encourage only one mutually exclusive response among several categories per subject. Occasionally, a respondent will violate mutual exclusivity by selecting two or more categories where only one is called

for. These multi-coded items suggest that the structure of the questionnaire is confusing. Whilst it is easy to place the blame on careless respondents and their inability to follow directions, a well designed item precludes carelessness through clarity of wording.

Several variables in the survey are multi-coded (WERS Information and Advice Service, 2007: 12). These include: B2, D2a, D2b, D2c, D2d, E10 and E14. Although the directions associated with each item clearly state that the respondent should 'tick one box only', the response categories themselves were obviously structured in a manner such that they did not appear to be mutually exclusive at first glance. For example, item B2 asks respondents how they 'usually' take time off at short notice to look after family. It provides eight response categories: 'Use paid holiday', 'Use special paid leave', 'Take time off and make it up later', 'Go on leave without pay', 'Take sick leave', 'Some other way', 'Couldn't take time off' or 'Doesn't apply to me'. Nearly 500 respondents selected more than one option. After all, it is both conceivable and reasonable that one might 'use paid holiday' and 'take time off and make it up later' simultaneously.

Practically Useless Response Categories

A severe critic might try to argue that the 'Don't know' and the 'Neither agree nor disagree' categories in ordinal measures are useless on the basis of the fact that they allow for a 'cop out' mechanism and discourage a critical assessment of where a respondent stands on what the item is trying to measure. There is some merit to this argument, but the exclusion of these types of categories denies the respondent the ethical right to not have an opinion. Accordingly, the instrument cannot, or at least should not, be criticized on this basis. However, there are a number of variables in the survey whose

valid response categories are of little or no use, especially from the point of view of policy-making.

Once again, item B2 stands out for all the wrong reasons. The response category 'Some other way', in and of itself, is wasteful. Without the option of pencilling in what the 'other way' is, the more than 1,000 respondents who selected this category have, in effect, provided data that academics and policy-makers cannot use effectively. The same is true of variables D2a, D2b, D2c and D2d. For example, item D2a asks the respondent who best represents him or her in securing an increase in salary. The categories are: 'Myself', 'Trade Union', 'Employee representative (non-union)', 'Another employee' or 'Somebody else'. The latter two categories, which together add up to nearly 1,800 of the total responses for the variable, provide no 'actionable' information in the absence of an open-ended write-in space following a contingency format.

Double-Barrelled Questions

An item is double-barrelled insofar as it asks a two-part question that can be answered in more than one way (Babbie, 2008: 273-275). Such items pose a substantive threat to validity because the researcher cannot 'untangle' which part of the question is reflected in the response provided. A number of items on the survey of employees fall victim to this pitfall. B3c, for example, asks the subject whether a '[w]orkplace nursery or help with child care costs' are available to him or her. How one should respond if one option is available and not the other is unclear. Perhaps more confusingly, the three variables that measure employee 'voice' (B8a, B8b, B8c) are critically double-barrelled. The latter, for example, asks the respondent to comment, on a five-point scale, on how good managers are at '[a]llowing employees or employee representatives to influence

final decisions'. It is not unreasonable to think that managers may be '[v]ery good' at allowing employee representatives to influence final decisions and '[v]ery poor' at allowing employees to influence final decisions concomitantly. Other potentially double-barrelled items on the survey include, but are not limited to: A7e, D6a, E3, E5, E6b and E9f.

Needless Ordinal Measurements

Scale variables are characterized by hierarchical and continuous responses that do not need to be coded. There are only two scale variables in the survey: working hours per week (A3) and overtime hours per week (A4). Ordinal variables are also hierarchical, but their response categories are discrete and require codification. All attitudinal variables in the survey are of this level of measurement. Sometimes there are good reasons to convert a scale variable into an ordinal one. For example, when enquiring about one's age (E2) or income (E15, E16), it makes sense to provide the respondent with a set of ordinal ranges from which to choose. However, as a rule of thumb, when a scale variable is neither sensitive, nor controversial, it does not make sense to present it in ordinal form because scale variables are generally preferable to ordinal ones. The increased variance associated with a continuous scale affords greater scope for statistical partitioning.

Two variables in the instrument are needlessly ordinal. The opening question, A1, asks how many years the respondent has been working at this workplace. Rather than allocate a space for an open-ended write in of the response, the respondent chooses from five arbitrarily structured categories: 'Less than 1 year', '1 to less than 2 years', '2 to less than 5 years', '5 to less than 10 years' and '10 or more years'. Similarly, B4, which asks how much training the respondent has received in the past year, provides six randomly

constructed response categories: 'None', 'Less than 1 day', '1 to less than 2 days', '2 to less than 5 days', '5 to less than 10 days' and '10 days or more'. Not only do these variables use up more space on the instrument than they deserve, but they also offer incomplete and inferior data, and for no apparent reason at that.

Variable-Category Confusion

Finally, perhaps the most egregious structural flaw in the survey centres around its treatment of what should be response categories as variables in and of themselves. Several items illustrate this critical error.

Consider first question E4, which asks the respondent whether he or she has any dependent children in the following age groups: 'No dependent children', 'Children aged 0-2 years', 'Children aged 3-4', 'Children aged 5-7', 'Children aged 8-11' and 'Children aged 12-18'. Confusingly, these are not response categories; what is more, E4 is not a variable. Instead of asking an open-ended (or even ordinal) question such as, 'How many dependent children do you have?', the questionnaire asks whether or not respondents have any children in these age groupings. Thus, what appear to be response categories are in fact binary (yes/ no) variables. Based on this structure, it is impossible to estimate how many children a respondent has inasmuch as he or she could conceivably have more than one child per grouping. Whilst it may be useful to know how many children a respondent has, especially for the purposes of studying work-life balance, it is close to meaningless to know whether or not a respondent has, for example, one or more children aged five to seven, as opposed to one or more aged eight to 11.

A similarly severe charge can be levelled against questions E7 and E8, which ostensibly measure respondents' formal and professional education, respectively. Again,

these appear at first glance like two ordinal variables that measure the level of education in the case of E7 and level of vocational qualification in the case of E8. Instead, each of the response categories is treated, for whatever reason, like a binary variable. Although it would be interesting to correlate years of education with any number of ordinal or scale variables in the dataset, it is not possible in its current structure. What is possible, but far from useful, is to compare a variable like whether or not a respondent has '1 GCE "A"-level grades A-E, 1-2 SCE Higher grades A-C, AS levels' or 'Level 4 NVQ or SVQ' with any other variable in the dataset. In this light, the conversion of what ought to be variable response categories into dichotomous variables adds virtually no value to the survey.

DISCUSSION AND RECOMMENDATIONS

To argue that survey research should be abandoned altogether because of one flawed instrument (McCarthy, 1994) is like throwing the baby out with the bathwater. In spite of the problems articulated in this paper, it is nevertheless the case that large-scale workplace surveys make a genuinely positive contribution to the study of employment relations (Marginson, 1998). The correct lesson to draw from this paper is that WERS 2004 is an outstanding resource, but one that needs to be developed and improved.

But what is to be done? In short, the instrument needs to be rationalized prior to the next edition of WERS. It must be reformatted so as to be a more useful tool for both academics and policy-makers alike. First, all of the multi-coded items should be revisited. The response categories should be restructured so as to give a greater impression of mutual exclusivity. Second, a contingency format should be introduced into the survey so that ambiguous or generic response categories can be clarified by the respondent. Open-ended responses can be difficult to code, but in return they offer more precision than a

response like 'somebody else'. Third, all double-barrelled questions should be removed and then re-incorporated as simple, single question items. Fourth, more scale variables should be added to the questionnaire. Not only do they take up less space on the instrument, but they also enhance the explanatory power of a dataset inasmuch as they are better suited for correlational analyses. Finally, the items whose categories were structured as binary variables should be re-worded as scale or ordinal variables. Specifically, E4 should ask how many children the respondent has, E7 should ask how many years of education the respondent has and E8 should be formatted either ordinally or asked open-endedly.

Admittedly, resource limitations may not only have been responsible for many of the shortcomings articulated in this paper, but they may also preclude the implementation of these recommendations. But the costs of carrying them to fruition may be offset either in part or entirely by the savings of rationalization of the instrument as per the critique. In any event, as many of these recommendations should be taken up as is possible within the confines of the project budget.

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