Author's response to reviews

Title: Organization Specific Predictors of Job Satisfaction: Findings From a Canadian Multi-Site Quality of Work Life Cross-Sectional Survey

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PDF covering letter
Dear Editor:

On behalf of my co-authors, I would like to thank you for having the opportunity to respond to the reviewers’ comments. We appreciate their comments and have responded to them as follows:

Reviewer: Dr. C Gail Hepburn

Reviewer’s Comment: Dr. Hepburn’s “major concern relates to the number of variables in the analysis - the number is too large for your individual site analyses and call your conclusions into question”.

Response: Since a number of Dr. Hepburn’s questions relate to the approach taken in this analysis I will address this issue first. We appreciate that different disciplines have different approaches to data analysis. In this paper, we adapted a standard epidemiological approach to analyze the data. Not only was this approach appropriate but we feel it was also well described. To summarize, our outcome of interest was job satisfaction, namely, whether or not employees were satisfied with their jobs (binary outcome). We then selected variables from our quality of work life (QWL) questionnaire we thought could be associated with job satisfaction (our rationale for selecting variables was based on our review of the literature and on what we felt were variables associated with job satisfaction - in fact the questionnaire was constructed with such variables in mind). We then determined which of these variables were statistically associated with job satisfaction. Depending on the organization, we found anywhere between 19 and 30 (of the potential 40) predictors to be associated with job satisfaction. In order to identify the “best predictors” of job satisfaction, from these lists of variables, we used logistic regression. Prior to, and as part of the logistic regression modelling, we assessed the level of correlation between the predictor variables, to avoid problems of multicollinearity (which was not a problem in these analyses). Depending on the site, we found between 4 and 7 “best” predictors. Meaning, given these 4 to 7 variables, the other variables do not significantly improve the fit of the model (i.e. are not helpful in predicting job satisfaction once we know these 4 to 7 variables). Admittedly, if our sample size at each of the sites was larger, we would have more power to be able to include additional variables in the final models. However, the 4 to 7 variables identified as the best predictors at each site would still be the top 4 to 7 best predictors if our sample size was larger (assuming similar responses by the additional participants). Any additional variables would be added later in the models. Therefore, our response to Dr. Hepburn is that although it would have been nice to have larger sample sizes at each of the sites, we disagree that the number of variables in the analysis is too large for site specific analyses and we also feel that the logistic regression analyses were able to identify the most important predictors of job satisfaction within each of these sites.

Reviewer’s Comment: Clarify QWL and job satisfaction.

Response: In the “Background” section, we reference the literature regarding predictors of both quality of work life and job satisfaction and the correlation between the two concepts. It is very
clearly stated in the Title, Abstract and Background sections that the purpose of this study was to identify predictors of job satisfaction. Additionally, in the Analysis section we state that “For the purpose of this study, QWL was operationally defined using the global question “Overall, how satisfied are you with your job?” and that this outcome was dichotomized into “satisfied” or “not satisfied”. We have, however, modified the first sentence of the last paragraph in the Background section to read “After reviewing the literature on QWL and job satisfaction, and... (rather than just QWL).

**Reviewer’s Comment:** Please comment on the psychometric properties of the scales. Were these properties considered in the development stage?

**Response:** The emphasis in the development stage was not on the psychometric properties of the scales but rather to develop an instrument relevant to the needs of decision-makers. The QWL Task Force considered, among other things, issues of accuracy, relevance, readability, grammar, potential for offensiveness, and appearance of cultural or gender bias. As such, instruments may have had items removed, wording changed or scaling adjusted.

**Reviewer’s Comment:** The descriptions of the scales in your final questionnaire were not clear. I had to examine Table 3 and the ‘Analysis’ section (p. 9) before I completely understood how your descriptions related to the variables in your analysis, i.e., which terms were combined to form scales, and which terms were left as single items. Please justify these decisions in some way (e.g. why not create a scale for staff training and development?). Also provide reliability estimates for the scales you do use.

**Response:** In order to help clarify this issue, we have added “See Table 3 for additional details on how the composite scale scores were calculated.” after the sentence “In several instances, it was appropriate to combine two or more of the questions into a composite scale score.” in the analysis section on page 10.

All of the composite scale scores (except for patient/resident care) were adapted from existing scales (references for the original scales were provided in the Questionnaire Development section). It would not be appropriate to cite reliability estimates for the original scales because we modified these scales. The only other scale score we felt was appropriate was for patient/resident care. A scale for staff training and development, for example, was not deemed appropriate because this section contains questions that are dependent on the organization and type of employee.

**Reviewer’s Comment:** Dr. Hepburn asks whether our outcome variable was one of the 4 items within under the heading ‘Overall Impressions of Your Organization’ (Questionnaire Development section).

**Response:** Yes, our outcome variable was one of these 4 questions. We have added the
following sentence to clarify this. “The question “Overall, how satisfied are you with your job?” was used as the outcome variable in this study”.

**Reviewer’s Comment:** Please provide details about how the implementation did differ across organizations. State explicitly that the questionnaire was anonymous and confidential. Indicate if the survey underwent an ethical review.

**Response:** The implementation procedure varied across organizations. Explaining the implementation procedure at each of the 6 sites would probably take 6 times the space and we feel would add little to the manuscript. We elected, instead (as reported in the paper), to list the procedures that were common to all sites, namely, advance notification, providing access for all staff to receive a questionnaire, one or more reminders, and sealed drop off boxes.

To more clearly state that the survey was anonymous and confidential, the last sentence of the Survey Procedure has been changed to “Therefore, to help ensure anonymity and confidentiality, follow-up attempts were limited to general reminder notices to all staff.”

Yes, the survey underwent an ethics review.

**Reviewer’s Comment:** Items 6 to 9, 11, 12 related to analysis.

**Response:** We have already addressed issues related to the analysis. We employed a standard epidemiological analytic strategy appropriate for this data.

**Reviewer’s Comment:** You allude to the fact that the findings were what you expected based “on having inside knowledge” about specific organizations. Please elaborate.

**Response:** This statement is in the context of response rates and representativeness. The study’s investigators have offices within 4 of the 6 organizations. We also have close contact with the administrators and staff within the organizations. The findings from this study were not surprising given what we knew about the organizations. The consistency between these findings and our “inside knowledge” adds to our belief that the responses were representative of staff within these organizations.

**Reviewer: Dr. AS Ostry**

**Reviewer’s Comment:** Dr. Ostry’s primary concern appears to be the lack of a conceptual framework related to quality of work life.

**Short Response:** Perception of quality of work life is often indicated by a job satisfaction survey. Job satisfaction is not QWL, nor is it the only way QWL could be indicated. It is clearly
stated in the paper that QWL was operationally defined as job satisfaction and that we are attempting to identify predictors of job satisfaction.

**Long Response:** Asking for the theoretical underpinnings of QWL is like asking one to explain the biochemical underpinnings of psychiatry. Quality of work life refers to a substantive theoretical area which emerged in the behavioural sciences (particularly sociology of work/organizational behaviour and work/industrial psychology) as well as a movement or set of concepts. The movement and theories operate in a feedback loop. To fully describe the theories would involve reference to classic sociology, including Marx, Weber, and Durkheim; it would involve defining concepts like alienation, surplus value, status groups, and organic solidarity. We don’t mean to patronize or mystify, just to suggest that few people outside sociology are that interested.

In brief, the theories hold that the subjective experience of work is affected by the personal traits of the employee, such as locus of control or – more generally – “orientations to work;” and by the objective rewards of the job (basically pay and benefits). However, it is also affected by the way the work and organization are designed. For example, we usually take it for granted that skilled workers like pipe-fitters, whose work is organised along craft (aka “item”) lines, are less alienated and find their work more rewarding than do assembly-line workers: an assembly line is organised along “batch” lines. Likewise, some people find that owning their own business is preferable to being an employee, even though the hours may be longer, the pay less, and risks higher. Moreover, organizational styles – is the organization collegial or hierarchical? Is it a learning organization or are roles sharply defined? Is management democratic, laissez-faire, or what? – are also thought to affect the way work is experienced.

So there is a tripod which determines the experience of work. It is a consequence of an interaction between one’s personal characteristics, the available pay and other “objective” rewards which exist, and the organizational features surrounding the work.

Thus, quality of work life refers to the features of one or more jobs, trades, or occupations which can affect the way that work is perceived or experienced. Normally, that perception is indicated by a satisfaction survey. Job satisfaction is not QWL, nor is it the only way QWL could be indicated; it is parallel to health-related quality of life, which may be indicated by a health status measure like the SF-36, or by a set of preference states like the Health Utilities Index, or by so-called “objective” measures like morbidity and mortality, but which is not the same as any of these.

In the QWL movement, behavioural science theories were adapted and popularised with the goal of improving worker productivity (i.e. reducing labor costs per item). In the scientific management tradition, satisfaction with quality of work life (QWL) was hardly an issue. It was assumed to be based solely on “extrinsic” traits of the job: salaries and other tangible benefits, and the safety and hygiene of the work place. By contrast, the human relations approach stressed that, while extrinsic rewards are important, “intrinsic rewards” are key predictors of productivity, efficiency, absenteeism, and turnover (the latter 3 are important insofar as the affect the first). These intrinsic rewards include traits specific to the work done, the “task content:” skill levels,
autonomy, and challenge. A third option, called the “orientations to work” approach, suggests that a focus on extrinsic or intrinsic rewards is contingent on the person: some people will place a greater emphasis on the intrinsic rewards than will others. Just who will prefer what is predictable in part by these individuals' past histories and “occupational cultures,” which are indicated in turn by their education, occupation, and demographics.

The research on which these findings are based, however, has commonly been directed at workers in “the three M’s” – male-dominated, manual, manufacturing industries – and it is not clear whether it also applies to healthcare, where staffing is more feminised; work is professional, semi-professional, or clerical; and organizations provide services rather than producing goods. Moreover, the research can be criticised for its ambiguity: so-called “extrinsic” factors like pay, for example, carry both an instrumental weight – they are means-to-an-end in that they provide the wherewithal to support leisure and home lives -- and an expressive one, in that they may be seen as a clue about how one is valued by an organization.

An additional difficulty is the abhorrence for explicit theory in health services research (in Evans and Stoddart, for example, Evans states that theory is divisive while “facts” unite), so that it is rare to find a published definition of QWL, a rationale for using a particular QWL indicator, or a reason for doing the study at all.

Further, health care is extraordinarily poor at capturing unit costs. Typically, these are standardised – and only for inpatient care – as RIW’s (resource intensity weights), which are than used as if they really captured the specific costs for a given patient. What this means is that health care organizations cannot explore the relationship between productivity and QWL, because the dependent (productivity) never changes.

For these reasons, reference to the QWL dynamic has been muted in healthcare organizations. In terms of rationales, studies have shown that low job satisfaction is a major cause of turnover among health care providers (Yoder, 1995; Curry et al., 1985; MacRobert, et al., 1993); and have suggested that job satisfaction may affect quality of service and organizational commitment.

Meta-analyses by Blegen (1993) and Knox and Irving (1997) suggest that a positive quality of work life environment is a function of reduced work stress, organizational commitment and belonging, positive communication, autonomy; recognition, predictability of work activities, fairness, clear locus of control, organizational decisions, education, professionalism, low role conflict, job performance feedback, opportunities for advancement, and equitable pay levels. Some of these factors relate to individuals (e.g. locus of control); some are determined, at least in part, by social structural forces external to the organization (predictability, professionalism), and some by manipulable factors within the organization itself (such as management styles, which includes job performance feedback).

**Reviewers Comment:** “Only 19 papers are cited in the references. It gives me no sense of the authors literature framework. There is a huge literature on work stress, the contribution of fairness, equity..... that the authors have ignored.”
Response: We are aware of the vast amount of literature related to the above named topics, and have reviewed many articles beyond the 19 papers cited in the references. We did not intend our reference list to show the scope of the literature published in these areas or to show how widely read we were in these topic areas. We only cited those papers we felt were important to site for this manuscript.

Reviewer’s Comment: Dr. Ostry raises issues about our definitions of QWL and job satisfaction.

Response: This has already been addressed.

Reviewer’s Comment: Dr. Ostry asked why no union reps were on the QWL Task Force and the number of staff involved in pilot testing the questionnaire.

Response: Not including union reps on the QWL Task Force was an oversight. While it did not undermine the study, an active partnership may have helped to increase response rates.

Two focus groups were conducted with approximately 8 - 10 people in each.

Reviewer’s Comment: On page 12 it is not clear what the 32 individual questions are.

Response: This information is provided in the next sentence (i.e. there is a note referring to Table 3 which lists all variables). To help clarify this, we have added the sentence “See Table 3 for a list of all variables.”

Reviewer’s Comment: “It is not clear from the description of the analysis what the adjusting variables are.”

Response: The first few sentences, final paragraph in the Analysis section have been revised to clarify this. It now reads “Separate logistic regression analyses were used to identify the best predictors of job satisfaction for each organization and for all organizations combined (SJHCS). Only variables which had a statistically significant association with job satisfaction were included in these analyses. Adjusted odds ratios and corresponding 95% confidence intervals are reported for each organization and the SJHCS. The logistic regression analyses produces odds ratios which have been simultaneously adjusted for all other variables in their respective final models.” The results section (under “Best Predictors of Job Satisfaction”) also states “All of the odds ratios presented below have been simultaneously adjusted for all other variables in their respective final logistic regression models.”
Reviewer’s Comment: The authors did not include variables to assess the threat of unemployment, the HSRC process and its aftermath.

Response: The variables to be included in the QWL survey were selected by the QWL Task Force based on criteria such as relevance, readability, psychometric properties, potential for offensiveness etc and their potential association to job satisfaction. It was felt by the Task Force that such issues could negatively impact the entire study and we therefore not included.