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# A practical method of predicting wellbeing at work: the Wellbeing Process Tool

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**ABSTRACT**

**Research has shown that short measuring instruments (e.g. the Wellbeing Process Questionnaire – WPQ) can provide information about aspects of wellbeing. These measures have been shown to have good validity and reliability and can be used to assess multi-dimensional models (e.g. the Demands-Resources-Individual Effects model – DRIVE). The present article describes the practical application of the approach.**

**Keywords:** Wellbeing; Wellbeing Process Questionnaire;

## THE WELLBEING PROCESS QUESTIONNAIRE

Recent research has provided evidence of the ability for single-item measures to provide reasonably valid and reliable measures of well-being related constructs (Williams & Smith, 2012; Williams & Smith, 2013; Williams, 2015; Galvin & Smith, 2015; Williams & Smith, 2016; Nelson & Smith, 2016; Fan & Smith, 2017a; Fan & Smith, 2017b; Smith & Smith, 2017a; Smith & Smith, 2017b; Williams, Thomas & Smith, 2017; Williams, Pendlebury, Thomas & Smith, 2017; Williams, Pendlebury & Smith, 2017; Smith & Smith, 2017c) and for the combination of predictor measures to predict variance in well-being outcomes (Mark & Smith, 2008; Mark & Smith, 2012a; Mark & Smith, 2012b; Smith, Wadsworth, Chaplin, Allen & Mark, 2009; Capasso, Zurlo & Smith, 2016). The result was a set of measures that could be combined together to potentially provide a multi-dimensional measure of well-being and factors that could be contributing to well-being outcomes, however the exact nature of how these would be implemented in practice has not been directly established.

The current paper is, therefore, dedicated to summarising how these findings can be translated into practical measurements that could be used by organisations that provide online and telephone based support. Many of the clients of these support services have issues relating to psychological well-being, for example work-related stress, and the online resources provide well-being assessment tools which assess areas of well-being such as work and finances (for example, 'I'm worried about paying my bills each month and I'm starting to get into debt'). The findings from the earlier empirical research were used to develop a well-being measure to meet their needs, providing an opportunity to examine whether the findings can translate into practical use.

## METHOD

The research translated into a 4-stage development of the well-being tool, which relate to the earlier empirical research.

### Identifying needs and measurement approach

Stage 1 was concerned with what well-being is made up of and how it should be measured. The findings showed that well-being is a multi-faceted construct and that it is important for measurements to assess this wellbeing process by covering both negative and positive job characteristics (e.g. demands; social support), appraisals (e.g. perceived stress and job satisfaction), outcomes (e.g. anxiety and depression; happiness) and individual differences (e.g. positive personality – self-esteem, self-efficacy and optimism). Wellbeing service providers often have software that enables users to complete online questionnaires, to speak to call handlers in the centre, and to receive follow up emails, all of which can be linked to a user's profile if they provide an identifier such as their email address for this purpose. This process is referred to as the service user's 'journey' and the practical implications of a method of identifying areas of need were applicable throughout this journey. The first stage of this was an online assessment that would allow the client to complete an initial well-being assessment in their own time, which could act as a first step towards understanding well-being and its associated factors. As a second stage of this journey, the service user calling in to the centre could have their responses to the well-being assessment brought up by the call handler, providing them with an initial understanding of the individual user's needs and providing discussion points raised by the assessment in further detail. Further stages could then involve follow up re-assessment, providing the service user with a tailored experience that improves knowledge and understanding, and provides potential avenues for development. This stage of the development process therefore highlighted the fact that a more systematic approach to well-being assessment was required. This reflected the practical implications of a multi-faceted approach to well-being assessment, as the process described above would be limited in its efficacy if only some aspects of well-being were assessed.

### Representing variables with single-item measures

While it was highlighted in stage 1 of the project that the multi-faceted approach was necessary for practical application, the ability to measure these facets in the time available was a concern. Service users who encountered a very long questionnaire at stage 1 of the journey may be less likely to continue if they are put off by a lengthy questionnaire and service users who went straight to telephone-based services would not be able to complete questions in the available call time. The results from empirical studies of the WPQ were of practical importance in that they provided evidence for the validity and reliability of measures that reduced multi-item scales down to a single-item, drastically reducing the number of questions needed to complete an assessment and allowing questions to be potentially given over the phone quickly. The alternative to this is to only measure some aspects of well-being, which has been shown to be less adequate.

The findings from the empirical research had demonstrated that the items were valid overall, providing confidence in their use but also providing information regarding the degree of confidence. For example, the single item measure of "supervisor relationship" provided a highly valid indicator compared to the multi-item scale but, in comparison, the "control" measure was less well related to its multi-item counterpart. This information can be provided in the user manual to provide the call handler with an indicator of which factors may benefit most from further questioning. This approach relates back to recommendations (Cronbach, 1990) that less robust measures can be used as an initial indicator and probed further where necessary. At the far end of the spectrum, the results highlighted the fact that some predictor

variables which may be of interest could not be suitably measured by the single-item scales, such as attributional style. The research therefore had practical implications to this stage in the project in the reduction of the number of items needed for a multi-faceted approach, improving the ability to identify specific well-being concerns and areas of need with limited time. The results also provided knowledge to the assessment provider related to the degree of confidence in the responses to each item.

**Predicting well-being**

Previous research had indicated that there was a likelihood of redundancy or overlap in the measures. Assessment providers do not have time to spend measuring factors that do not provide practical use at the end and a key issue was to provide a basis for reduction of variables with a minimal impact to the efficacy of the tool. Empirical research on this topic led to two main conclusions. The first was that measuring multiple groups of predictor variables provided significantly better prediction of well-being compared to individual sets of variables in almost all cases, suggesting that the multi-faceted approach to well-being prediction was warranted as they contributed significant unique variance alongside each other.

The second conclusion was that cognitive, emotional, positive, and negative well-being factors had unique associations with predictor variables, and this had a number of implications for practical well-being assessment. The first implication was that measuring only one of these aspects of well-being would not provide results that could accurately be generalised to the others, meaning that in practice each aspect should be measured and scored independently rather than being combined into an overall well-being score. The rationale for this is that measuring these aspects of well-being as a combination would mean that any low or high score on one specific element of well-being would be unidentifiable and as a result all potential predictor variables would need to be assessed in order to determine the likely cause. In contrast, an independent scoring of the well-being outcomes would allow for streamlined assessment of likely causes, with unique relationships identified in the research used as a basis for the most likely antecedent of a specific outcome. As a practical example: in the case of low emotional well-being but high cognitive well-being, the combination of scores may lead to a moderate well-being score, with all predictor variables needing to be assessed. Meanwhile, independent scoring of outcomes in the same case would not only provide a more accurate assessment of the respondent's well-being in each domain but also indicate that, in this case, personality variables were the most appropriate target for assessment and improvement while circumstances could be given lower priority for measurement. A potential application of the research findings therefore is that independent scoring of outcomes would provide a more accurate approach that reduces the risk of unnecessary items further down the line and provide focus streamlined to the most likely variables.

Another important element of the results was that some predictor variables were not predictive of well-being in any case and therefore could potentially be considered redundant. It is important to note however, that while multiple samples were used, the ability to generalise these conclusions is limited by the number of samples and total participants. Non-significance of the results could be due to lack of power to identify weak relationships, or, conversely, weak significant results could be the result of type-1 error. However, in the context of service providers, where resources are often extremely limited, only using the strongest predictors is an approach that would create a practical measure with the highest likelihood of identifying the correct issue and therefore these results were used alongside evidence from other research on potential overlap to create the basis of the assessment tool.

With the aforementioned generalisation limitation in mind, the apparently redundant items could be tentatively removed but still retained as 'second order' items to be employed where avenues based on initial assessment of first order items have been exhausted. Ongoing research could examine their importance in other groups and translate into ongoing improvement of the tool in terms of confirmation of tier 1 and tier 2 groups relevant to context. The practical implications for assessment of wellbeing were that the number of measures were further reduced, removing supervisor relationship, understanding of role, consultation on change, positive coping styles, extraversion, conscientiousness, agreeableness, and openness. This approach would leave 12 items which still covered work characteristics, coping style, and personality. At the same time, an application of the tool was designed so that cognitive, emotional, positive, and negative well-being outcomes could be assessed and scored independently, with follow up questions on predictor variables based on the specific outcome scores of the respondent. In this way, the tool was designed to ask only those questions which the research demonstrated would be important to each individual based on their specific well-being profile. This was based on the theory that it was possible for individual respondents to have poor well-being in one respect but good well-being in another, for example poor cognitive well-being but good emotional well-being. While this was a necessary approach to reduce the potential for redundant items, it was also noted that while individual predictors may not have significant unique relationships with outcomes, the overall variance explained is still significant (e.g. in the case of positive emotional well-being and work characteristics). It was also acknowledged that it could still also be the case that there may be differences within outcome groups, for example between depression and anxiety, and therefore these independent scores were also retained.

**Implementation**

The results from the research were therefore translated into practical well-being measurement for use in an applied environment where resources were at a minimum. The result was a measurement tool that provided a multi-faceted approach to well-being and identified the most appropriate areas for targeted intervention. The measurement tool was designed to begin with a multi-faceted approach to well-being assessment, which asked respondents to rate their well-being in terms of depression, anxiety, positive and negative mood, life and job satisfaction and stress. Scores on these measures could then be combined into cognitive, emotional, positive, and negative well-being scores. Based on these results, information was then provided to the respondent on each of these aspects of well-being and their meaning, in order to provide an informative questionnaire that included the respondent as an active part of the assessment process, rather than passively completing questions without understanding the relevance. Based on the results, a tailored approach to well-being assessment was implemented, involving the independent unique contributors identified in the research. Further questions were therefore only seen by the respondent if they were relevant to their scores on the outcome measures, reducing the amount of potentially irrelevant questions. Only those respondents who scored poorly on every aspect of well-being would therefore need to complete the entire set of questions. Information regarding the relevance of the items was also provided to the respondent at this stage.

Scores on these variables where then used to identify to the respondent the areas in which they scored well and poorly, providing further information on how these factors may be contributing to their well-being, followed by an overall assessment of their well-being and links to information and relevant contact numbers. All findings could be recorded and linked to their email address and any follow up assessment or call to the centre could utilise these details for focused discussion. The tool therefore provides a multi-faceted approach to well-being assessment, which guides the respondent, improving their own knowledge and

understanding. Furthermore it gives service providers a basis for tailored well-being improvement while being short enough to be practical and within their resources.

The process was successfully applied and tested as a working prototype. Screenshots of each stage of the process are shown on the following figures:

**Figure 1: Example question page from the tool design.**

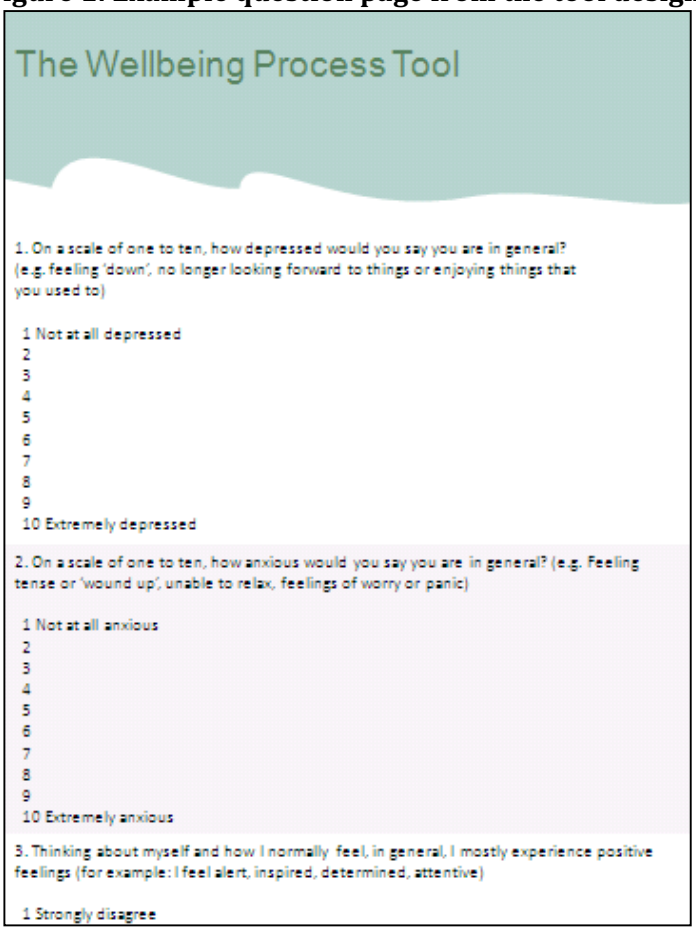
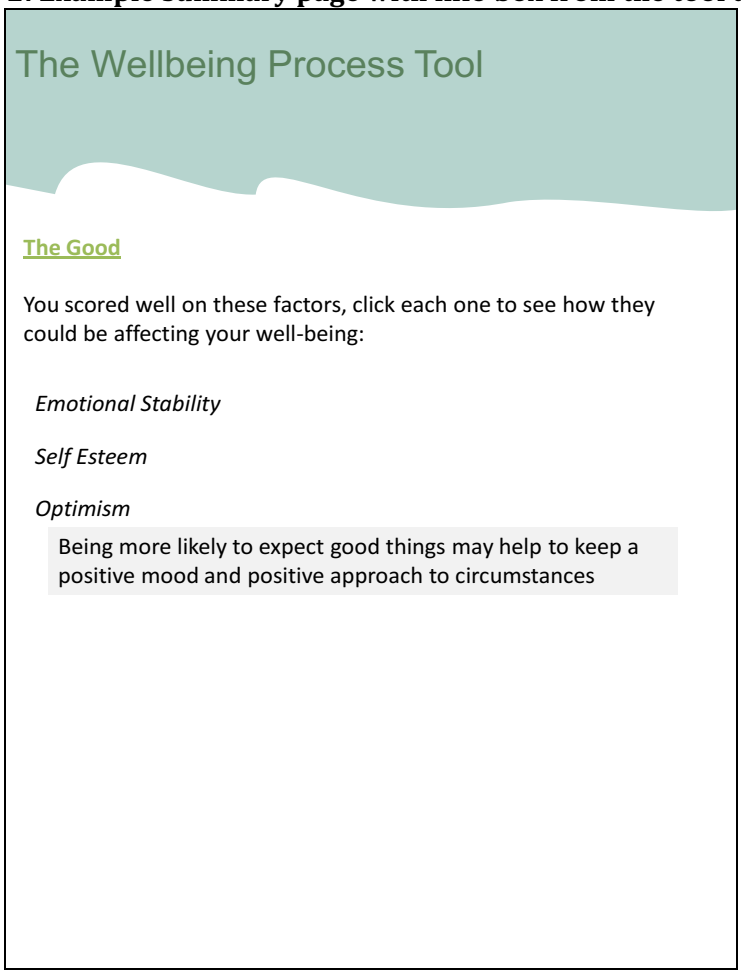


**Figure 2: Example summary page with info box from the tool design.**




## Other applications

The approach demonstrated here is not the only application of the WPQ that is possible. The approach could also be applied in other ways. For example, the HSE management standards (MS) are used to monitor well-being over time and across institutions to provide users with an indicator of the state of their employees in comparison to national levels and previous years (HSE, 2004). The MS however only focuses on work-related circumstances and the measures developed here could potentially provide the same services while including more information and being shorter at the same time. Using the MS as an example, the measures could therefore potentially be used as a well-being audit tool, to monitor well-being over time, or to examine the effects of interventions, depending on the needs of the organisation.

## CONCLUSIONS

The practical implementation of the WPQ has provided an important applied perspective on the use of well-being measures in situations where resources are limited. The results of this project show that the practical nature of the WPQ with a short number of questions and a simple 1-10 response scale throughout. This can be easily applied to existing online management software and used as a first step towards, or continuous monitor of, mental health in a small business or other online services, such as online CBT, which is available via prescription in some areas.

The progression of this part of the project also however demonstrated a number of issues related to the balance between practicality and rigour, and also highlighted areas for future research on the measurement approach. Firstly, the implementation highlighted the fact that, even when the number of items was reduced to 20, a number that even measures of only one

facet can be expected to exceed, further reduction was still needed for application in the real-world environment. Although the tailored, multi-faceted approach to well-being assessment was acknowledged as a desirable element of the tool, practicality remained the definitive criteria.

An issue that was identified during the process was that the tool must be amenable to adjustment. It was highlighted that the items within the tool may be relevant to only some of the users and therefore using the entire measure involved an inherent amount of redundancy. Extrapolating this to wider groups, it can also be noticed that the tool may need to be open to having the items changed according to specific groups. For example, the work characteristics that are hazardous for well-being within seafarers or pilots may only be specific to them and would need to be added elsewhere. With this in mind, it is pertinent to acknowledge the potential limitation of generalisability of the approach (model and method), when concluding that the tool is an appropriate measure of well-being. Although it was not the goal of this research to assess well-being theories or models against each other, and the measures were designed to be useful for any application, the conclusions still rely on some assumptions about well-being that need to be questioned. The first assumption is that well-being is the result of circumstances, personality, and other individual differences such as coping style. The question here is whether this is true of well-being as a whole, rather than just a representation of well-being as it relates to the workplace. The current research has demonstrated that the assumption is the case in working adults, but if we assume that it is relevant to well-being as a whole, then the same results should be found in a different population using circumstances that are specifically relevant to that group. The same can be said for factors such as self-esteem, which have been shown to be less important in collectivist cultures (Diener & Diener, 1995). The question arises as to whether self-esteem could be replaced with another aspect, e.g. conscientiousness, in that population and still provide the same general conclusions regarding the contributions of the variable groups. The approach used thus far therefore relies on the assumption that circumstances, personality, and individual differences such as coping style provide the framework, while the individual measures within that framework can be altered to suit the specific group, as suggested for the DRIVE model (Mark & Smith, 2008). This approach would lead the WPQ to exist as a collection of potential measures and research would need to be performed in order to determine which individual items fit within the framework for each specific group.

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