

Research Methods in Occupational Health Psychology

Measurement, Design, and Data Analysis

**How to think about and measure psychological
well-being**

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Pages 76 - 90

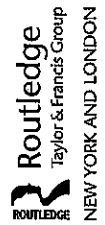
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Eight Issues in the Measurement of Well-being

The first task of measurement is thus to develop a clear and appropriate conceptual definition. The two halves of the term *well-being* point directly to its meaning. It involves “being” and “well”—living in a state that is in some sense good. Measures of well-being thus record evaluations of some kind about a person’s life, usually through judgments made by the individual himself or herself. Beyond those generalities, however, the construct has many possible forms (different ways to be “well”), and measures necessarily vary between one form and another.

This chapter addresses eight issues about the effective conceptualization and measurement of well-being. Choices in one respect often depend on decisions in regard to others, and in many cases a measurement decision is likely to be between possibilities which are similarly desirable. Decisions should depend on the aims of a current study, and not derive solely from an investigator’s previous routines or local institutional norms.

Issue 1: *Psychological, Physiological, or Social Emphasis*

Psychologists have understandably focused on well-being that is “psychological” or “subjective” (e.g., Diener, Suh, Lucas, & Smith, 1999). However, as a first step in a particular study we need to decide how much emphasis should also be given to physiological or social aspects. For example, certain forms of low or high well-being (e.g., during prolonged strain or in strong emotions) are closely linked to bodily processes, and in examining those from a psychophysiological perspective may be appropriate. In other cases, research objectives might suggest that a measure of *social* well-being would be helpful to examine interpersonal relatedness and integration (e.g., Keyes, 1998; Peterson, Park, & Sweeney, 2008). Yet again, an entirely psychological focus might best permit detailed attention to an investigator’s primary topic. This chapter will emphasize well-being that is psychological.

Issue 2: *State or Trait Well-Being*

Both health and well-being are moderately stable over time and are sometimes examined in dispositional terms; someone might be

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How to Think About and Measure Psychological Well-Being

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Like the broader construct of health, well-being takes many forms and has no single index. Effective measurement clearly requires instruments that are technically sound, but particularly important is clarity about the form of well-being to be measured. Only when we are clear what we are trying to assess can we decide whether we have been successful. This chapter will focus on conceptual themes underlying effective measurement.

In all cases we are in effect applying an *operational* definition; the variable is being defined in terms of the measure applied—its operationalization. However, that operational definition may well or poorly represent a corresponding *conceptual* definition—the meaning of the construct independent of any measure. In this way, observed correlations reflect empirical associations between specific operationalizations but not necessarily between underlying concepts. Since many different operationalizations exist for constructs such as well-being, different researchers’ operational definitions may be addressing different versions of supposedly the same construct.

This situation is unavoidable and can be acceptable. However, scientific understanding is likely to increase more rapidly if investigators make sustained efforts to be clear about each variable’s conceptual definition and recognize the ways in which their operational measurements do and do not match that definition.

described as "a healthy person" or "a cheerful individual." Investigators have differed in their concern for either trait or state, or in the temporal focus of their state measures. For example, Watson (1988) contrasted feelings of six durations, through a trait measure (asking about "in general") and five durations of state (during the past year, during the past few weeks, during the past few days, today, and at the present moment).

Whatever the specific form of measurement to be used, it is essential to review in advance alternative target durations to ensure that a chosen duration matches that of the construct and question being investigated. For example, a form of well-being expected to be linked only briefly to other variables should be assessed through a similarly brief target period. In addition, possible limitations of mental processing should be considered. Events occurring some time ago may be poorly recalled, and contrasting experiences within an extended period can be difficult to aggregate into an overall judgment. Conversely, a brief period ("in the past hour" for instance) may encourage accurate recall and help respondents to average their experiences, but that brief period may not be typical of usual conditions. One compromise is to ask about a moderate duration such as "the past week." The important point is that one should carefully reflect in advance about a study's need for trait versus state measurement and (in the latter case) about the appropriateness of different target durations.

Issue 3: *The Scope of Measurement*

In setting out to measure well-being, one must also specify the construct's desired scope. The broadest scope is in terms of life in general without restriction to a particular setting; that is "context-free" well-being, recorded in studies of life satisfaction, global happiness, and similar constructs. A medium-range focus is directed at one segment of a life-space, such as one's job, family, health, leisure, or oneself; that is "domain-specific" well-being. For example, *job-related* psychological well-being is a domain-specific form which reflects positive or negative evaluations of one's work. Third, we might examine "facet-specific" well-being, targeted at one particular aspect of one domain such as satisfaction with the pay received from one's job.

As expected from their conceptual overlap, experiences at the three levels of abstractness are empirically interrelated. Nevertheless, subjective well-being at different levels of scope is influenced in part by

different factors (e.g., Warr, 1987, 2007). For example, job-related well-being is more responsive to conditions and activities in the domain of employment than other domains, and context-free well-being is additionally influenced by factors in health, family, community, and other domains.

It is clearly essential to make an explicit decision about which level of scope is theoretically and practically most relevant to a planned study. Well-being that is job-related is often of primary interest to occupational health and industrial-organizational psychologists, but some studies instead examine context-free well-being. That can of course be important in occupational samples, but its conceptual relevance to a current objective should be determined and the two levels of scope should not be conflated in analyses and interpretations.

Issue 4: *Positive or Negative Emphasis*

Like some other members of their profession, occupational health psychologists have tended to emphasize the negative—examining mental and physical strain in job settings. However, research attention has recently turned more to positive job experiences, in terms of constructs such as perceived meaningfulness, thriving, engagement in a job, resilience in the face of adversity, and sense of accomplishment (e.g., Cameron, Dutton, & Quinn, 2003; Linley, Harrington, & Garcea, 2010). An adequate conceptual definition of psychological well-being must extend to cover a wide range of elements, and it is often desirable to include both positive and negative themes when constructing a suite of instruments.

In that case, decisions are required about whether to examine positive and negative forms separately or instead to combine them into a single overall index. In part, this depends on which particular aspects of well-being are under investigation. When positive and negative variables are clearly distinct in conceptual terms, possibly with different associated predictions (e.g., perceived meaningfulness versus anxiety), they deserve separate examination and interpretation. However, conceptually similar forms of well-being, such as experienced core feelings, might be studied either overall or through separate positive and negative indicators.

Opinions remain divided about this issue. Arguments against the combined scoring of differently valenced affects and in favor of separate

analyses of positive versus negative feelings include the potentially greater predictive specificity of two components rather than one, and an observed positive-negative separation in statistical analyses (e.g., Lucas, Diener, & Suh, 1996). However, positive and negative factors can in practice be artifacts arising from response acquiescence and other biases rather than from genuine conceptual bifurcation (e.g., Warr, 2007, chapter 2), and it may be preferable instead to examine affect scores with an alternative combined content. This topic is revisited under Issue 6.

Issue 5: Affective Well-Being and Cognitive-Affective Syndromes

Two principal perspectives and associated measuring instruments in this area may be identified, which are very different in their content and theoretical background. First are models and measures of well-being entirely in terms of people's feelings, more formally described as "affects" (above). Affects are experiences that are "primitive, universal, and simple, irreducible on the mental plane" (Russell, 2003, p. 148) and range along a bad-to-good continuum. They occur throughout waking life as components of emotions, moods, values, attitudes, orientations, prejudices, and ideologies, and are central to well-being in any setting.

However, well-being has also been examined through composites or syndromes which comprise thoughts as well as feelings. Organized around a particular theme, these take the form of satisfaction, strain, engagement, burnout, and so on. Well-being syndromes embody interlinked ideas, recollections, perspectives, and mental networks as well as merely affect. For instance, a measure of job-related burnout (a composite of experiences) might ask about feeling drained at the end of a workday or a person's reluctance to set off for work in the morning. Cognitive-affective syndromes thus differ from basic affects in having a variety of elements and involving thoughts and memories in addition to feelings. Self-descriptions in those terms, for example when responding to a job satisfaction scale, call for more reflection and mental processing than do affects: attending to and remembering particular elements and episodes, interpreting, evaluating, and integrating what is recalled, and perhaps making comparisons with other people or other jobs (e.g., Staw & Cohen-Charash, 2005).

It is often appropriate to assess both kinds of well-being, depending on current practical needs and conceptual relevance. "Affective

well-being" concerns merely a person's feelings, whereas "syndrome well-being" is also a question of perceptions, recollections, comparisons, and anticipations as well as affects. As in other cases, the key requirement is for investigators in advance to review possibilities and choose those which may best meet their objectives.

Issue 6: Measuring Affective Well-Being

In studying the first of these well-being forms, one established perspective is in terms of the circumplex shown in Figure 6.1. This specifies experiences not only in terms of displeasure-to-pleasure (valence) but also through low-to-high mental arousal or activation (e.g., Remington, Fabrigar, & Visser, 2000; Russell, 1980, 2003).

Feelings in terms of those two axes are illustrated around the outside of Figure 6.1, and summary labels for each quadrant's content are indicated as Anxiety (activated negative affect), Enthusiasm (activated

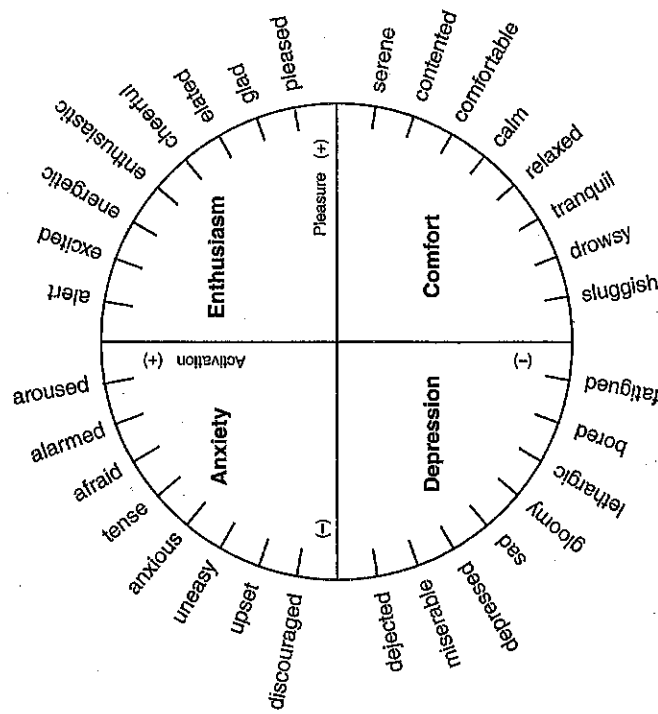


Figure 6.1 Some feelings and their locations within the affect circumplex.

positive affect), Depression (low-activation negative affect), and Comfort (low-activation positive affect). As used here, those labels are shorthand descriptors for affect-sets within more complex mental and behavioral constructs; they do not denote the entirety of "Anxiety" and the other three constructs.

Studies in job settings have often been imprecise about the location of studied feelings in terms of Figure 6.1. For example, research into "positive affect" might be expected to cover all feelings on the right-hand side of the figure, involving both low and high activation. However, that has rarely been the case, in part because many measures have been based on the Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988). The PANAS contains 20 items in two scales, with 10 positive terms, including, for example, *enthusiastic* and *excited* and 10 negative terms such as *distressed* and *nervous*.

Although the two scales were originally referred to as "positive affect" (PA) and "negative affect" (NA), they in fact tap only certain kinds of those—high-arousal feelings in the two upper segments of Figure 6.1 (e.g., Remington et al., 2000; Tellegen, Watson, & Clark, 1999). The construct of positive affect has thus often been incompletely operationalized merely as positive affect that is activated.

Instead, measures of affective well-being must reflect the conceptual nature of their domain, extending across those quadrants of Figure 6.1 which are considered appropriate in a particular investigation. Four-quadrant measures have been presented by Burke, Brief, George, Robertson, and Webster (1989), Warr (1990), and Van Katwyk, Fox, Spector, and Kelloway (2000), containing 20, 12, and 30 items respectively. Burke et al. (1989) emphasized that a model based on the four quadrants together was superior to one with positive-alone and negative-alone constructs, and Van Katwyk et al. (2000) advocated the use of an overall score across all quadrants as "the most comprehensive assessment" (p. 204).

Consistent with the PANAS conceptualization, Warr's analyses focused on opposite-quadrant diagonal axes from anxiety to comfort and from depression to enthusiasm (e.g., Warr, 2007). These are the bipolar dimensions labeled by Watson et al. (1988) as "negative affect" and "positive affect" respectively, although (as noted above) those two constructs have more often been assessed only in their activated forms. Sixteen affect items presented by Warr, Bindl, Parker, and Inceoglu (2012) can be scored in alternative combinations: for each quadrant singly, as pairs of quadrants, or as overall affect. The choice to be made in any setting will depend on circumstances and objectives;

for instance a concern for simplicity in reporting versus sensitivity of measurement.

A second issue to be resolved when measuring affective well-being concerns the response options to be offered. Instruments differ in their use of either "intensity" or "frequency" responses, asking either about how strongly (e.g., from *not at all* to *extremely*) or how often (e.g., from *never* to *nearly all the time*) something was felt. Which of those should be used?

Both involve mental averaging, as a person makes a summary judgment about his or her feelings. Intensity-averaging may be more appropriate in respect of a brief period of work such as a single meeting, but it can be difficult over longer periods (see also Issue 2 above). Frequency ratings may then be more suitable, and those also have the advantage of providing information that may be potentially useful in studies of ambivalence (see Issue 8).

Intensity responses were requested by Burke et al. (1989), whereas Van Katwyk et al. (2000), Warr (1990), and Warr et al. (2012) recorded the frequency of feelings. Warr's (1990) questionnaire is instead presented in terms of response-intensity by Warr and Clapperton (2010). Research findings appear very similar between the methods, but empirical comparisons between them are still required, as is a comprehensive analysis of their theoretical implications. Preferences will depend on local circumstances, but (as with the other issues here) the key requirement is for response alternatives to be explicitly reviewed in advance of an investigation.

Issue 7: Measuring Syndrome Well-being

The second approach to psychological well-being (above) is very different, focusing on compounds of thoughts as well as feelings. Such syndromes are illustrated throughout the book, in presentations about the measurement of stress disorders, job engagement, and other constructs. Two other possibilities will be considered here, in respect of job satisfaction and themes that are sometimes described as "eudaimonic."

For more than half a century, researchers and practitioners have been interested in workers' job satisfaction, conceptualizing this in different ways. One distinction is between overall job satisfaction (which is "domain-specific" in the terms introduced under Issue 3) and separate satisfactions with individual aspects of a job ("facet-specific" job

satisfactions). For example, facet-specific scores are provided by five separate scales in the Job Descriptive Index (Smith, Kendall, & Hulin, 1969; Stanton et al., 2001).

Overall job satisfaction has been examined in two different ways, either asking only about satisfaction itself or in wider terms by covering a range of positive experiences. In the first case, a single question has sometimes been used (e.g., "all things considered, how satisfied are you with your job in general"), but more often instruments ask separately about satisfaction with each of a variety of job features so that several facet-specific satisfactions can be aggregated into an overall index (e.g., Warr, Cook, & Wall, 1979; Weiss, Dawis, England, & Lofquist, 1967). Such scales, focusing entirely on satisfaction itself, have the advantage of directly and exclusively operationalizing the essence of the concept.

Alternatively, instead of asking about that construct alone, different types of reaction to a job as a whole have been obtained and combined into an overall score. For example, widely used scales labeled as measures of overall job "satisfaction" include statements like: "Most days I am enthusiastic about my work" and "I find real enjoyment in my work" (Brayfield & Rothe, 1951) or request job-related ratings of, for instance, "worthwhile," "ideal," and "waste of time" (Ironson, Smith, Brannick, Gibson, & Paul, 1989).

Item-sets of this second kind may of course be valuable, but they extend beyond the definition of satisfaction. This term derives from the Latin *satis*, meaning "enough," and is restricted to a relatively passive acceptance that something is adequate—"satisfactory" rather than "outstanding." Being "satisfied with" something is more limited than actively "enjoying" it. Mixed-reaction scales, potentially asking about enjoyment, enthusiasm, involvement, feelings of worth, and so on, thus have a wider and more activated coverage. A broad perspective of that kind can be useful, but the "satisfaction" label should be reserved for indicators that remain within the conceptual definition, examining only satisfaction itself.

At the context-free level, syndrome well-being has sometimes been examined broadly as life satisfaction. For example, the Satisfaction with Life Scale (Diener, Emmons, Larsen, & Griffin, 1985) asks for assessments through items like "If I could live my life over, I would change almost nothing." Other context-free syndrome measures in this area include inventories like the General Health Questionnaire (GHQ; Goldberg & Williams, 1988), which covers a range of thoughts and feelings in terms of unhappiness, nervousness, and so on.

The General Health Questionnaire was developed to estimate psychiatric morbidity, and several other context-free and job-related instruments have a similarly negative emphasis, characterizing poor rather than good mental health. In recent years, some organizational researchers have also taken more positive approaches within a long-established philosophical framework that distinguishes between "hedonic" and "eudaimonic" perspectives on happiness.

Hedonic (pleasure-related) happiness concerns feelings and thoughts in ways illustrated above. However, the concept of happiness involves additional themes beyond hedonic experiences. It extends into a sense that one is fulfilling oneself, is exploiting one's potential, is fully functioning, is making good use of one's attributes, or that one is doing something worthwhile or meaningful. Other notions of this kind include a sense of wholeness, self-realization, being authentic (as one "should be"), being true to oneself, or acting in some way that is harmonious or morally desirable.

Such themes date back to early Greek philosophers such as Aristotle (384–322 BC), who was concerned with eudaimonia, a form of happiness that reflected a "good life." From a psychologist's standpoint, Seligman (2002) emphasized that a good life was not the same as a pleasant life, and he developed the notion of "authentic happiness" deriving from the use of one's personal strengths and virtues to achieve goals that had intrinsic value beyond mere pleasure. Paradoxically, eudaimonic happiness can be empirically unrelated to hedonic happiness, as it may be experienced in different ways: enjoyable, unpleasant, or devoid of feeling. For example, undertaking one's duty may involve pleasant activities or instead require stressful intervention in a difficult situation.

Despite their intrinsic significance, eudaimonic forms of happiness are difficult to specify and measure. Nevertheless, psychologists have focused on particular themes that may be applied in organizations. For example, Spreitzer, Sutcliffe, Dutton, Sonenshein, and Grant (2005) examined "thriving" as a sense of vitality and forward movement, with new learning and personal development. Consistent with earlier ideas of psychological growth and self-actualization, they emphasized that people in their jobs as well as elsewhere want to make progress toward achieving their potential. Linked to that, difficult expenditure of effort can itself be rewarding if it is directed at personally valued outcomes (e.g., Ferguson, 1967/1966; Warr & Inceoglu, 2012).

A related eudaimonic syndrome concerns the perception of meaningfulness in one's job. This involves awareness of some match between

a job and one's personal values and self-identity, linked to the perception that the job has personal significance beyond providing mere transactional feelings. Meaningfulness may be perceived in everyday activities such as the use of valued skills or effective coping with personal challenges, or it may be a question of applying personally important moral principles. Perceived meaningfulness of a job thus reflects the degree to which in some (often ill-defined) way it matters to you. As reviewed by Ben-Shahar (2007), both pleasure and perceived meaning are essential for happiness in its full sense.

It is thus often desirable in investigations of psychological well-being to include measures of constructs like thriving and perceived meaningfulness. Those cognitive-affective syndromes overlap in part with established notions such as job involvement and organizational commitment (e.g., Cooper-Hakim & Viswesvaran, 2005) and job engagement (see chapter 10). Operationalizations of job-related thriving in terms of vitality and learning have been described by Porath, Spreitzer, Gibson, and Garnett (2012), and perceived meaningfulness scales have been applied by King, Hicks, Krull, and Del Gairo (2006; context-free) and May, Gibson, and Harter (2004; job-related).

Issue 8: Examining Ambivalence

The chapter's final issue concerns mixed patterns of well-being rather than single-aspect levels. Most publications associated with the previous issues are based on workers' assessments of their average feelings and thoughts across a period, and information about those average levels is of course essential for research and practice. However, differences between well-being of different forms and at different times can also be important, and for them measurement procedures require expansion.

The similarity or difference between well-being elements may be studied in two ways—across time or between those elements on a single occasion. In the first case, we may set out to learn how feelings differ in their level from period to period. In the second case, research can examine how those are similar or different between different forms of well-being; a person can feel good in some respects and feel bad in others within the same period of time.

Those patterns reflect the construct of ambivalence, sometimes referred to more positively as "balance." Ambivalence, literally being "valued in two ways" (but there can be more than two), is widely

experienced in jobs and elsewhere (e.g., Smelser, 1998), but its few operationalizations have been partial and inconsistent. For example, Schwarz, Reynolds, Thase, Frank, and Fasiczka (2002) computed the proportion of all affects that were positive, Fredrickson and Losada (2005) examined the ratio of positive and negative emotions, and Sheldon and Niemiec (2006) recorded the sum of absolute differences between different need satisfactions.

Those investigations concerned experiences outside the workplace, and there is a great need for studies of ambivalence in job settings. Fluctuations across time might be studied through between-level contrasts in repeated surveys or diary completions, and investigations of ambivalence within a single period need to focus on ways in which different kinds of feeling coexist. The relative merits of different procedures to measure ambivalence remain unclear, and Issue 8 is included here to emphasize the need to develop and apply those procedures.

Content Validation and Related Concepts

This chapter has argued for explicit conceptualization as the basis for effectively measuring well-being. Conceptual definitions need to be more clearly specified than is often the case, and selected operational definitions should explicitly strive to match those in ways illustrated here. Several current themes might be viewed in terms of "content validation" as construed in respect of psychometric instruments for personnel selection.

Content validation is "the process of ensuring that test content is related to and representative of the attribute(s) of interest. This involves developing a clear theory of the attribute to be measured and creating items based on this theory" (Highhouse, 2009, p. 495). In doing that, we need also to examine the placement of particular concepts in relation to others—sometimes referred to as "discriminant validity." For instance, psychological well-being is a key aspect of happiness (e.g., Diener & Biswas-Diener, 2008), and is also central to the construct of mental health which also extends into affective-behavioral themes such as competence, aspiration, autonomy and integrated functioning (e.g., Warr, 2007). In creating precise conceptual definitions and assessing the content validity of their operationalizations, we need to place psychological well-being within, and partially distinct from, those broader notions.

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7

Measurement of Interpersonal Mistreatment in Organizations

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Ostracism, incivility, deviance, undermining, aggression, bullying, and insidious workplace behavior: interpersonal mistreatment has many behavioral faces in organizations. Within the last two decades, occupational health psychology (OHP) has witnessed an explosion of interest in mistreatment phenomena. Along with that interest has come an array of survey tools for assessing mistreatment, both the “doing” and “receiving” of it. These tools are the focus of this chapter.

Before beginning, we outline the boundary conditions of this article. Our principal focus is quantitative methods of assessing interpersonal mistreatment in the workplace, not in schools, neighborhoods, or other contexts. We specifically concentrate on measuring mistreatment targeted at persons, for the most part excluding behaviors directed toward property (e.g., theft, vandalism) or organizations (e.g., organizational deviance). Finally, we pay particular attention to the assessment of generic mistreatment that makes no overt reference to gender, race, or any other social category. Instruments are available for assessing gender- and race-based mistreatment in detail (e.g., the Sexual Experiences Questionnaire; Fitzgerald, Gelfand, & Dragow, 1995; or the Ethnic Harassment Experiences Scale; Schneider, Hiflan, & Radhakrishnan, 2000) but are beyond the scope of our chapter.

We organize this chapter into three primary sections. First, we outline 15 commonly used instruments for assessing both the enactment and experience of workplace mistreatment. Next comes an outline of the types of research questions that can be addressed with these scales, with examples from OHP. Finally, we alert researchers to issues that should guide their selection of the appropriate measurement strategy.