Hi! How are you? Response shift, implicit theories and differing epistemologies

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This paper is dedicated to my father-in-law, Mr William Renney of Dundas, Ontario, who died as it was being written. Until very near the end, his response to the frequent questions about his health was always ‘Pretty good—considering’ or ‘Not so bad’. In trying to understand just what he was considering, we can learn a profound lesson about assessment of quality of life.

Abstract

Measures of Health Related Quality of Life (HRQL) occupy a continuum, from highly standardized econometric methods such as the time tradeoff and standard gamble to individualized global measures. Each has its vocal adherents, each involves different assumptions about the nature and interpretation of HRQL, and each has potential advantages and disadvantages. In this paper, I begin by exploring two theories which attempt to explain how people make assessments of health over time: ‘response shift’ and the ‘implicit theory of change’ model. I show that the theories, which are based on different views of the underlying cognitive processes, make opposite predictions about the validity of prospective and retrospective judgments. I examine the broader issue of individualized vs. standardized questions, and discuss a fundamental epistemological difference which places the current discussion in a broader philosophical context. I propose that a partial resolution may arise from a more careful consideration of the goals of HRQL assessment in a particular situation.

Key words: Implicit theory, Quality of life, Response shift

Introduction

A common greeting in many parts of the world is ‘Hi! How are you?’, or its equivalent in other languages. Instead of the customary – ‘I’m fine,’ a more reasoned response might well be a second question – ‘As compared to what? Am I asked to compare myself to how I felt yesterday, to my usual state, to how I was a month or a year ago, to my health as a youth, to Arnold Schwarzenegger, to my friends, to some ideal state?’ The reference point is critical since the basis of a comparison is an essential determinant of the interpretation of the response. Any meaningful estimate of subjective health must involve a comparison against other states. Yet we know little about the standards people are actually using.

We can envision at least two forms of comparison. The first may be to some idealized health state, either how I believe others with my age or infirmity might feel, how I would feel if my present health problems were resolved, or some utopian view of ‘Perfect Health’. The second, which is particularly relevant to the judgment of change, is a comparison of my present health state to how it used to be, either before the onset of an illness or before the implementation of therapy (effective or not), or simply last year; in other words, to some former state. In either case, the judgment of a present health state presumably involves other states, either directly experienced by the subject or inferred from comparisons with others or with constructed ideals.
When we ask patients how much they have changed over some time interval, (e.g. Over the past 6 weeks, have you got better, stayed the same, or got worse?), a so-called ‘transition measure’, the situation becomes more complex. Patients must first describe their present state. They must then scale this state by comparing it to some ideal. They must then contrast this state with a remembered previous state, presumably also described and scaled against some ideal criterion. Finally they must mentally subtract the two states to arrive at a measure of change.

I am not suggesting this is exactly how people go about it. But if the mind were a mental calculating engine, this is presumably the process that would be followed. As will emerge, the actual process is more complex and less rational (in a computational sense) than this indicates. In the present paper, I will examine two theories about how the process unfolds, ‘response shift’ and ‘implicit theories of change’, and show both theories predict specific departures from this ‘mental calculator’. Further, under some circumstances, the theories lead to opposite predictions about the validity of retrospective vs. prospective approaches to assessing change from an initial state as a consequence of different assumptions regarding the psychological factors underlying the process of quality of life assessment. Finally I will explore parallels between the different strategies in quality of life assessment and different perspectives in research methodology and philosophy of science.

**Judgments of the present state – response shift**

When my father-in-law, aged 87, who is legally blind, has crippling respiratory disease, and terminal lung cancer, responds to the question which began this paper with ‘Oh, pretty good, considering’, what, precisely, is he considering? What could be the basis of his optimistic response in a situation which external observers may regard as hopeless? In part, it is an issue of function, rather than disease. He can still get around, he can still think clearly. But the encroaching blindness and shortness of breath is a constant reminder of the limitations to his function. This, separation of function from disease is, of course, the mainstream paradigm of HRQL measurement and might be construed as evidence of the importance of quality of life assessment in addition to pulmonary function and optical acuity tests. Still, given what appear to be serious functional limitations, how can he see his health as ‘pretty good’ – a utility of about 0.75? Perhaps he is comparing himself to some of his friends who are in severe pain or have major physical or mental limitations, where it is easy to see he is better off than they are. Or perhaps it is a good day, and he is feeling a bit better than he was yesterday. Or perhaps he had a good meal, watched a Broadway show on television, and chatted with an old friend on the phone.

Some of these influences are legitimate causes of changes from day to day – physiological variation in the underlying disease, the influence of environmental factors on symptoms, and the bidirectional relation between illness and mood. However, the comparison state – the reference point – may have changed as well. This phenomenon has been labeled response shift by Schwartz and Sprangers [1]. In their theory, one’s judgment of health may stay relatively stable despite large changes in objective measures of health, or alternatively, judgments of health may change in a situation where there is no objective change in health, because the criterion of good health has shifted in light of new information. For example, returning to my father-in-law; his judgment of health may remain stable despite objective evidence of worsening cancer, because in the course of treatment he has seen others who are far worse off. Or, to some degree, he has simply become accustomed to his present state. Consequently the criterion for an ideal state has shifted to be commensurate with the actual state.

Response shift has been invoked as an explanation for several paradoxes in the health literature, such as (1) patients with chronic diseases rate quality of life similarly to non-patients, (2) patients tend to rate their quality of life higher than their providers, and (3) discrepancies arise between objective measures of health and self-rated health.

Response shift has been demonstrated in several recent studies. In one [2], patients who were to undergo pancreas/kidney transplants were asked to rate overall HRQL on a visual analog scale, before surgery and 5, 12 and 18 months after surgery. Average HRQL score before surgery was 5.23; after surgery, retrospective judgments of the initial...