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Self-ratings of health and longevity: A health psychologist's viewpoint on epidemiological findings

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"How, in general, would you rate your health: excellent, very good, good, fair, or poor?" This simple question often serves as an opening to many large sociological and epidemiological health-related surveys because it is a simple, convenient and polite way to begin an interview or a questionnaire on personal health matters. Could this simple single item be more than just a convenient way to begin a survey? Does it reflect more than just a momentary assessment of how we feel? Could it be a valid measure of one's health status? As health psychologists who have been trained to use multi-item scales with good internal reliability, the answer to these questions is not obvious. In this article I will briefly introduce the current state of research on these questions.

How do people view their own health?

Subjective perceptions of global health have been extensively studied, mostly by sociologists and anthropologists. Qualitative studies have consistently shown that these perceptions span the entire illness-wellness continuum and provide comprehensive summaries of the myriad factors which people view as part of their concept of health. For example, Herzlich (1973) concluded, on the basis of interviews with French adults, that health is viewed as "being" (ill or well), "doing" (being physically and socially active) and "having" (a reserve of strength and fitness). Quantitative studies have also provided evidence that self-rated health (SRH) is associated with diseases and symptoms, functional ability, health care utilization, medication use, mental health, social support and social networks, and socioeconomic factors (see, for example, meta-analysis by Pinquart, 2001) and that they are strongly affected by positive affect and function and not only by disease, disability, and negative affect (Benyamini, Idler, Leventhal, & Leventhal, 2000).

In other words, people's subjective perceptions of health capture physical, psychological, and social factors, in line with the view of health in the bio-psycho-social model and similar to the WHO definition of health as "a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity" (WHO, 1948). Such a holistic view of

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health is not only a modern 'new age' phenomenon; it has been around since before the time of the ancient Greeks and has always been part of people's own view of their health. The question is whether such self-reports of health are also valid in comparison with other measures of health. Can researchers and practitioners rely on them instead of more complicated and expensive measures (such as medical examinations, functional tests, or even longer questionnaires such as the SF-36)? Should they use them in addition to such measures?

Are subjective perceptions of health valid?

In 1982, Mossey and Shapiro reported a most intriguing finding: SRH is not only concurrently related to various health measures, it also predicts longevity. This finding had attracted the attention of many researchers. Given that many health surveys included a SRH question, secondary analyses of data from longitudinal studies were soon conducted, with the aim of exploring the SRH-mortality association. Idler and Benyamini (1997; Benyamini & Idler, 1999) reviewed dozens of studies, all with large representative community samples and follow-up periods ranging from 2 to 28 years. Some of ▶

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original article

Benyamini, Y. (cont'd)

these studies investigated the predictors of mortality and as they included a SRH measure, they inadvertently provided information relevant to the predictive power of this measure. Other studies have aimed directly at explaining the SRH-mortality association by adding covariates that might eliminate this association. Nevertheless, in over 80% of the studies in those reviews, an independent effect of SRH remained, regardless of the covariates added: respondents who reported better SRH at baseline survived significantly longer than respondents who reported poor SRH, after adjusting for age, gender, and a large variety of health-related measures. These findings have also been replicated in patient populations and with future health outcomes other than mortality (e.g., new morbidity, hospitalisation, nursing home placement, recovery from illness, changes in functional ability). They are all the more impressive in light of the differences among studies in the wording of the single SRH question and its response options and the large number of countries (over 20) in which these studies were conducted in many languages. Such findings have led many researchers to use SRH as a proxy measure for health, instead of more detailed measures. Our interest, however, is in the unique effect of SRH, independent of other measures.

Why does SRH predict future health states?

Do people know something about their health that is not tapped by the measures that are typically used in research and practice? Or, does SRH in itself play a causal role, affecting future changes in health? Idler and Benyamini (1997) proposed four possible explanations for the validity of SRH: (1) SRH is a more inclusive measure of health status and health risk factors than the covariates used; (2) SRH is a dynamic evaluation, judging trajectory and not only current level of health; (3) SRH influences behaviours that subsequently affect health status; and, (4) SRH reflects the presence or absence of resources that can attenuate a decline in health. In the decade since this review was published, new studies provided support for these explanations.

The first explanation argues that SRH better summarizes all of one's diseases (including those in preclinical, yet undiagnosed, states), symptoms, and risk factors, as well as the effects of co-morbidity. Another way to view this is that SRH "corrects" for inaccurate or insufficient measurement of these factors. In light of the robustness of the effect, even in studies with detailed measurement of health and risk factors, it

is unlikely that this is the sole explanation for the SRH-mortality association. However, there is evidence that directly supports this explanation: SRH predicted future physician ratings of health but not vice versa (Maddox & Douglas, 1973); it predicted new morbidity, and it was even found to be more accurate among participants with a cardiovascular disease, who presumably knew what to look for and adjusted their SRH according to changes in these signs and symptoms (Idler, Leventhal, McLaughlin, & Leventhal, 2004).

As for the second explanation – "the trajectory hypothesis" – SRH indeed reflects changes in health, lifestyle, and life circumstances. It is sensitive to daily changes in symptoms and affects (Winter, Lawton, Langston, Ruckdeschel, & Sando, 2007), but not to induced moods (Barger, Burke, & Limbert, 2007). Changes in SRH predicted mortality better than one-time baseline ratings (Ferraro & Kelley-Moore, 2001), possibly through its indirect effect on current SRH (Wolinsky & Miller, 2007).

The third explanation is supported by many studies showing relationships between good self-rated health and adherence to health behaviours. Moreover, self-rated health seems to be an enduring part of one's self-concept and as such, may take part in the process of setting behavioural goals and striving towards them (Bailis, Segall, & Chipperfield, 2003).

The fourth explanation is comprised of two parts. First, SRH has been found to be related to various environmental and social resources that contribute to one's ability to cope with health threats. Second, SRH has been found to be related to negative affective states, which can reflect or even affect physiological systems. Indeed, in the past few years, studies reported associations of self-rated health and changes in self-rated health with various physiological measures, including immunological and endocrine factors.

What is the valid "heart" of SRH?

Self-ratings of health are far from being 100% accurate as predictors of future health states. In other words, they consist of a "valid" core but include additional "noise". An attempt to break SRH down to its components revealed that this valid core includes one's evaluation of functional ability, level of physical activity (in general, not only "formal" exercise), feelings of energy, fatigue and ▶

original article

Benyamini, Y. (cont'd)

somatic depression symptoms (such as difficulty "getting going" in the morning). The "noise" part, i.e., predictors of SRH that did not predict mortality, included self-rated oral health and negative affects (that did not predict mortality after positive affect and function were accounted for). Thus, the valid core of SRH seems to reflect an overall sense of vitality and hardiness, which may be difficult to assess with medical tests (Benyamini, Leventhal, & Leventhal, 1999). This may also explain why SRH has been found to predict mortality even within relatively healthy samples and also why spouse (van Doorn, 1998) and even other observer ratings of health (Brissette, Leventhal, & Leventhal, 2003) also had unique effects on mortality. External observers may be able to detect the sense of vitality yet are less affected by optimism and less likely to discount the effects of risk behaviours. This sense of vitality may be a better reflection of one's health status and could be related to a more active and full life which helps to preserve health.

Are there limits to the validity of SRH?

Beyond specific correlates of SRH that are not valid predictors of mortality, there is also evidence that its validity differs among subpopulations. For instance, SRH is a more accurate predictor of mortality among men in comparison to women. A probable explanation is that men's SRH are more closely focused on their health status whereas women's SRH includes more "noise", that is, it is more strongly affected by negative affect related not only to their own health but also to the health and life circumstances of their close ones. Another example of differential validity of SRH is observed with respect to age: SRH is a more accurate predictor of longevity among the old (up to age 84) compared with the old-old ($\geq$85; Benyamini, Blumstein, Lusky, & Modan, 2003). This can be explained by the trajectory hypothesis: if part of the validity of SRH is due to its relation with changes in health, that is, to people deducing current and future health from past health, than such judgments, in particular those based on good health experienced so far, are more likely to be inaccurate at very old age, when unexpected changes are likely to occur.

Another important question is the accuracy of self-rated health in different cultures and ethnic groups. Raw ratings of health differ among cultures. Regarding the more interesting question of whether the accuracy of SRH as a predictor differs between cultures, the findings to date are inconsistent. The extent that one can rely on self-ratings of health among people with psychological disorders is also unknown. Researchers have only begun to probe SRH among people with hypochondriasis, PTSD, and other disorders.

Final conclusions and implications

Given 21st century medical technology, do we still need to listen to what people say about their health? Though this may seem to be a simple question for health psychologists, it is far from being straightforward from the viewpoint of the medical professions. This brief review shows that SRH contains important and valid information. If its effects on future health states stem from its greater accuracy as a measure of current health, then all health professionals should be very attentive to these ratings, especially when they are not in accord with more objective measures. If it has a causal effect on future health, then we should be looking for ways to turn the wheel back in the other direction. For ethical reasons, we cannot simply convince people that they are healthy (since this could result in behaviours such as stopping to take their medication). We can however encourage them to lead as full and active a life as possible, given their physical or other limitations. ∎

Note: More on views of research on SRH can be found in interviews with Idler and Benyamini at

http://www.in-cites.com/papers/Idler_Benyamini.html

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original article

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EHPS conference report

Meet the Expert: Past experience and future plans

By Yael Benyamini and Evie Kirana, on behalf of the EHPS Executive Committee

Health psychology is a relatively new field. In the last decades, research advances were not only rapid but also of great clinical significance. In order for the field to evolve, there is an evident need to support the development of abundant human resources and encourage scientists to actively contribute to this research field.

In this respect, the EHPS Executive Committee launched a new initiative last year named "Meet the Expert". The aim was to assist young scientists to improve the effectiveness of their current and future research activities by providing them a unique opportunity to consult with an expert in the field.

The group of experts were established research leaders with numerous scientific publications and outstanding academic teachers in health psychology worldwide. Five experts, Profs., Michael Diefenbach (USA), Marie Johnston (UK), Hannah McGee (Ireland), Herman Schaalma (Netherland), and Wayne Velicer (USA) were selected between those with major teaching and research experience, and agreed to facilitate the initiative. The above group of experts proposed a very broad range of health psychology domains for consultation; cancer, disability, risk perception, ageing, theory and measurement were only a few of the domains.

The participants included 17 young scientists from Canada, Cyprus, Germany, Greece, Hungary, Italy, Mexico, the Netherlands, Norway, Poland, Portugal, Slovakia, Spain, Turkey, and the UK – a truly international team of experts and participants! Even a quick look at the application forms showed what an energetic, talented and ambitious group of people had signed up to participate, many of them close to the end of their PhD or recently graduated, at a crucial junction in their lives, eager to hear feedback and ideas about their research and their future options. Many of the participants came from countries in which health psychology is not well established and were looking forward to this opportunity for personal contact with experienced researchers from around Europe and the US. Even those from countries with a longer history of research and practice in health psychology, welcomed the opportunity to meet in person a distinguished scholar from outside their university and discuss their research. Many of them mentioned that they experienced barriers in their research, which they believed would be diminished through contacts with a wider international network.

The consultations were 30-minute one-on-one sessions that took place on the morning before ▶