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APPLIED FIELDS: HEALTH

INTRODUCTION

Health psychology is a field within psychology that is devoted to understanding psychological influences on health-related processes, such as why people become ill, how they respond to illness, how they recover from a disease or adjust to chronic illness, and how they stay healthy in the first place (Schwarzer & Gutiérrez-Doña, 2000). Health psychologists conduct research on the origins and correlates of diseases. They identify personality or behavioural antecedents that influence the pathogenesis of certain illnesses. Health psychologists analyse the adoption and maintenance of health behaviours (e.g. physical exercise, nutrition, condom use, or dental hygiene) and explore the reasons why people adhere to risk behaviours (e.g. why they continue to smoke or drink alcohol). Health promotion and the prevention of illness are, therefore, agendas for research and practice, as is the improvement of the health care system in general.

In health psychology, a multitude of variables are assessed, such as physical conditions, health behaviours, quality of life, coping with stress or illness, coping resources, and premorbid personality. Since health behaviours dominate the discipline, the following contribution will focus on this particular subarea.

HEALTH BEHAVIOURS

Many health conditions are caused by such behaviours as problem drinking, substance use, smoking, reckless driving, overeating, or unprotected sexual intercourse. Health behaviours are often defined as behaviours that people engage in to maintain or improve their current health and to avoid illness. They include any behaviour a person performs in order to protect, promote, or maintain his or her health, whether or not such behaviours are objectively effective towards that end (Conner & Norman, 1996; Schwarzer & Renner, 2000).

People are inconsistent in the way they practise multiple health behaviours. For example, a person who exercises regularly does not necessarily adhere to a healthy diet. One reason people's current health habits are not more consistent is that they differ on a number of dimensions (see Table 1).

For a valid and reliable measurement of health behaviours, it is essential to distinguish between these dimensions and to define clearly the subject matter under investigation.

ASSESSMENT OF HEALTH BEHAVIOURS

There are various methods of assessing health behaviours (Renner, 2001). *Questionnaires* that assess the frequency of past behaviour are the most commonly used methods. There are numerous questionnaires that ask for the average or typical quantity and frequency of alcohol consumption (for an overview, see Sobell & Sobell, 1995), dietary habits, or physical activity. However, the information provided by quantity and frequency measures (QF estimates) is limited because respondents must base their estimates on a large variety of experiences. QF estimates often reflect less drinking and tend to misclassify drinkers compared to daily diary or timeline reports. They also provide lower absolute food intake estimates than a longer, interviewer-administered diet history.

In rare occasions, *physiological methods* can be used, which are most accurate for measuring alcohol consumption (via blood or urine sampling), drug consumption (via immunoassay, hair or sweat bioassay procedures), habitual dietary intakes (via biochemical markers), or physical activity (via doubly labelled water). However, such bioassay methods are only required when a high level of accuracy about recent health behaviour is needed (e.g. for workplace drug testing). They can also be used in addition to self-report data in order to confirm or falsify self-report information (e.g. about recent drug use). However, in some circumstances it may only be necessary to lead respondents to believe that there is an objective way to identify their behaviours via physiological measures, which is done to reduce misreporting. Another direct method is *behavioural observation*, used to assess physical activity among children or a driver's speed, for example.

Unstructured or semistructured *interviews* are qualitative techniques for research on understanding individuals' cognitive and conceptual models of health behaviours and the frames of reference used to organize these behaviours. Therefore, qualitative methods are mainly concerned with exploration and analysis of health behaviour because they

Table 1. Dimensions of health behaviours

• Voluntary; consciously undertaken by the individual	• Involuntary; unconsciously undertaken by the individual
• Avoidance of harmful activities	• Engagement in protective activities
• Undertaken without medical assistance	• Needs professional medical assistance
• Vital	• Non-vital
• Occasional; unstable	• Habitual; stable
• Simple	• Complex, multifaceted

allow the interviewee to address the issues that are relevant to the topics raised by the investigator. One major disadvantage of qualitative methods is that generality is, by definition, not quantifiable. Furthermore, since anonymity is not given, self-reports may be affected by social desirability biases, which lead to overreporting of socially desirable behaviours as well as underreporting of socially undesirable behaviours.

Stone and Shiffman (1994) have labelled strategies for collecting self-reports of respondents' momentary or current state as *Ecological Momentary Assessment* (EMA). EMA studies usually consist of repeated assessment of participants' momentary state as they go about the tasks of daily living in their natural environment. Interval-contingent assessments require assessment at regular intervals. One example is the method of interactive voice response where alcoholics are asked to call in on a regular basis to report their drinking status to the interviewers. Another way is asking respondents to record every episode of smoking, eating, or another behaviour of interest. This event-contingent approach may not lead to a representative sample of the participant's general state, and it requires a clear definition of the triggering event. In contrast, signal-contingent sampling supplies participants with an external signal cue that is usually timed to be emitted at random to prompt them to complete a written assessment or an electronic diary. Signal device beepers, electronic watches, and palmtop computers can be used. EMA is a method that precisely assesses recent health behaviours. Its major advantage is that it minimizes deviations due to recall from memory by relying on respondents' reports of their experience at the very moment of inquiry.

A diary log is a data collection strategy that gathers information as time passes. The distinctive feature of this method is that it yields information that is temporally ordered. It shows the sequence of events and the profile of actions across time. Diary techniques can be particularly useful when data from the same person are required over a considerable period of time and/or very frequently, such as assessing smoking behaviour, alcohol consumption, or dietary habits, in order to provide a general estimate of the amounts consumed. For example, alcohol consumption diaries often include questions about the frequency of drinking, the type of drink, and the typical quantity consumed on each occasion. In comparison to questionnaires, the diary log format minimizes recall biases associated with retrospective reporting, but daily reporting may be more reactive. In addition, diaries could be valuable for getting access to so-called 'intimate' information (e.g. sexual behaviour).

Timeline Followback Method Reports (TLFB), developed by Sobell and Sobell (1995), provide a detailed insight into health behaviours (smoking, taking drugs, or drinking, etc.) over a designated time period. Participants are asked to provide retrospective estimates of their daily behaviour by using a calendar over a certain time period, ranging up to 12 months prior to the interview. With this method, the pattern, variability, and level of drinking or smoking can be profiled, which is especially useful when precise estimates are needed or when researchers wish to evaluate specific changes in health behaviours before, during, and after interventions. However, this is a rather time-consuming method.

BIASES IN SELF-REPORTS

Some problems shared by all surveys relying on self-reports could seriously decrease internal and external validity (Schwarz & Strack, 1991). Short-term fluctuations, such as in substance use, produced by environmental (e.g. social settings) and psychological (e.g. mood or stress) variables, may affect the psychometric properties of usage measures. For example, there is a tendency for students to become increasingly exuberant as their high school graduation approaches. Increased party activity during the spring months contributes significantly to the actual level of drug use. Therefore, seasonal effects and short-term fluctuations may lead to superficial behavioural changes that could be misinterpreted by researchers as being genuine changes.

Questions about past behaviours assume accurate memory of events as well as willingness to report them to a researcher. However, respondents might not recall the actual events, employing instead various cognitive heuristics (rules of thumb) to estimate frequencies. This could result in certain biases. Individuals use different strategies to answer frequency questions over different time spans. Episodic enumeration (recalling and counting individual incidents) is more likely to be used with shorter time spans in frequency reports, whereas rate-based estimation (projecting the typical rate over the length of the recall period) is more likely to be used when longer time spans are involved. Reported behavioural frequencies for a year are generally lower than 12 times the equivalent frequencies for a month. People probably forget more behavioural instances over the time span of a year than over a month. Therefore, behavioural reports over a month are the more accurate of the two. The use of different time spans across or within studies may lead to inconsistent or even misleading results.

Accurate and reliable measurements of health behaviours, especially drug use and sexual activity, have proven to be difficult because of social desirability influences. People underreport smoking and underestimate alcohol consumption. Self-reports of alcohol consumption can account for as little as half the amount obtained from sales figures. Likewise, the total number of cigarettes sold or otherwise estimated to be consumed is substantially higher than the estimate calculated from smokers' self-reports. In addition, studies that focus on behavioural frequencies consistently yield illusory superiority: respondents report a lower frequency of unhealthy behaviours and higher frequency of healthy behaviours for themselves than for an average peer. Illicit problem behaviours, such as drug or alcohol use, may elicit stronger self-serving biases than more mundane health-threatening behaviours in adolescents (for details, see Renner, 2001).

REFERENCES

Conner, M. & Norman, P. (Eds.) (1996). *Predicting Health Behaviour: Research and Practice with Social Cognition Models.* Buckingham, England: Open University Press.

Renner, B. (2001). Assessment of health behaviours. In Smelser, N.J. & Baltes, P.B. (Eds.), *The International Encyclopedia of the Social and Behavioural Sciences.* Oxford, England: Elsevier.

Schwarz, N. & Strack, F. (1991). Context effects in attitude surveys: applying cognitive theory to social research. In Stroebe, W. & Hewstone, M. (Eds.), *European Review of Social Psychology*, Vol. 2, (pp. 31–50). Chichester, England: Wiley.

Schwarzer, R. & Gutiérrez-Doña, B. (2000). Health Psychology. In Pawlik, K. & Rosenzweig, M.R. (Eds.), *International Handbook of Psychology* (pp. 452–465). London: Sage.

Schwarzer, R. & Renner, B. (2000). Social-cognitive predictors of health behaviour: action self-efficacy and coping self-efficacy. *Health Psychology*, *19*(5), 487–495.

Sobell, L.C. & Sobell, M.B. (1995). Alcohol consumption measures. In Allen, J.P. & Columbus, M. (Eds.), *Assessing Alcohol Problems* (pp. 55–73). NIAAA Treatment Handbook Series 4. Bethesda, MD: NIH.

Stone, A.A. & Shiffman, S. (1994). Ecological momentary assessment (EMA) in behavioural medicine. *Annals of Behavioural Medicine, 16*, 199–202.

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RELATED ENTRIES

Health, Quality of Life, Interview in Behavioural and Health Settings, Brain Activity Measurement, Goal Attainment Scaling (GAS), Psychophysiological Equipment and Measurements, Outcome Assessment/Treatment Assessment, Self-Reports (General), Self-Report Distortions, Self-Presentation Measurement