Community Dent Oral Epidemiol 2006; 34: 161–73

Community Dentistry and Oral Epidemiology

Commentary

The concept of positive health: a review and commentary on its application in oral health research

David Locker[1] and Barry Gibson[2]

[1]Community Dental Health Services Research Unit, Faculty of Dentistry, University of Toronto, Toronto, Ontario, Canada; [2]Department of Oral Health and Development, School of Clinical Dentistry, University of Sheffield, Sheffield, UK

Locker D, Gibson B. The concept of positive health: a review and commentary on its application in oral health research. Community Dent Oral Epidemiol 2006; 34: 161–73. © Blackwell Munksgaard, 2006

Abstract – Although the concept of positive health has been around for more than 60 years, acceptable measures of this construct have yet to emerge. Potential explanations are that there is no consensus on how it is to be defined and its ambiguous status with respect to medical and socioenvironmental models of health. In this paper we review definitions of positive health, the origins of these definitions, the way the concept of positive outcomes has been used in research on the outcomes of oral and orofacial conditions and assess whether the concept of positive health has any merit in terms of applied oral health research. This literature reveals many competing and imprecise definitions, many of which are similar to other constructs, such as well-being. Most are lacking empirical referents or indicators. In examining the literature on oral health we found five distinct, although overlapping, ways in which the concept of positive health has been framed: (i) positive health as the absence of negative health states; (ii) positive health as positively worded items; (iii) the positive outcomes of oral health; (iv) positive oral health as a set of psychological and social attributes, and (v) the positive outcomes of chronic conditions such as oro- and craniofacial differences. Each of these ways can be challenged on conceptual or methodological grounds. For example, the states that comprise the upper end of the negative–positive health continuum have not been defined and health states and determinants of health are often confused. Moreover, the meaning of responses to health status questionnaires and the interpretation of accounts of the illness experience is often unclear. Nevertheless, the notion of positive health, irrespective of its merits and public policy implications, provides a context for methodological and theoretical debate that can only serve to enrich theory and practice with respect to measures of health and quality of life and therapeutic interventions at the individual and population.

Key words: definition; measurement; positive health; quality of life

David Locker, Faculty of Dentistry, University of Toronto, 124, Edward Street, Toronto, Ontario M5G 1G6, Canada
Tel: 416 979 4907
Fax: 416 979 4936
e-mail: david.locker@utoronto.ca

Submitted 6 November 2004; accepted 10 May 2005

The measurement of health has been the focus of considerable research effort for more than a half century. Nevertheless, uncertainty remains with respect to how health is to be defined and how any particular definition is best operationalized. One factor that contributes to this uncertainty is the plethora of imprecise terms and concepts used by investigators seeking to develop health scales and indexes. Terms such as health, health status, functioning, dysfunction, well-being, health-related quality of life, positive health and quality of life abound in the literature, are rarely defined and often used as although they were synonymous and interchangeable (1, 2). Even the most fundamental of the terms we use, health, has been interpreted in many different ways. Seedhouse (3) identified six conceptions of health, namely: (i) health as an ideal state, (ii) health as a commodity, (iii) health as

personal strength or ability, (iv) health as a metaphysical strength, (v) health as a reserve of mental and physical strength (vi) health as an ability to adapt, and added a seventh, health as the foundation for achievement.

One of the least well-defined and controversial concepts in this field of enquiry is that of positive health. As Seipp (4) commented in a discussion of the concept:

> The literature in the health and medical care field contains a heavy burden of obscure rhetoric and semantic slight of hand. Terms gain a usage which belies the reality to which they refer, code words come to serve as a substitute for thought, and concepts seemingly acquire a life of their own. Such is the case with the concept of positive health. For more than four decades this concept has been bandied about. Often it is raised only to be disclaimed or with the intent to depreciate its relevance. However, it is probably invoked with equal frequency as an ambiguous but reassuring kind of appeal. Discussions of the concept rarely deal with its operational implications and never seem to manifest appreciation of its origin (p. 291).

While this seems a particularly harsh critique, there are many examples in the literature where the concept of positive health is invoked and yet its implications are at best not explained and at worst ignored. For example, Lamb et al. (5), in a paper on physical fitness as an indicator of positive health, state that the notion of positive health 'extends the continuum of ill to normal health to a state of above normal health to super health' without specifying what constitutes above normal or supernormal health. In describing the conceptual basis of the Child Health Questionnaire (CHQ), a comprehensive measure of health and well-being in children and adolescents, Landgraf et al. (6) state the following:

> The second principle that guided the design of our instrument was balance. Given that a unique attribute of health is the symbiotic relationship between positive and negative health states, we felt that a comprehensive general instrument must include the *full* (authors' emphasis) range of health states for a given dimension (p. 29).

Given that symbiosis means 'the intimate living together of two dissimilar organisms in a mutually beneficial relationship', the concept of health presented here is elusive. Moreover, this is not clarified in any way by the statement that immediately follows:

> For example, if we are to argue that our physical functioning scale is a fair and valid measure it must include items that measure degree of limitation in both basic functional skills appropriate for children (eating, dressing) as well as activities that require more stamina (such as climbing stairs, running) (p. 29–30).

Clearly, this is a comment on the content validity of one of the subscales of the CHQ, physical functioning, and does not address the positive and negative aspects of functioning and how they are related.

More recently, the WHO's International Classification of Functioning, Disability and Health (7) suggests that health conditions and contextual factors in the form of personal and environmental variables interact to influence three distinct components of health: *body structure and functioning*, *activities* and *participation*, each of which can be measured negatively or positively. However, these components of health are quantified according to a generic scale as follows: 0, no problem; 1, mild problem; 2, moderate problem; 3, severe problem; and 4, complete problem, i.e. in a traditionally negative way. How the positive aspects of these components are to be measured is ignored. By contrast, environmental factors are coded using a negative and positive scale to denote barriers to and facilitators of activity and participation.

In such instances it is not unreasonable to conclude that the commitment to positive health is, as Seipp (4) suggests, more rhetorical than real.

The origins of the concept of positive health

According to Chatterji et al. (8) one of the earliest contemporary references to positive health is to be found in a definition offered by Sigerist (9) in 1941.

> A healthy individual is a man who is well balanced bodily and mentally, and well-adjusted to his physical and social environment. He is in full control of his physical and mental faculties, can adapt to environmental changes … and contributes to the welfare of society according to his ability. Health therefore is not simply the absence of disease; it is something positive, a joyful attitude towards life, and a cheerful acceptance of the responsibilities that life puts upon the individual.

This definition of health as an ideal state (3) is reproduced in the influential 1948 WHO definition of health, which stated that health is 'a state of complete physical, mental and social well-being and not merely the absence of disease and infirmity'. A literal interpretation of the definition suggests that to be healthy individuals and

populations must possess certain desirable attributes and not be merely free of disease and disability. That is, health is 'positive and enhancing and is not achieved by just not being ill' (3, p. 31).

However, as no definition of what constitutes a complete state of physical, mental and social well-being was provided by the WHO, it was not clear and remains unclear, what attributes constitute a state of health. The definition has been criticized for replacing a vague and ill-defined term such as health with the equally vague and ill-defined term of well-being (4) and characterized as 'vacuous' (10, p. 63), 'well-meaning but meaningless rhetoric' (3) and 'utopian' (2, 11). Conversely, the definition has been characterized as radical in that it expanded the limited concept of health associated with the medical model (12). From a measurement perspective, it is usually regarded as a useful one in that it clarified the essential distinction between disease and health, indicated that health was a multidimensional phenomenon and provided the basis for contemporary approaches to measuring health status.

Such interpretations of the WHO definition have been disputed by Seipp (4). He reviewed the writings of Andrija Stampar, who was largely responsible for drafting the constitution of what is now the World Health Organization and who provided the basis for the WHO definition of health. He defined health in the following way:

> Whereas health is not only the absence of infirmity and disease but also a state of physical and mental well-being and fitness resulting from positive factors such as adequate feeding, housing and training.

According to Seipp (4), embodied in this definition is Stampar's view of health as human right, a product of social and economic forces and the responsibility of governments and societies. Moreover, Stampar is primarily concerned is with how health is produced rather than with how a state of health should be defined. As Seipp states, 'The concept of positive health implies that the responsibility for the provision of health is located not merely in the doctor's office but rather lies with society as a whole' (p. 295). Further, 'Health must be seen as a right which transcends the notion of access to medical services precisely to the extent that the realization of health is recognized as entailing measures more inclusive than those suggested under the rubric of medical care' (p. 295). Consequently, negative health refers to a reactive process in which health is restored by medical interventions applied to those who are sick, while positive health refers to the conscious decisions of governments and societies that prevent disease and promote well-being.

However, in subsequent drafts Stampar's definition of health underwent revision, as a result of which attention shifted from the social aetiology of health to its social content. That is, from a concern with the responsibility for health and how it is produced, to a concern with health as a state of the individual and how that state is to be measured. According to Seipp (4) much of the current discourse surrounding positive health is based on a misunderstanding of the concept as it originally emerged in the work of Stampar and his intent in drafting the original WHO definition.

Contemporary definitions of positive health

The notion of positive health as the state of an individual has emerged periodically to challenge conventional measurement approaches that, it is claimed, are based on unduly narrow negative definitions of health. For example, an early critique of health rating scales was offered by Merrell and Reed (13). They were critical of measures in which people were classified as 'healthy' or as having various degrees of illness or disability (2). They claimed that just as there are gradations among those who are ill there are gradations of well-being among those who are not. Consequently, they suggested that health-rating scales should consist of or be scored on a continuum encompassing a range of negative states that characterize illness and a range of positive states that characterize health.

In the mid-1980s the development of health promotion theory lead to a new and expanded definition that called for the creation of measures of positive health (2). Bowling (2) has criticized 'negative definitions' of health and the measures to which they have given rise. She claims that as only a minority of the population suffers ill health these measures are limited in that they tell us nothing about the majority of the population who are healthy. Positive measures are required to provide information on the health status of those who are not sick or disabled.

One reason why measures of positive health have yet to emerge is that there is considerable variation in contemporary definitions of positive health. For example, in Patrick and Erikson's (14)

substantial and influential text on health status measurement and its role in health policy, there are three short sections dealing with positive health and in each it is characterized in a different way. In the first, positive health is equated with psychological well-being and states such as happiness, self-esteem and satisfaction (p. 62). In the second, it is defined in terms of the absence of negative states such as depression and in terms of favourable self-ratings of health (p. 371). In the third it is defined as 'the upper end of the health-illness continuum that might be considered desirable deviations from expected or usual functions, activities or perceptions' (p. 406). Positive health is also deemed to be the 'optimum capacity for health or wellness'.

Seeman (12) developed a model of positive health based on a human systems framework. However, positive health is never clearly defined but referred to variously as 'the upper end of the health continuum' (p. 1099), 'effective human functioning' (p. 1099), 'effective coping and response' (p. 1101), 'empirically defined criteria of superior efficacy in human-system functioning' (p. 1107). Nutbeam (15) defined positive health as 'the potential of the human condition … concerned with thriving rather than mere coping'. Ejlertsson et al. (16), in a study of the predictors of positive health in the elderly, used a similarly simple approach and classified those rating their health as good with no deterioration in the past 2 years as having 'positive health' and those who rated their health as poor with no improvement over the past 2 years as having 'negative health'. Lamb et al. (5) also defined positive health in relatively simple terms as physical fitness indicated by agility, flexibility and cardiovascular efficiency.

These examples indicate that there are differences in what is considered to constitute positive health. Moreover, the definitions draw on several of the different ways in which health itself has been conceptualized (3) so that they encompass a broad range of constructs such as well-being, coping and adaptation. However, one idea that is common to most definitions is that of health as a negative–positive continuum, while a common failing of many definitions is that they are difficult if not impossible to operationalize.

Oral health research and definitions of positive health

Given the lack of consensus regarding how it is to be defined, the notion of positive health has not been prominent in recent efforts to develop measures of subjectively perceived oral health status. Nevertheless, a careful reading of the literature on oral and orofacial disorders reveals many references to positive health or the negative–positive continuum. As with much of the discourse on health and its measurement, the theoretical or empirical underpinnings of those references remain largely hidden and unexamined (14). Moreover, we found five distinct, although overlapping, ways in which the concept of positive health has been framed in this literature: (i) positive health as the absence of negative health states; (ii) positive health as positively worded items; (iii) the positive outcomes of oral health; (iv) positive health as a set of psychological and social attributes, and (v) the positive outcomes of chronic conditions such as oro- and craniofacial differences. The aim of the remainder of this paper is to examine these different ways, to identify their conceptual basis and, ultimately, to determine whether or not positive health, as currently defined, has any merit in terms of its applications in oral health research.

Positive health as the absence of negative health

The most common and simplest way in which positive health has been framed is in terms of the absence of negative health states. Most measures of health status assess the presence and by implication the absence of problems in physical and psychosocial functioning. They are then usually characterized as measures of ill health. While such measures are often considered to imply a continuum of health, their conceptual basis is more straightforward and posit only two states; health and ill health or to use the terminology of Chatterji et al. (8), full health and less than full health. This gives rise to the problem of establishing a cut-off between full and less than full health for each domain or dimension included within the concept of health. One simple and pragmatic way is by means of scores on health status measures. Assuming that a measure of health-related quality of life consisting of negatively worded items has acceptable content validity in terms of the coverage and relevance of its items, and is scored on a Likert frequency scale with codes ranging from 'never' = 0 to 'all the time' = 4, a scale score of zero indicates full health and scores of one or more indicates various degrees of negative health as

indicated by functional limitation or disability. From this perspective full health and positive health are one and the same thing.

This simple model of health/ill health is implied by the scoring formats of almost all measures of oral health-related quality of life (17) and provides a common basis for both medical and lay definitions of health (3). For example, many qualitative studies of the referents underlying respondents' global ratings of health indicated that self-ratings of health as excellent or good are usually based on the absence of medical conditions or functional limitations (18, 19).

Atchison and Dolan (20), in their description of the development and scoring of the Geriatric Oral Health Assessment Index (GOHAI), explicitly equate positive health with the absence of negative health. For example, they recommend reversing the coding of the nine negatively worded items comprising the GOHAI and summing these reversed response codes with those of three positively wording items to obtain scores. Consequently, high item scores indicate the absence of oral health problems and high scale scores indicate 'more positive health' (21).

Slade (22) uses a similar approach in developing methods for assessing positive and negative changes in oral health-related quality of life as documented by repeat administrations of the Oral Health Impact Profile (OHIP). A negative change was defined as an increase in the number or frequency of functional or psychosocial impacts, while a positive change was defined as 'the number of impacts that were reported at baseline that were not reported at the 2-year follow-up'. Here, a decrease in negative experiences is being equated with an increase in the positive. Consequently, according to this reasoning, the maximum positive change occurs and positive oral health is secured when all previously reported impacts are resolved and no new impacts arise. From this perspective health and positive health are one and the same and current scales and indexes are acceptable as measures of both negative and positive health.

This conception has recently been challenged by McGrath et al. (23) who claim that positive and negative health states and experiences are distinct and that 'the absence of a negative does not necessarily imply a positive and a positive state can coexist with a negative state'. However, little empirical warrant for this position has yet to be provided. While such coexistence has been suggested by Albrecht and Devlieger (24), who found that many individuals with serious disabilities (negative state) reported that their quality of life was good or excellent (positive state), this was deemed to be a 'paradox'. Moreover, health and quality of life are different constructs so this does not resolve the issue of whether negative and positive health states can coexist. Huppert and Whittington (25) have claimed that positive and negative mental states are independent and can coexist in the same individuals. In a study using the General Health Questionnaire, they found that a large minority of their respondents had high scores on both the negative affect scale and the positive affect scale. As the former measured anxiety and depression and the latter coping, competence, self-efficacy and contentment, this finding is difficult to interpret.

Positively worded items

Another simple was in which the notion of positive health has been approached is by the use of positively worded items. The majority of health status or health-related quality of life questionnaires ask about the presence, severity or frequency with which certain functional and psychosocial problems have been experienced within a given time frame. For example the OHIP asks, 'How often in the last year, have you …. been unable to eat foods you would like to eat because of your teeth, mouth or dentures?' (26). The wording of these questions can be reversed to reflect positive experiences. The GOHAI (20) is the only one of the oral health-related quality of life measures developed to date that uses this approach. This 12-item scale has nine items that are worded negatively, and three that are worded positively. The latter ask 'How often have you been able to swallow comfortably?', 'How often were you able to eat anything without feeling discomfort?', and 'How often were you pleased or happy with the looks of your teeth and gums, or dentures?'.

However, changing the directionality of items has a number of disadvantages (27–30), the main one being that the coding of either the negative or the positive items must be reversed in order to calculate overall scale scores. Reverse coding rests on two assumptions: (i) that positively and negatively worded items measure the same underlying construct (31), and (ii) that the categories of Likert type frequency response formats are symmetrical and equi-distant (32). Studies of balanced scales

containing an equal number of positively and negatively worded items, have indicated that these assumptions are not valid (31). The reverse coded negative items resulted in significantly higher mean scores than the positive items, and positively and negatively worded versions of the same construct loaded onto different factors.

Such studies have not been undertaken with measures of oral health-related quality of life given the lack of balanced measures. However, some evidence of similar effects was obtained from a study in which respondents completed a copy of the GOHAI and the OHIP-14 (33). These two measures have four items in common that appear to assess the same underlying constructs. In the GOHAI two are worded negatively and two positively, while all four OHIP-14 items are worded negatively. All items had the same 6-point response format ranging from 'all the time' (coded 5) to 'never' (coded 0). In order that similar items on the two scales could be compared, the GOHAI's positive items were reverse coded. Table 1 indicates that when pairs of items were phrased negatively prevalence estimates and mean item scores were almost identical. However, the reverse-coded GOHAI items resulted in higher prevalence estimates and mean scores than the corresponding negatively worded OHIP-14 items. While these differences may have been due to differences in wording, the results are consistent with the notion that reverse coding can be problematic.

One of the solutions to these problems is to forego reverse coding and to score and analyse negatively and positively worded statements separately. The former can then be taken to indicate negative health and the latter positive health. Nevertheless, problems may still arise in measuring positive health as positively worded items may be more difficult to answer than negatively worded ones, particularly when the attribute being assessed is essentially negative.

This reasoning was integral to a measure of population health-related quality of life developed by the US Centers for Disease Control (CDC) based on the concept of 'healthy days' (34). 'Healthy days' measures the number of days in the past month when a person's physical or mental health was good. It is estimated by asking an individual about the number of *unhealthy* days they have experienced and subtracting this number from 30. The rational for this indirect approach was that field-testing indicated that most individuals had fewer unhealthy than healthy days so that is was easier for them to recall the negative rather than the positive. Such recall effects may explain the discrepancies between negatively worded and reverse coded positively worded items describing the same construct.

Clearly, we need to learn more about the effects of negative and positive question phrasing in measures of oral-health-related quality of life. This is also necessitated by research indicating that balanced scales with negatively and positively worded items can exhibit problems with factor structures and internal consistency (35). Consequently, at this point in time, the use of positively worded items in oral health status measures is at best questionable.

Table 1. Percent of subjects reporting problem sometimes, fairly often, very often or all the time and mean item scores

GOHAI–Negatively worded		OHIP-14–Negatively worded	
How often have your teeth and dentures prevented you from speaking the way that you wanted?	16.0% (0.46)	How often have you had trouble pronouncing words because of problems with your teeth, mouth and dentures	15.6% (0.51)
How often did you feel nervous or self-conscious because of problems with your teeth, gums or dentures	16.9% (0.56)	How often have you been self-conscious because of your teeth, mouth or dentures?	17.3% (0.60)
GOHAI–Positively worded[a]		OHIP-14–Negatively worded	
How often were you able to eat anything without feeling discomfort	40.4%* (1.53)**	How often have you found it uncomfortable to eat any foods because of problems with your teeth, mouth or dentures	30.2% (0.92)
How often were you pleased or happy with the looks of your teeth, gums or dentures	33.3%* (1.16)**	How often have you been a bit embarrassed because of problems with your teeth, mouth and dentures	14.7% (0.50)

[a]Percents and mean item scores (in parenthese) obtained after reversing response coding.
*$p < 0.05$; McNemar test; **$p < 0.001$; paired t-test.

The positive outcomes of oral health

Although most measures of the outcomes of oral disorders attempt to quantify the negative impact of the conditions on functioning and life quality, the Dental Impact Profile (DIP; 36) and the OHQoL-UK (37), attempt to assess both negative and positive impacts; that is, the ways in which quality of life may be compromised or enhanced by the condition of the teeth and mouth. Each asks respondents whether their teeth and mouth have a good effect, no effect or a bad effect on each of several life domains, such as eating, finances and romance. Presumably, as this is not made explicit, the negative impacts are the consequences of oral disease and/or the damage it inflicts on the oral tissues, while the positive impacts are a consequence of 'oral health'.

While these two indexes are simple, and have a certain intuitive appeal in that they view health as a negative-positive continuum, there are a number of issues that need to be clarified, first and foremost of which is the question of what this type of scale is intended to measure. The title of some papers reporting results of studies using the OHQoL-UK imply that it is a measure of oral health-related quality of life (37–39), others that it measures quality of life (40–43) and others that it measures the impact of oral health on quality of life (44, 45). Or do scales of this type, as the titles of additional papers suggest, measure the value or importance of oral health to various populations? (46–48). As these terms are not defined it is not clear if they are being used interchangeably or if they refer to different constructs.

Another problem concerns the meaning of the respondent's answers to the questions comprising the DIP and OHQoL-UK. For example, its is easy to imagine what respondents mean when they report negative impacts of the teeth and mouth on eating. That is, oral disorders may decrease chewing capacity, limit an individual's food choices or modes of food preparation, and influence when, where and with whom a person eats. It is also easy to interpret a response of 'no effect' in this context; that is, as an absence of these types of problems. However, the meaning of a 'good effect' is somewhat less clear. If a person is able to chew all foods well enough, can eat what they wish to eat and experiences no limitations with respect to eating, is this to be recorded as 'no effect' or a 'good effect'? If the former, then what constitutes a good effect needs to be specified; if the latter, then this is akin to the 'positive as an absence of a negative' conception of positive health described previously. Consequently exactly what is being measured at the upper end of the negative-positive continuum is unclear.

Moreover, for both bad and good effects, the nature of those effects are not defined. For example, if a respondent reports a bad effect on finances is this because they have had to spend considerable sums of money on dental treatment, or because they feel they have not risen to their deserved or desired level in the occupational and income hierarchy because of poor dental health? Or if a good effect, is this because dental health care costs have been minimized or because good oral health promotes upward occupational and financial mobility? Consequently, exactly what is being measured by these items is unclear.

Presumably, the answer to this concern with meaning is to be found in the qualitative data on which these measures were based. If not, then qualitative research on respondents' understanding of the questions and the meaning of their answers needs to be undertaken. Such work has been undertaken in qualitative studies of global ratings of health and this indicates that positive aspects are rarely invoked to justify good or excellent health and that the meanings of responses to this apparently simple question are often complex and often contradictory (18, 19). This type of study has also been undertaken with respect to commonly used measures such as the Short Form-36 and has indicated that the interpretation of questions by respondents often differs from that assumed by the investigator, as does the meaning of their responses (49).

It is of course possible that responses to these structured questionnaire items are in fact largely meaningless. The problem with asking questions is that they invariably elicit answers, and survey respondents will provide answers even if they do not understand the question or the response options, or the question is of little relevance to them (29). As Strauss (36) notes, one potential disadvantage of the DIP is that it may suggest impacts to those who had previously given them little consideration. McGrath and Bedi (50) indicate that this is a distinct possibility in their examination of hermeneutic and functionalist approaches to measuring oral health-related quality of life. In the former, an open-ended approach was used in which respondents were asked to report on the ways in which the condition of the

mouth and teeth reduced or added to life quality. In the latter, the structured OHQoL-UK derived from this approach was used. The prevalence of impacts reported was significantly lower across all life domains when the hermeneutic as compared to the functionalist method was employed. Similar findings have been reported in other research contexts (31). Consequently, we may need to consider the extent to which the negative and positive effects documented by this and other oral health outcome measures are in fact rooted in human experience or simply an artefact of asking questions. One way of exploring this issue is to ask people to elaborate on their answers to these seemingly simple questions in order to better understand the meaning of the responses they give.

Positive health as a set of social and psychological attributes

Another way of conceptualizing positive health is in terms of a set of social and psychological attributes. Bowling (2) defined positive health as 'the ability to cope with stressful situations, the maintenance of a strong social support system, integration in the community, high morale and life satisfaction, psychological well-being' (p7). A similar list of attributes was provided by Labonte (51): feeling vital, full of energy; having good social relationships; experiencing a sense of control over one's life and living conditions; being able to do things one enjoys; having a sense of purpose in life and experiencing being part of a community. These lists of attributes are also found in definitions of 'social health' (2) and are compatible with and flow from the definition of health offered by the WHO in 1984 that extended and clarified its 1948 formulation (52).

The psychological literature on individuals with cleft lip or palate, craniofacial anomalies and other facial differences also identifies psychological attributes that are deemed indicators of positive health. This is part of a new approach to such persons which emphasises strengths rather than deficits and focuses on 'health, resilience and success' rather than disease and impairment (53, 54). Accordingly, McGrath et al. (23) and Broder (55) have suggested that resiliency, optimism, adjustment, wisdom and patience are positive health outcomes demonstrated by many individuals with oral and oro-facial disorders.

The problem with this reasoning is that these definitions of positive health identify characteristics of individuals and environments that figure prominently in contemporary models of the social and psychological determinants of health (56, 57). This confusion of determinants and health outcomes is also to be found in models of the health continuum derived from health promotion theory. An example is the negative–positive health continuum described by Catford (58) (Fig. 1). Catford is one of the few who has provided verbal descriptors for points on the negative-positive health continuum. However, while the negative end of the health continuum is defined in terms of health states, the positive end is defined by an individual's status with respect to risk factors, in this case smoking.

This confusion of health states and determinants of health is also found in the examples he gives of positive measures of health that provide the basis for health promotion practice. These are specified at the level of the individual (visiting dentist once a year, seat belt use), the environment (clean air, fluoride in the water supply) and the socioeconomic context (employment, income distribution). Clearly all refer to determinants or risk factors and not health states.

Whether or not these characteristics should be deemed to be components of health or determinants of health is an important point. Chatterji et al. (8) suggest, it is necessary to clearly distinguish between the notion of health and the physical, behavioural and psychosocial factors that promote health. The latter should not be taken to be indicators of health, nor should they be included in measures of health.

Lerner and Levine (59) appear to agree. As they state, measures of sense of control and self-esteem

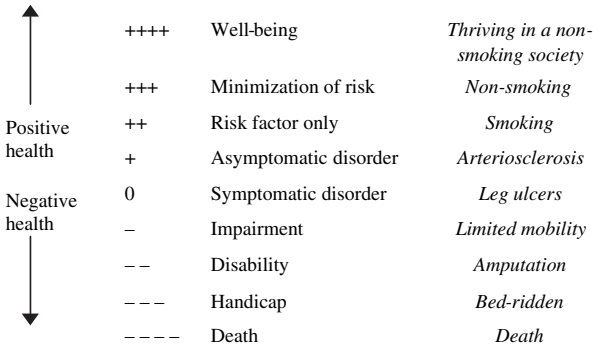

Fig. 1. Health status as a continuum demonstrating ranges of positive (+) and negative (–) health. [Catford (58)].

are often included in measures of health-related quality of life, for example the CHQ (6), but it is debatable whether these should be considered to be health domains or variables involved in causal pathways that influence functioning and psychosocial well-being. The conceptual model contained within the WHO's International Classification of Functioning, Disability and Health (7) is also clear in categorizing the social and psychological attributes often taken to indicate positive health as determinants of health: 'Personal factors are the particular background of an individual's life and living that are not part of a health condition or health state. These factors may include … coping styles… psychological assets and other characteristics, all or any of which may play a role in disability at any level' (p. 17). Other models, such as that of Wilson and Cleary (60) also identify individual level characteristics that influence the links between biological variables, functioning and quality of life. These include symptom amplification, personality and motivation and values and preferences.

If a theory of positive health at the level of individuals and populations is to emerge it needs to clearly distinguish between dimensions of health and the quality of life and the personal and environmental determinants that influence them, and to indicate how both outcomes and determinants are to be measured.

Positive outcomes of chronic disorders

A final and more challenging way in which positive health has been framed is in terms of the positive outcomes of having a chronic medical condition or facial difference. For example, Strauss (53) has argued that an orofacial or craniofacial difference should be regarded as a 'blessing in disguise'. People with these differences are 'happy and successful' despite their condition. They enjoy being different, learn from their experiences and state that these experiences have been positive and growth enhancing (53–55, 61–63). Specifically, Eiserman (54) found that these positive outcomes included 'communication abilities, service to others, observational skills, inner strength, ability to question society and a valued social circle'. These accounts of the illness experience are subsequently analysed through the lens of psychology (55), ethics (62) and seen in terms of their ability to expand research and clinical practice (54).

This research is similar to recent qualitative studies which have which have shifted perspective and no longer view chronic illness as a burden and source of suffering. Rather, they view the experience of such illness as a positive process of 'transformation'. The studies 'propose that living with a chronic illness can enable individuals to experience life, themselves and others in a way that was inaccessible previously; that is, they can be transformed by the experience of living with a chronic illness to experience positive and rewarding outcomes' (64, p. 786).

While it is certainly the case that many individuals with chronic conditions do experience positive outcomes, the interpretation of first-person accounts of the illness experience on which this point of view is based is quite challenging. Strauss (57), for example, cautions against the simplistic interpretation of these accounts. Similarly, Paterson et al. (64) suggest that this literature gives rise to a number of troubling questions and if it is to serve any useful purpose there is a critical need for interpretive and in depth analysis. At a minimum, accounts of the illness experiences need to be examined rigorously in terms of the social and cultural contexts in which they occur if the origins of those experiences are to be understood and their implications revealed.

For example, in a qualitative study of people living with rheumatoid arthritis many would comment that having such a disease had taught them patience (65). While patience is often held to be a positive attribute, it may also be an adaptive response to social and medical contexts that are experienced as uncaring or unresponsive to the needs and preferences of those with chronic disabling conditions. One respondent, a man in his mid-fifties who lived alone and was no longer able to work, described the character of his daily life in the following way:

> You've also got the problem that you're waiting for people to come in, the home help, people like that. You've got a lot of frustration waiting for people to come, home helps, meals on wheels. You are waiting for people all the time. If you go anywhere you have to be back at such and such a time. Nothing is planned for what you want (65, p. 177).

Similarly, a married woman indicated how patience as a form of adaptation enabled her to minimize conflict within the family.

> My husband doesn't like ironing so it mounts up. I sometimes get angry but I can't say anything because it's not his job to be doing it and it's not my daughter's job to have to come in from work to see to me. Its frustration really; you see a pile of ironing and you just have to wait until one of them feels like doing it. At first, I used to ask them to do it I got so frustrated but after a while you learn to curb it because you're upsetting everybody as well as yourself. I realized it wasn't fair on them so I've learned to take it as it comes. I don't let it worry me now seeing jobs not done. Life's too short to be bothered with petty things like that (65, p. 81).

Consequently, outcomes such as patience can be subject to different interpretations. In these two cases, patience and adaptation can be seen as a mechanism to enable the people concerned to tolerate situations not of their choosing that effectively deny them control over essential aspects of their daily lives. That is, patience is not simply an outcome but a strategy to mediate one of the negative impacts of a disabling illness, in this case dependence upon others (64).

An important consequence of just focussing on the positive outcomes of illness while neglecting the social contexts in which chronic illness occurs is that the individual becomes the location of activity for the promotion of health. Here individual-level factors such as personality traits become important determinants of those outcomes. Such traits are deemed to act as 'mediating factors that either facilitate or impede good health attitudes or positive adjustment to illness' (55, p. 249). In addition, 'traits like agreeableness could promote a patient's co-operation with a demanding treatment regimen and therefore better health and wellbeing; whereas traits like paranoia, antagonism, or neuroticism could be counterproductive' (55, p. 249). Consequently, it is the individual rather than their physical and social environments that undergo the process of adaptation in order to enhance health and quality of life. Such an approach conflicts with current theories of disability such as that embedded within the International Classification of Functioning, Disability and Health (7). These suggest that disability is not a property of a person but arises out of an interaction between people and the environments in which they live. Accordingly disability can only be reduced when environments as well as people adapt.

A related problem is that not all individuals with such disorders evidence 'positive adaptation' (54, 62). While there is merit in documenting the breadth of experience among people with chronic conditions, a focus on the positive may be equally counterproductive as a focus on the negative. An emphasis on transformation leading to positive outcomes has embedded within it certain values whereby it represents the 'adaptive ideal of living with a chronic illness' and 'a way of being more suited to a life with chronic illness' (64). Paterson et al. (64) suggest that this may engender a sense of failure in those who do not experience their illness in this way.

The analytic question is whether or not we should take these accounts at face value, as evidence of positive adaptation, or go beyond those accounts and seek to understand the genesis of these experiences, how and why they become framed as 'positive' and their broader social and political ramifications. Although they are testimony to the fortitude of some individuals and their ability to find comfort and strength even in the face of difficult life circumstances, Rittman et al. (66) suggest that those with chronic conditions might describe their experiences in positive terms because of the 'cultural expectation of strength in the face of adversity'.

Conclusions

In this paper we have drawn on a diverse body of literature in an attempt to explore the concept of positive health, its origins, the various ways in which it has been defined and how it has been framed within research on the outcomes of oral and oro/craniofacial disorders.

What emerges from this review is a plethora of definitions and unresolved methodological and theoretical issues. There was also evidence of what Seipp (4) referred to as 'obscure rhetoric and semantic slight of hand' within this literature. Clearly, both health and positive health are more difficult to define than ill health. The lack of consensus concerning how the former are to be defined, explains why measures and indicators of positive health have proved to be more difficult to construct than measures of ill health in spite of four decades of sporadic effort. Where measures of positive health have emerged, as in the context of health promotion practice, they are more concerned with the determinants of health than health itself. As Lamb et al. (5) state, a measure of positive health will only be developed and become widely accepted 'once epidemiologists can define the attributes of positive health and agree on the

appropriate indicators' (p. 171). Only then will it be possible to determine when this state has been achieved by an individual or a population (2).

One issue that emerged as a consequence of this review is that many of the definitions of positive health that have been offered to date appear to refer to other constructs commonly used in health status and health-related quality of life measurement and research. For example, the notion of well-being, which incorporates states such as happiness and satisfaction, is prominent but particularly problematic. While we have not addressed this concept in any detail, it is clearly the case that such states can be measured on a continuum that ranges from extremely negative to extremely positive (i.e. extremely unhappy to extremely happy). However, it is not clear that other health dimensions such as activities and participation are experienced and can be measured in the same way. Yet the definitions of positive health as 'above normal health or super-health' (5) that we found in the literature imply that this is the case. If the notion of a negative–positive continuum across all health domains is accepted then the states comprising the positive end of the continuum need to be defined if enhanced performance, activities or perceptions of above-normal health are to be measured. We also need to consider whether superior cognitive or physical performances should be considered as improvements in health or, as Chatterji et al. (8) suggest, as 'talents' that fall outside the purview of health services.

We have also attempted to offer an appraisal of the five distinct, but ultimately overlapping, ways in which the concept has been framed in oral health research, each of which is characterized by unresolved methodological or conceptual issues. Prominent among these are the issues of the direction of wording of questionnaire items, the meaning and interpretation of responses to health-related quality of life questionnaires, and the interpretation of accounts of the illness experience. Whether or not this work will provide the basis for widely accepted measures of positive oral health remains to be seen.

Whether or not a failure to define and develop acceptable measures of positive health is of any practical significance relates to broader conceptions of what constitutes health care and its actual or potential role in improving population health. Measures of negative health are linked to the medical model in the sense that much of what constitutes health care is directed towards people with health problems and how those problems may be solved. From this perspective, solving health problems, in effect removing a negative, constitutes a positive contribution to health. Measures of positive health are linked more to health promotion approaches that focus on whole populations and aim to enhance the health of the well as along with that of the sick. As a number of authors have indicated, measures of negative health tell us nothing about the majority of the population who are healthy and may not provide an appropriate basis for health promotion activities. Here positive health is more than the removal of negative states, and cannot be attained unless various individual, environmental and socioeconomic risk factors are addressed.

Consistent with the medical model, some take the view that it is more important to know about the sick than it is to know about the healthy, particularly when health care resources are limited. As the US CDC states with respect to its 'Healthy Days' measure of population health-related quality of life:

> To guide public health and social policy, it was important to have HRQoL measures that best identify and distinguish those at the lower end of the health spectrum who have health conditions that could most benefit from healthier environments, early diagnosis and appropriate treatments. Therefore more measures were developed that asked about negative HRQoL qualities, such as pain, depression and activity limitation than about positive qualities such as feeling very healthy and full of energy (34, p. 11).

Those who are interested in health promotion would more than likely disagree with this point of view. In a sense then, the discourse around positive health can be linked to a broader debate concerning the merits of the medical and socioenvironmental approaches to health and whether health interventions should seek to change individuals or their environments. Consequently, the notion of positive health, irrespective of its potential and public policy implications, provides a context for methodological and theoretical debate that can only serve to enrich theory and practice with respect to the development of measures of health and quality of life and therapeutic interventions at the individual and population level. However, to return to a point raised at the beginning of the paper, this debate will not be fruitful without the development of a standardized language of health and consistency in the way this language is used.

Acknowledgement

A version of this paper was presented as the keynote address at a Behavioural Science and Health Services Research oral session, 83rd General Session of the IADR/AADR/CADR, Baltimore, 2005.

References

1. Guyatt G, Feeny D, Patrick D. Issues in quality of life measurement in clinical trials. Control Clin Trials 1991;12:81S–90S.
2. Bowling A. Measuring health: a review of quality of life measurement scales. Buckingham: Open University Press; 1991.
3. Seedhouse D. Health: the foundations for achievement. Chichester: John Wiley and Sons; 1986.
4. Seipp C. Andrija Stampar and the concept of positive health. Fam Med 1987;19:291–5.
5. Lamb K, Brodie D, Roberts K. Physical fitness and health-related fitness as indicators of positive health. Health Promot 1988;3:171–82.
6. Landgraf J, Abetz L, Ware J. Child health questionnaire (CHQ): a user's manual. Boston, MA: The Health Institute, New England Medical Center; 1996.
7. World Health Organization. International classification of functioning, disability and health. Geneva: WHO; 2001.
8. Chatterji S, Ustun BL, Sadana R, Salomon JA, Mathers CD, Murray CJL. The conceptual basis for measuring and reporting health. Global Program on Evidence for Health Policy Discussion Paper No. 45, World Health Organization; 2002.
9. Sigerist H. Medicine and human welfare. New Haven: Yale University Press; 1941.
10. Dingwall D. Aspects of illness. London: Martin Robertson and Company; 1976.
11. Aggleton P. Health. London: Routledge; 1990.
12. Seeman J. Toward a model of positive health. Am Psychol 1989;44:1099–109.
13. Merrell M, Reed L. The epidemiology of health, social medicine, its deviations and objectives. New York: The Commonwealth Fund; 1949.
14. Patrick DL, Erikson P. Health status and health policy: quality of life in health care evaluation and resource allocation. New York: Cambridge University Press; 1993.
15. Nutbeam D. Health promotion glossary. Health Promot 1986;1:113–27.
16. Ejlertsson G, Eden L, Leden I. Predictors of positive health in disability pensioners: a population-based questionnaire study using positive odds ratios. BMC Public Health 2002;2:20. Available from http://bomedcentral.com/1471–2458/2/20.
17. Slade GD, editor. Measuring oral health and quality of life. Chapel Hill: University of North Carolina, Dental Ecology; 1997.
18. Krause N, Jay G. What do global self-rated health items measure? Med Care 1994;32:930–42.
19. Mozes B, Maor Y, Shmueli A. Do we know what global ratings of health-related quality of life measure? Qual Life Res 1999;8:269–73.
20. Atchison KA, Dolan TA. Development of the geriatric oral health assessment index. J Dent Educ 1990;54:680–7.
21. Atchison KA. The general oral health assessment index. In: Slade GD, editor. Measuring oral health and quality of life. Chapel Hill: University of North Carolina, Dental Ecology; 1997.
22. Slade GD. Assessing change in quality of life using the Oral Health Impact Profile. Community Dent Oral Epidemiol 1998;26:52–61.
23. McGrath C, Broder H, Wilson-Genderson M. Assessing the impact of oral health on the quality of life of children: implications for research and practice. Community Dent Oral Epidemiol 2004;32:81–5.
24. Albrecht G, Devlinger P. The disability paradox: high quality of life against all odds. Soc Sci Med 1999;48:977–88.
25. Huppert FA, Whittington JE. Evidence for the independence of positive and negative well-being. Implications for quality of life assessment. Br J Health Psychol 2003;8:107–22.
26. Slade GD, Spencer AJ. Development and validation of the oral health impact profile. Community Dent Health 1994;11:3–11.
27. DeVellis R. Scale development: theory and applications. Newbury Park: Sage Publications; 1991.
28. Schwarz N. Self-reports: how the questions shape the answers. Am Psychol 1999;54:93–105.
29. Foddy W. Constructing questions for interviews and questionnaires: theory and practice in social research. Cambridge: Cambridge University Press; 1993.
30. Cohen G, Forbes J, Garraway M. Can different patient satisfaction survey methods yield consistent results? Comparison of three surveys. Br Med J 1996;313:841–4.
31. Schotte C, Maes M, Cluydts R, Cosyns P. Effects of affective-semantic mode of item presentation in balanced self-report scale: biased construct validity of the Zung Self-Rating Depression Scale. Psychol Med 1996;26:1161–8.
32. Keller SD, Ware JE, Gandek B, Aaronson NK, Alonso J, Apolone G et al. Testing the equivalence of translations of widely used response choice labels. Results from the IQOLA project. J Clin Epidemiol 1998;51:933–44.
33. Locker D, Matear D, Stephens M, Lawrence H, Payne B. Comparison of the GOHAI and OHIP-14 as measures of the oral health-related quality of life of the elderly. Community Dent Oral Epidemiol 2001;29:373–81.
34. Centers for Disease Control and Prevention. Measuring healthy days. Atlanta, Georgia: CDC; 2000.
35. Barnette J. Effects of stem and Likert response option reversals on survey internal consistency. If you feel the need there is a better alternative to using those negatively worded stems. Educ Psychol Meas 2000;60:361–70.
36. Strauss RP. The dental impact profile. In: Slade GD, editor. Measuring oral health and quality of life. Chapel Hill: University of North Carolina, Dental Ecology; 1997.
37. McGrath C, Bedi R. An evaluation of a new measure of oral health-related quality of life – OHQoL-UK. Community Dent Health 2001;18:138–43.

38. McGrath C, Bedi R. Population-based norming of the UK oral health-related quality of life measure (OHQoL-UK). Br Dent J 2002;193:521–4.
39. Dini E, McGrath C, Bedi R. An evaluation of the oral health quality of life (OHQoL) instrument in a Brazilian population. Community Dent Health 2003;20:40–4.
40. McGrath C, Bedi R. Can dentures improve the quality of life of those who have experienced considerable tooth loss? J Dent 2001;29:243–6.
41. McGrath C, Bedi R. Can dental attendance improve quality of life? Br Dent J 2001;190:262–5.
42. McGrath C, Comfort MB, Lo ECM, Luo Y. Changes in life quality following third molar surgery – the immediate post-operative period. Br Dent J 2003; 194:265–8.
43. McGrath C, Comfort MMB, Lo E, Luo Y. Can third molar surgery improve quality of life? A 6-month cohort study. J Oral Maxillofac Surg 2003;61:759–63.
44. McGrath C, Bedi R. A study of the impact of oral health on the quality of life of older people in the UK – findings from a National Survey. Gerodontology 1998;15:93–8.
45. McGrath C, Bedi R. Measuring the impact of oral health on quality of life in Britain using the OHQoL-UK(W). J Public Health Dent 2003;63:73–7.
46. Strauss RP, Hunt RJ. Understanding the value of teeth to older adults: influences on quality of life. JADA 1993;124:105–10.
47. McGrath C, Bedi R. Understanding the value of oral health to people in Britain: importance to life quality. Community Dent Health 2002;19:211–4.
48. McGrath C, Bedi R. The importance of oral health to older people's quality of life. Gerodontology 1999;16:59–63.
49. Mallinson S. Listening to respondents: a qualitative assessment of the Short-Form 36 Health Status Questionnaire. Soc Sci Med 2002;54:11–21.
50. McGrath C, Bedi R. Measuring the impact of oral health on life quality in two national surveys – functionalist versus hermeneutic approaches. Community Dent Oral Epidemiol 2002;30:254–9.
51. Labonte R. Health promotion and empowerment. Issues in Health Promotion Series no. 3. Toronto: Centre for Health Promotion, University of Toronto; 1993.
52. Epp J. Achieving health for all: a framework for health promotion. Ottawa: Minister of Supply and Services Canada; 1986.
53. Strauss RP. 'Only skin deep': health, resilience and craniofacial care. Cleft Palate Craniofac J 2001;38: 226–30.
54. Eiserman W. Unique outcomes and positive contributions associated with facial difference: Expanding research and practice. Cleft Palate Craniofac J 2001;38:236–44.
55. Broder HL. Using psychological assessment and therapeutic strategies to enhance well-being. Cleft Palate Craniofac J 2001;38:248–54.
56. Evans R, Barer M, Marmor T. editors. Why are some people healthy and others not? New York: Aldine De Gruyter; 1994.
57. Marmot M., Wilkinson R. Social determinants of health. Oxford: Oxford University Press; 1999.
58. Catford JC. Positive health indicators – towards a new information base for health promotion. Community Med 1983;5:125–32.
59. Lerner DJ, Levine S. Health-related quality of life: origins, gaps and directions. Adv Med Sociol 1994;5:43–65.
60. Wilson I, Cleary P. Linking clinical variables with health-related quality of life: a conceptual model of patient outcomes. JAMA 1995;273:59–65.
61. Kelton RW. Facing up to stigma: workplace and personal strategies. Cleft Palate Craniofac J 2001; 38:245–7
62. Mouradian WE. Deficits versus strengths: ethics and implications for clinical practice and research. Cleft Palate Craniofac J 2001;38:255–9.
63. Meyerson MD. Resiliency and success in adults with Moebius syndrome. Cleft Palate Craniofac J 2001; 38:231–5.
64. Paterson B, Thorne S, Crawford J, Tarko M. Living with diabetes as a transformational experience. Qual Health Res 1999;9:786–802.
65. Locker D. Disability and disadvantage: the consequences of chronic illness. London: Tavistock; 1983.
66. Rittman M, Northsea C, Hauser N, Green C, Swanson L. Living with renal failure. ANNA J 1993; 20:327–31.