Assessment of Subjective Well-Being

The Subjective Well-Being Inventory
(SUBI)

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Dr H. Sell
Regional Adviser
on Health and Behaviour,
WHO, New Delhi

Dr R. Nagpal
Counselling Psychologist
Sumantrna Kendra
New Delhi

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ABSTRACT

The present work describes the reasons for, and the process of, developing a new instrument to quantify subjective well-being. It points out the need for a thorough conceptual mapping process through 'stepwise ethnographic exploration' before proceeding to the establishment of individual items.

The resulting factors or concerns for a profile of well- and ill-being have shown an extraordinary robustness over various samples, languages and various stages of reduction in the number of items from the original 130 to 40. In confirmation of previous findings, overall well-being and ill-being have been found to be evaluated independently, but are not entirely uncorrelated. Most of the other factors follow a similar pattern of being either negative or positive in their item content.

Positive factors are more stable over time and, therefore, more resembling personality traits than negative factors which appear to be somewhat more influenced by life circumstances.

The instrument, Subjective Well-being Inventory (SUBI), is presented with some instructions for scoring.

Chapter 1

INTRODUCTION

Literature on well-being and positive health, including mental health, is relatively scant when compared with the wealth of literature on disease, disability and disorders. However, over the last decade or so, a considerable body of empirical research has begun to accumulate, focusing on subjective well-being, happiness, life satisfaction, positive affect, and feelings about social life. Some efforts have also been made to quantify these and to work out reliable instruments of assessment of such positive indicators. Diener (1984) and Larsen *et al.* (1985) have prepared extensive reviews on the work done on these. On a careful scrutiny of the reported results several striking observations emerge:

(a) Well-being and ill-being have fairly consistently been found to be only slightly, if at all, negatively correlated (Bradburn, 1969; Headey *et al.*, 1984; Nagpal and Sell, 1985). The same has been shown earlier to be true for job satisfaction and dissatisfaction and related 'satisfiers' and 'dissatisfiers' (Herzberg, 1966). Yet, most single- and multi-item inventories to measure well-being and feelings about other life domains, have items and response categories which do not permit separate evaluation of positive and negative aspects, by offering a wide range of choices from 'very good' to 'very bad' as in Andrews' widely used 'delighted-terrible' (D-T) scale (Andrews and Withey, 1976). Respondents are thereby forced to make choices which do not reflect their normal way of evaluation. Such responses may be reliable, but they are difficult to interpret.

(b) Although the relative independence of positive and negative evaluation is well established for overall well-being, such independence does not seem to have been considered a possibility in other life domains. As a result, even elaborate causal modelling has been done where all but the overall well-being was evaluated on one-dimensional 'delighted-terrible' (D-T) type of scales (Headey *et al.*, 1985a,1985b; Headey *et al.*, 1984; Rice *et al.*,

1979). Without prior establishment of the uni-dimensionality in the evaluation of the various life domains studied, the results of such studies are not fully interpretable.

By the same token, efforts of external validation of well-being scales have failed to first prove whether external raters were, in fact, capable of rating a person on the two dimensions of well-being and ill-being independently (Grandall, 1976). In fact, it has been suggested that external raters may not.be capable of doing this, i.e., when evaluating the well-being of another person we may not be applying the same degree of sophistication which we are using when evaluating ourselves (Huisman, 1981).

(c) It is difficult to assess the usefulness of scales to quantify specific life concerns without having first established the overall context of such feelings, their dimensionality, their position regarding feelings about other life domains and overall well- and ill-being, and their reliability and validity when inquired about alone or in the context of an inquiry about other possibly related life concerns.

It ensues from these studies that a systematic mapping of the areas associated with the overall or specific aspects of well-being (e.g. Spitzer *et al.*, 1981, for the quality of life of cancer patients) is still lacking. We consider such conceptual mapping an essential component of exploratory studies. It appears, from a review of the literature, that a thorough conceptual exploration before proceeding to the formulation of items and their statistical verification is deficient in most studies in the area of well-being and ill-being. This leads to limitation of the investigations to specific concerns without clarification of the conceptual context of such concerns. Examples are: social adjustment (Cooper *et al.*, 1982); maladjustment (Clare and Cairns, 1978); social support, loneliness, and depression (Cooke, 1980); suffering from effects of disease or side-effects of treatment (Van Dam *et al.*, 1984); perceived health (Hunt *et al.*, 1985); loneliness (Russell *et al.*, 1985); social support (Russell and Cutrona, 1984); adequacy of social relationships (Henderson and Moran, 1983; Henderson *et al.*, 1981); happiness (Fordyce, 1986); satisfaction with income (Fletcher and Lorenz, 1985), etc. In this context, it is also noteworthy that this vast variety of concerns is being studied without clarifying their inter-relationships, eventual overlaps or their contribution to overall satisfaction or dissatisfaction, well-being or ill-being (e.g., Andrews and Withey, 1976).

In a number of the above studies, aspects of well-being were delineated using factor analyses over assemblies of items put together in a somewhat *ad hoc* fashion,

'developed by experts on the basis of their own views of the appropriate dimensions to be included', as Spitzer *et al.*, (1981) cautiously formulate. Such an exercise is unlikely to produce very meaningful results. In fact, an ensuing factor analysis cannot substitute for preparatory conceptual work. It is well known that the establishment of factors depends on the number of correlated items one has included and such a balance of items needs very thorough conceptual work or 'brainstorming' before the establishment of an item list.

The work described here was undertaken with the view to at least partly overcome the shortcomings described above. We call this process 'Stepwise ethnographic exploration' a brief write-up of which is given in *Annex 1*. Specific attention was, therefore, paid to a thorough conceptual mapping exercise preceding any attempt (and resisting the temptation) to draft individual items. An effort was also made to permit for the possibility of an independent evaluation of positive and negative aspects of any life concern.

Chapter 2

METHOD

Identification of areas of concern and itemization

Starting in 1982, a brainstorming exercise was begun with the aim of establishing hypothetical areas which may reflect or be conducive to well-being and/or ill-being. This brainstorming exercise involved a considerable number of experts and lay persons, social scientists, psychiatrists, housewives, pavement dwellers, children, industrialists, Indians and foreigners in and around Delhi. Unlike Spitzer *et al.* (1981), who proceeded exploring the quality of life of cancer patients in a structured fashion from the very beginning, our efforts were directed at those areas of well-being to emerge through an informal process of individual and group discussions. We call this process 'Stepwise ethnographic exploration' in which a group of interviewers/experts starts with unstructured interviews about the topic of concern and possibly related topics, and meets at regular intervals to work on a consensus on a list of concepts. The interviews become more and more structured, and, finally, a consensus on such a list of concepts is reached. This list is then made the topic of some focus group discussions for further 'qualitative validation'. We followed this process concurrently in English and in Hindi. The exercise finally led to a consensus on eight areas of concern possibly related to or parts of well- and ill-being. These were: subjective well-being – positive affect; subjective well-being – negative affect; mental mastery over self and environment; rootedness and belongingness; structural and cohesive aspects of family life; density of social network; security in crises (socioeconomic and related to health); and expectation-achievement harmony.

As a second step, items were developed for each of these hypothetical areas of concern. Existing literature on this topic was, of course, extensively consulted but this was kept broad-based in the sense of getting primary inputs from experts and lay persons alike. Again, concomitantly in English and Hindi, possible items were pre-piloted individually and in groups according to the hypothetical areas of concern. In the course of slightly over one year, a set of 130 items emerged which had all been pre-piloted in English and Hindi in various sets of item combinations.

Trials with various sets of response categories suggested that more than three response categories to one item would not be acceptable to a large number of respondents of low educational standard. Preliminary analysis had also shown that there was no strong central tendency in a three-point response scale, nor was there any unacceptable skewedness in the responses to any of the retained items (Nagpal and Sell, 1985).

These 130 items were put together in the form of a self-administered questionnaire in English, and in the parallel form of a structured interview schedule in Hindi. As mentioned above, both were largely developed concurrently. Their conceptual and linguistic equivalence was established through a series of independent back-and-forth translations. The only item which could not easily be phrased in English was the item on mental well-being, this probably being a clear concept in Hindi but not in English (this item was later dropped from the short version because of low factor loadings). The basic psychometric equivalence of the two versions was established by comparing the item-wise distribution of means and standard deviations of two samples (N = 50) matched as to sex and socioeconomic status. No substantial differences emerged. The content-wise equivalence was later corroborated by the virtually identical outcome of factor analyses of samples in different languages, including now four major Indian languages (Hindi, Kannada, Tamil and Malayalam) in addition to English. The full text of the 130-item questionnaire has been published elsewhere (Nagpal and Sell, 1985).

Factorial configuration

The questionnaire/interview was administered to a sample of 520 persons in the Union Territory of Delhi, i.e. in the city of Delhi and some neighbouring villages. Since our purpose at that stage was to establish the factorial structure of the assembly of items, no special sampling strategy was adopted except an effort that the sample should proximate the socioeconomic groupings of the Territory. The data from the 520 respondents were subjected to factor analysis with varimax rotation. The analysis yielded 32 factors with eigenvalues above 1.00. Thirteen of these factors were found to have at least 4 items with factor loadings above 0.30. The remaining 19 factors were found to have solitary loadings of 1 or 2 items with low or insignificant loadings from others. These factors and the respective items were discarded for further work since our primary interest was in more general life concerns, and not in solitary and individual domains which are not contributory or related to feelings about more general life concerns.

All of the items loading highly on each of the retained factors showed a very high degree of common content permitting a clearly meaningful interpretation. Accordingly, we found it easy to assign some meaning to the pattern of factor loadings and to agree on headings for the factors. We considered these as constituents of a profile of subjective well- and ill-being. According to their item content, these thirteen factors were named as: Transcendence; Inadequate mental mastery; Expectation-achievement congruence; Primary group concern; Perceived ill-health; Family group support; General well-being – positive affect; Deficiency in social contacts; Social support; General well-being – negative affect; Expectation-achievement discrepancy; Confidence in coping; and Adequacy of social contacts. Details of the correlation matrix, the factors and factor loadings of each item have been published elsewhere (Nagpal and Sell, 1985).

Item reduction and confirmation of factorial structure

The aim at this stage of questionnaire development was comprehensiveness, with little concern for possible redundancy, since a later shortening of the instrument was envisaged from the very beginning. Thus, all items loading .40 or above in any of the retained factors were included into further work. A 102-item questionnaire thus evolved. It was administered to two samples from other parts of India, viz. Bangalore (N = 177) and Jodhpur (N = 164)[1]. The responses of each sample were again subjected to factor analysis. The factor loadings of each retained item for the three samples are given in *Annex 2*. The factorial structure of the first sample (N = 520) was confirmed to a considerable extent. A few of the factors moved closer together in the smaller samples so as to appear as one single factor. However, comparison of the correlation coefficients within versus between the original factors showed very clearly a clustering following the original factorial allocation. Two factors (Adequacy of social contacts, and Expectation-achievement discrepancy) were considered not sufficiently robust over the samples, and were dropped. The items loading consistently high over the three samples were chosen for retention. One more question was added to strengthen the factor Deficiency of social contacts. Three items were retained for special clinical reasons.

The resulting 58-item questionnaire/interview was again administered to a small sample in Bangalore (N = 160). The results confirmed the first factorial structure to a surprisingly large extent. It was also observed that there was an increase in correlations between items loading on different factors, when reducing the number of items, especially in positive factors. It implied that the different dimensions of well-being have a relatively stronger tendency to collapse into 'happiness' than dimensions of ill-being into 'unhappiness'.

The instrument was further reduced by retaining only those 3 items per factor which explained the highest percentage of variance of the iteratively remaining items of the same factors. For special clinical reasons, viz., the obvious relatedness of the factor 'Inadequate mental mastery' to depression, and of the factor 'Perceived ill-health' to functional complaints, these two factors were not reduced in their number of items. In fact, the six items constituting the factors 'Perceived ill-health' are the complaints most frequently recorded in out-patient contacts with patients with functional complaints in India (WHO, 1984). The result was a 40-item version which, in turn, was administered to a sub-sample of the original sample in Delhi 18 months after the first administration of the first draft instrument (N = 120). On subjecting the data to statistical analysis, the initial factorial structure was again impressively confirmed. In this analysis, 11 factors emerged with eigenvalues over 1.0. These explained 65.5 per cent of the variance.

Chapter 3

RESULTS

The Subjective Well-being Inventory (SUBI)

It is designed to measure feelings of well-being or ill-being as experienced by an individual or a group of individuals in various day-to-day life concerns. As stated above, it consists of 40 items *(Annex 3)*, a summary of which is given in Table 1.

Table 1. *Item content, direction and factor belongingness*

Item No.	Content	Positive or negative direction	Factor to which it belongs
1.	Life - interesting	+	1
2.	Fulfilment of expectations - standard of living	+	2
3.	Congruence success-deserts	+	2
4.	Congruence accomplishments-efforts	+	2
5.	Life - compared with the past	+	1
6.	Things one has been doing in recent years	+	1
7.	Confidence of managing unexpected situations	+	3
8.	Confidence in facing crisis situation	+	3
9.	Confidence in coping with future	+	3

Item No.	Content	Positive or negative direction	Factor to which it belongs
10.	Belongingness - common force	+	4
11.	Moments of intense happiness	+	4
12.	Belongingness - mankind	+	4
13.	Help by relatives/friends in emergency	+	6
14.	Relationship with children	+	7
15.	Help by friends/relatives in illness	+	6
16.	Upset by unexpected things	–	8
17.	Feeling sad without reason	–	8
18.	Irritability	–	8
19.	Anxiety and tension	–	8
20.	Losing temper over minor things	–	8
21.	Family - a source of help in solving problems	+	5
22.	Closeness within family	+	5
23.	Help by family in illness	+	5
24.	Life - boring/uninteresting	–	11
25.	Worry about future	–	11
26.	Life - useless	–	11
27.	Worry over relationship with spouse	–	7
28.	Help by friends/relatives when needed	+	6

concluded

Item No.	Content	Positive or negative direction	Factor to which it belongs
29.	Worry over relationship with children	–	7
30.	Upset by minor things	–	8
31.	Upset over criticism	–	8
32.	Wish for more friends	–	10
33.	Lack of close friend	–	10
34.	Worry over health	–	9
35.	Pains in various parts of the body	–	9
36.	Palpitations/thumping heart	–	9
37.	Giddiness	–	9
38.	Getting tired too easily	–	9
39.	Disturbed sleep	–	9
40.	Lack of close relationship	–	10

The Inventory measures 11 factorial dimensions. Details with regard to factor scores and their interpretation are given in *Annex 4.*

The Structure of Subjective Well- and Ill-being

The factor analyses over the different samples, with varying numbers and sequence of items, in different languages, and from different parts of India *(Annex 2)* show an extraordinary degree of stability in content of factors, but also stability over time, in a sub-sample which was re-tested in Delhi after 18 months. A description of the

retained eleven factors is given below (the numbers in brackets give the number of items constituting the factors):

(1) General well-being- positive affect [3]

The referents of this factor reflect feelings of well-being arising out of an overall perception of life as functioning smoothly and joyfully. The items reflect our theoretical construct of positive affect only in what we had called its overall perspective (Nagpal and Sell, 1985). It is of interest to note that all the more specific concerns, such as family life or work, did not load to any substantive degree on this general factor. At least for job satisfaction, this confirms previous findings refuting a 'pie'-model of life satisfaction (Near, 1984).

(2) Expectation-achievement congruence [3]

The items on this factor refer to feelings of well-being generated by achieving success and the standard of living as per one's expectation, or what may be called satisfaction. The factor confirms our theoretical construct of expectation-achievement harmony. However, as shown specifically for satisfaction at the work place (Herzberg, 1966), positive and negative aspects have emerged as independent and not correlated. However, the negative dimension (expectation-achievement discrepancy of our first factor analysis) has not been found to be sufficiently stable over the following smaller samples and has, therefore, been dropped. In the case of a special interest, this factor can, of course, again be included.

(3) Confidence in coping [3]

This factor relates to a perceived personality strength, the ability to master critical or unexpected situations. It reflects what is sometimes called positive mental health in an 'ecological' sense, i.e. the ability to adapt to change and to face adversities without breakdown. It confirmed our theoretical construct of mental mastery but again the negative items of this construct have formed an independent and non-correlated factor (Inadequate mental mastery).

(4) Transcendence [3]

The items of this factor relate to life experiences that are beyond the ordinary day-to-day material and rational existence. They reflect feelings of subjective well-being derived from values of a spiritual quality. The construct of rootedness, belongingness was fully confirmed in this factor. However, the item enquiring about

moments of bliss or ecstasy has consistently loaded here, whereas we had expected it to be part of general well-being – positive affect.

(5) Family group support [3]

This factor reflects positive feelings derived from the perception of the wider family (beyond the primary group of spouse and children) as supportive, cohesive and emotionally attached. In the theoretical constructs, we had not anticipated that emotional attachment, supportiveness and cohesiveness would cluster in one factor. Furthermore, we had not anticipated that concerns about the primary group (spouse and children) would be evaluated independently from the perception of the family beyond.

It is also noteworthy that only positive items clustered in this factor. The negative items in the 130-item version (worry over family life, family a burden, lack of joint decision-making and disharmony in family) did not cluster to form a negative factor.

(6) Social support [3]

We had anticipated two separate areas of feelings of security and density of social networks. These two theoretical constructs have merged in this factor which contains items describing the social environment beyond the family as supportive in general and in times of crisis. It is interesting that medical services and doctors on whose perception six items were included in the 130-item version, do not seem to be perceived as part of the social support network as reflected in this factor.

(7) Primary group concern [3]

On this factor, positive and negative items are correlated and form one cluster. We had conceptualized that feelings about the primary family would perhaps form a part of overall well-being and had not anticipated this factor as an independent concern. This cluster also correlates highly with the item of both spouses earning, in the sense that family life is perceived as happier if both spouses work. We chose the term primary group concern because in the analysis of the 130-item version this factor also contained items regarding security of the children.

(8) Inadequate mental mastery [7]

All items with significant loadings on this factor imply a sense of insufficient control over, or inability to deal efficiently with, certain aspects of everyday life that are capable of disturbing the mental equilibrium. This inadequate mastery is perceived

as disturbing or reducing subjective well-being. Most of the items on this factor form part of the theoretical construct of mental mastery over self and environment. However, only inverses out of this construct and only items concerning the person himself constitute this factor. The positive statements concerning self form the factor which we named confidence in coping.

It is noteworthy that the items on sadness and on anxiety/tension have significant loadings on this factor only. They have no loadings at all on the factor perceived ill health. This finding may be of theoretical, and perhaps practical, interest for future work in the field of 'underlying depression' when applying the questionnaire to patients with varying degrees of psychopathology.

This factor is clearly similar to the factor 'lack of self-confidence', as described by Bryant and Veroff (1984), which also is related to depression, and the factor 'irritability' in neurotic out-patients described by Lipman *et al.* (1969) where patients report irritability and depression together, but doctors separate depression in their observations. To a certain extent, it may be akin to what Cook (1980) somewhat surprisingly calls anxiety symptoms in his factor I.

(9) Perceived ill-health [6]

This is probably again a one-dimensional factor since happiness and worries over health and physical fitness are highly correlated, and both load significantly here. However, no other inverses have been included in the questionnaire. Worry over disturbed sleep has significant loadings on this factor as well as on the factor of inadequate mental mastery. It is possible, therefore, that problems of sleep would form an independent factor when more questions on this topic would be added, as is in fact the case in the first factor analysis of returns from the General Health Questionnaire reported by Hobbs *et al.* (1983). Although probably a one-dimensional factor in principle, we have selected the term perceived ill-health since most of the items refer to complaints. We have avoided using the terms somatization here as initially envisaged by us, because of its usual definition as denoting perceived or real physiological dysfunctioning due to psychological or emotional conflicts or stresses. However, in our data the complaints are not correlated with any other expression of perceived ill-being or reduced well-being, not even with anxiety, tension or sadness.

(10) Deficiency in social contacts [3]

The common feature of the items constituting this factor are worries about being disliked and feelings of missing friends. These are the negative items from our

construct of density of social networks. The items with a positive tone from this theoretical construct have been split between the factors of social support and adequacy of social contacts. The latter factor has, however, been dropped because of a somewhat unsatisfactory stability over the various samples.

It should be pointed out that this omission of the two factors of adequacy of social contacts and expectation-achievement discrepancy is somewhat arbitrary. In the case of special interest, the related items can be included, perhaps strengthening the factors by adding some more related questions.

(11) General well-being - negative affect [3]

This factor reflects a generally depressed outlook on life. As in the case of positive affect, it represents our theoretical construct of negative affect only to the extent that the overall perception of life is concerned. Specific worries over family, health, and the like do not load here. The pair of positive and negative affect are the only paired two-dimensional factors which are not uncorrelated. In the first sample of 520 respondents, its main items showed negative correlations between -0.27 and -0.39. On the 40-item version with less direct inverses, the correlations still ranged from -0.18 to -0.36.

The finding that well-being and ill-being are distinct but not uncorrelated confirms earlier research findings (Headey *et al.,* 1983).

Chapter 4

DISCUSSION

Subjective well-being has been reported as a composite measure of independent feelings about a variety of life concerns, in addition to an overall feeling about life in positive and in negative terms, i.e. general well-being and ill-being. Not surprisingly, general well-being in its positive affect and, to a somewhat lesser degree, its negative affect appear to be stable over time to an extent that they can probably be called personality traits (we are puzzled by a number of authors who search for 'causes' of well-being or ill-being, as if everyday experience would not tell us that there simply are happy and unhappy people).

While a "method effect" (Kammann *et al.*, 1984), i.e. the tendency for items presented in a similar format to correlate for this reason alone, may have inflated some of the correlations and reduced others, this effect certainly cannot explain the major findings of this work. Especially, it cannot explain the independence of positive and negative factors since this finding does not affect all factors, some retaining their uni-dimensionality. However, our data show that feelings about other life concerns have an equally high stability over time. In fact, our prediction that more "general" factors would be more stable over time than more specific ones (Nagpal and Sell, 1985, p.48) has not been confirmed by our data. It suggests that there are a number of "personality traits" related to subjective well-being or quality of life. This observation has important implications for the question of a profile of well-being as compared to a combined score.

The question may be asked here as to which concerns or factors to include in such a profile of well-being. The approach taken in the present work, viz., to retain a factor if it contains high loadings of at least four items is, of course, arbitrary in that the number of items with high loadings on a given factor could be increased by adding related questions. For example, we did not retain the factor with high loadings of the items related to satisfaction with work, conditions on place of work and income from work, although it would probably be easy to substantiate this factor by adding related questions. Another example is a factor which is mainly constituted by items on

leisure time, privacy if desired, freedom to do what one wants. We excluded this factor on formal grounds, but also with the understanding that such concerns may be too specific and limited in the areas covered, and perhaps also too much dependent on circumstances and factual events. The fact that these items do not correlate with or contribute to more general and probably more stable areas of well-being is, however, noteworthy. Such concerns can, of course, always be included in an enquiry of well-being if there exists a special interest in the monitoring of such specific concerns.

However, such a manoeuvering is not without its pitfalls. The dynamics of different factors needs to be studied carefully. For example, Table 1 shows for the two originally distinct (although not uncorrelated) factors overall well-being - positive affect and expectation-achievement congruence, how the correlation between items on the two factors increased from an average of .26 in the 130-item version to an average of .43 in the 40-item version. This latter figure is virtually equal to the average correlations of the items within each of the two factors, which is .44. These two originally distinct factors have virtually merged in the process of reducing the number of items. These two distinct, although not uncorrelated, factors would not have been identified without the more comprehensive versions we started out with. This movement of the two factors of positive affect and satisfaction towards each other began with the reduction in the number of items from 130 to 102, and showed up distinctly in the 58-item version. This finding makes it most likely that it is, in fact, the reduction in the number of items which is causing a reduction in the sophistication of the individual's evaluation of their feelings regarding overall positive affect and satisfaction. However, no such trend is discernible in the case of negative items and factors, nor in other positive factors. None of them shows any sign of moving closer together with the reduction in the number of items.

Table 2 shows an increase in most correlations of items within the factors also. This does not seem to reflect a real trend because the correlations of the retained 39 items within factors have in general changed very little (from an average of .40 in the 130-item version to an average of .42 in the 40-item version, a negligible increase).

This extraordinary stability of the factorial structure obtained may, however, not be the same when applying the instrument to other population groups. Bryant and Marquez (1986) have found no sex differences in their 6-factorial model of well-being. However, they found some differences amongst men of differing educational background. The sample of respondents to what we now consider our final instrument is too small to investigate such questions. However, preliminary results from ongoing research using SUBI on adolescents and the elderly seem to

confirm the factorial structure in these populations. Future work on depressives may probably reveal changes in the factorial structure with varying types and degrees of psychopathology. We would, for example, tend to predict that with increasing severity of depression, the factorial profile would collapse increasingly. In fact, we consider it a serious shortcoming of many scales used in psychiatric assessment that they have been developed for patients. They can, therefore, only with difficulty be interpreted in terms of their meaning for deviation from the "normal" in structural as compared to quantitative term.

Table 2. *Correlation coefficients between items from the factors overall well-being – positive affect (well-being) and expectation-achievement congruence (satisfaction) from the 130-item (N = 520) and the 40-item (N = 120) versions.*

Item No.*	Well-being						Satisfaction					
	1		5		6		2		3		4	
	130	40	130	40	130	40	130	40	130	40	130	40
1	-	-	.31	.53	.40	.46	.22	.45	.25	.44	.24	.33
5	.31	.53	-	-	.37	.37	.28	.54	.32	.58	.29	.41
6	.40	.46	.37	.57	-	-	.23	.33	.25	.45	.21	.31
2	.22	.45	.28	.54	.23	.33	-	-	.46	.50	.52	.36
3	.25	.44	.32	.58	.25	.45	.46	.50	-	-	.43	.40
4	.24	.33	.29	.41	.21	.31	.52	.36	.43	.40	-	-

* 40-item version

We have previously described the finding that ill-being vis-a-vis well-being varies with socioeconomic groups (Nagpal and Sell, 1985). In all dimensions, negative items are more strongly correlated with socioeconomic status than positive items. In fact, in most areas, positive items or factors are not at all correlated to socioeconomic status (with the exception of expectation-achievement congruence). Similar findings have been reported by Headey *et al.* (1985). Particularly striking were the high scores in respondents with lower socioeconomic status on perceived ill-health. Such an observation has also been described earlier (Crandell and Dohrenwend, 1967). However, the contention that this high rate of perceived

symptoms of ill-health reflects a 'tendency for lower class groups to express psychological distress in physiological terms' appears to us as somewhat premature. The correlation between socioeconomic status and negative feelings, in addition to those of reduced satisfaction, were consistent throughout all our samples.

We would also hope that the present instrument may form a somewhat more solid basis for the development of good counselling practices. We believe that counselling, e.g. in incurable progressive disease, means the identification and strengthening of intra- and inter-personal resources for coping. We believe that positive feelings about life can be considered as intra-personal resources. SUBI items will enable counsellors to identify such resources in a more structured and teachable fashion.

We would also hope that the present instrument may form a somewhat more solid basis to evaluate the impact of pathology and of interventions, like in patients with cancer (Van Dam *et al.,* 1984), stroke (Ahlsio *et al.,* 1984), the elderly (Andersson, 1985), psychiatric patients (Sorensen, 1981), or in other medical conditions as reviewed by Najman and Levine (1981). Furthermore, we could envisage use of the instrument in efforts to test hypotheses on short-term vs. long-term impact of adversity, like disease or chronic disabling conditions. Our findings of a significant difference over socioeconomic groups in the negative items and factors only, and of a higher stability over time of the positive factors, suggest that negative factors and items are more likely to be affected by transient adversity. We would, therefore, predict that circumstantial changes will affect mainly or only negative factors, whereas a significant impact on positive factors would herald a more serious and later perhaps irreversible impact on the personality structure, like chronic demoralization or anhedonia. In addition, the instrument may be able to assess the coping potential of persons who are to be or are likely to be exposed to special stress. Equally, it could be conceptualized that the instrument may be able to predict risk of breakdown or burn-out in persons with specific responsibilities of a repetitive, unrewarding or otherwise difficult nature like some health staff, parents with disabled children, and the like.

In this context, the instrument could perhaps be a contribution to the quantification of positive mental health in terms of the ecological model of health, i.e. the capability to maintain stability in the face of various ranges of change and adversity.

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Annex 1

Stepwise Ethnographic Exploration

In spite of appeals for restraint, there is a continuing flood of new instruments being developed for the quantification of a vast variety of concerns such as loneliness, social adjustment, maladjustment, happiness, side-effects of medical treatment, stress, and the like. These efforts have the shortcoming that quantitative instruments are generally developed which are not based on solid qualitative data. What is almost always lacking in the development of quantitative instruments is a thorough conceptual mapping process before items are phrased. This is of particular importance where new areas of feelings or behaviours are explored. Items are often assembled in a somewhat haphazard manner by "experts" without prior conceptual mapping. The conceptual context of the resulting item lists, inter-relationships between concepts involved, and eventual overlapping will therefore not be known. Oftentimes qualitative research is understood as complementary to quantitative data only, but not as the basis for quantitative research.

A process to structure the work in the development of a quantitative instrument is called "stepwise ethnographic exploration". In this process, a group of interviewers start with unstructured interviews on the topic which is to be explored and on issues which may appear related. The interviewers meet regularly and exchange experiences they have gained during the interviews, and discuss concepts which may be involved in the minds of the interviewees (concept identification). The aim at this stage is a consensus amongst the interviewers about concepts which are relevant for the topic under exploration. After such a consensus on a list of concepts has been reached the interviewers present this list in focus group discussions in order to establish the meaningfulness and comprehensiveness of the list in the eyes of the groups (qualitative validation). Following this the various concepts of the list are itemized. The draft instrument thus established is then subjected to the usual procedures for the establishment of its psychometric properties.

These steps can be summarized as follows:

Interviews (unstructured)

| concept identification

Interviews (semi-structured)

| concept clarification

Interviewers' meetings

| consensus on concepts

Focus group discussions

| qualitative concept validation

Concept itemization

| quantitative concept validation
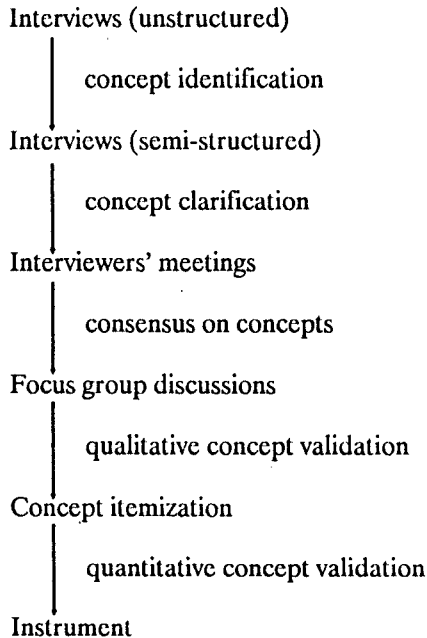
Instrument

This process of stepwise ethnographic exploration permits us to be confident about the comprehensiveness of the instrument and about the robustness of the relationship between the different factors of life concerns which have emerged.

Annex 2

The 40 Items of the Questionnaire with Factors and Factor Loadings in the Various Samples, and the Contingency Coefficients at Re-test

(Item number in the 130-item version in brackets)

Item No.	Description	No.[1]	S1[2]	S2[2]	S3[2]	S4[2]	CC[3]
1 (48)	Life – interesting	1	.54	.79	.66	.52[4]	.53
2 (122)	Fulfilment of expectation – standard of living	2	.76	.55	.68	.63[4]	.49
3 (125)	Congruence success-deserts	2	.68	.22	.75	.74[4]	.56
4 (123)	Congruence accomplishments-efforts	2	.69	.39	.64	.65[4]	.60
5 (46)	Life - compared with the past	1	.56	.60	.70	.79[4]	.44
6 (43)	Things one has been doing in recent years	1	.60	.67	.76	.68[4]	.49
7 (23)	Confidence of managing unexpected situations	3	.65	.67	.40	.72	.37
8 (41)	Confidence in facing crises situations	.3	.53	.24	.53	.72	.38

1. No. = Serial number of the factor on which the item loads. This numbering is arbitrary since the order in which the factors appeared in the various samples varied.

2. Factor loadings from the different samples: S1 = Delhi sample, N = 520, 130 items; S2 = Jodhpur sample, N = 164, 102 items; S3 = Bangalore sample, N = 177, 102 items; S4 = Last Delhi sample, N = 120, 40 items.

3. Contingency coefficient test-re-test, N = 113.

   Note: For a 3 x 3 table, as in this case, the upper limit for CC is .816 for full agreement.

4. The factor loadings given here are those of a combined factor comprising the original factors 1 and 2, i.e. overall well-being positive affect and expectation-achievement congruence.

Item No.	Description	No.[1]	$S1^2$	$S2^2$	$S3^2$	$S4^2$	CC^3
9 (45)	Confidence in coping with future	3	.32	.22	.76	.50	.52
10 (31)	Belongingness - common force	4	.69	.71	.79	.66	.51
11 (30)	Moments of intense happiness	4	.67	.55	.34	.42	.51
12 (35)	Belongingness - mankind	4	.71	.53	.75	.72	.38
13 (26)	Help by relatives/friends in emergency	6	.65	.65	.72	.80	.54
14 (12)	Relationship with children	7	.80	.80	.73	.74	.52
15 (78)	Help by friends/relatives in illness	6	.68	.21	.69	.78	.48
16 (93)	Upset by unexpected things	8	.63	.61	.67	.77	.49
17 (107)	Feeling sad without reason	8	.45	.69	.30	.77	.39
18 (94)	Irritability	8	.78	.66	.71	.74	.40
19 (98)	Anxiety and tension	8	.55	.72	.52	.72	.57
20 (96)	Losing temper over minor things	8	.78	.73	.46	.76	.44
21 (59)	Family – a source of help in solving problems	5	.66	.75	.76	.66	.60
22 (55)	Closeness within family	5	.67	.56	.72	.66	.55
23 (60)	Help by family in illness	5	.59	.78	.75	.67	.45
24 (117)	Life - boring/uninteresting	11	.52	.71	.72	.64	.50
25 (114)	Worry about future	11	.32	.57	.60	.71	.48
26 (119)	Life - useless	11	.97	.63	.62	.74	.40
27 (64)	Worry over relationship with spouse	7	.71	.42	.66	.80	.40
28 (73)	Help by friends/relatives when needed	6	.66	.29	.67	.76	.51
29 (65)	Worry over relationship with children	7	.67	.51	.65	.87	.46
30 (95)	Upset by minor things	8	.81	.61	.71	.63	.53
31 (97)	Upset over criticism	8	.61	.79	.68	.68	.47
32 (70)	Wish for more friends	10	.76	.79	.57	.54	.54
33 (71)	Lack of close friend	10	.55	.75	.69	.64	.48

concluded

Item No.	Description	No.[1]	S1[2]	S2[2]	S3[2]	S4[2]	CC[3]
34 (90)	Worry over health	9	.56	.63	.62	.28	.41
35 (85)	Pains in various parts of the body	9	.62	.66	.81	.68	.48
36 (86)	Palpitations/thumping heart	9	.75	.58	.43	.24	.44
37 (87)	Giddiness	9	.69	.71	.32	.55	.51
38 (88)	Getting tired too easily	9	.53	.73	.80	.73	.47
39 (89)	Disturbed sleep	9	.40	.52	.52	.02	.47
40 (-)	Lack of close relationship	10	-	-	-	.53	-

Annex 3

Subjective Well-being Inventory

Instructions

People are different. They live in a variety of situations and they do not feel the same way about life and the world around them. From a practical viewpoint, it is important to know how different persons feel with regard to their day-to-day concerns like their health or family. Such knowledge is necessary if an improvement in the quality of life of people is to be brought about.

This is a questionnaire on how you feel about some aspects of your life. Each question may be answered by any one of the given categories by putting a circle around the number which seems to represent your feeling best. For example, in the first question, if you feel that your life is very interesting, please put a circle around the repsonse '1'. At times you may find that your feeling is not represented perfectly by any of the given response categories. In such cases, just choose the one closest to what you think.

All information given by you will be treated as confidential and will be used only for research purposes.

1.   Do you feel your life is interesting?

Very much	1
To some extent	2
Not so much	3

2.   Do you think you have achieved the standard of living and the social status that you had expected?

Very much	1
To some extent	2
Not so much	3

3. How do you feel about the extent to which you have achieved success and are getting ahead?

Very good	1
Quite good	2
Not so good	3

4. Do you normally accomplish what you want to?

Most of the time	1
Sometimes	2
Hardly ever	3

5. Compared with the past, do you feel your present life is:

Very happy	1
Quite happy	2
Not so happy	3

6. On the whole, how happy are you with the things you have been doing in recent years?

Very happy	1
Quite happy	2
Not so happy	3

7. Do you feel you can manage situations even when they do not turn out as expected?

Most of the time	1
Sometimes	2
Hardly ever	3

8. Do you feel confident that in the case of a crisis (anything which substantially upsets your life situation) you will be able to cope with it/face it boldly?

Very much	1
To some extent	2
Not so much	3

9. The way things are going now do you feel confident in coping with the future?

Very much	1
To some extent	2
Not so much	3

10. Do you sometimes feel that you and the things around you belong very much together and are integral parts of a common force?

Very much	1
To some extent	2
Not so much	3

11. Do you sometimes experience moments of intense happiness almost like a kind of ecstasy or bliss?

Quite often	1
Sometimes	2
Hardly ever	3

12. Do you sometimes experience a joyful feeling of being part of mankind as of one large family?

Quite often	1
Sometimes	2
Hardly ever	3

13. Do you feel confident that relatives and/or friends will help you out if there is an emergency, e.g. if you lose what you have by fire or theft?

Very much	1
To some extent	2
Not so much	3

14. How do you feel about the relationship you and your children have?

Very good	1
Quite good	2
Not so good	3
Not applicable	4

15. Do you feel confident that relatives and/or friends will look after you if you are severely ill or meet with an accident?

Very much	1
To some extent	2
Not so much	3

16. Do you get easily upset if things don't turn out as expected?

Very much	1
To some extent	2
Not so much	3

17. Do you sometimes feel sad without reason?

Very much	1
To some extent	2
Not so much	3

18. Do you feel too easily irritated, too sensitive?

Very much	1
To some extent	2
Not so much	3

19. Do you feel disturbed by feelings of anxiety and tension?

Most of the time	1
Sometimes	2
Hardly ever	3

20. Do you consider it a problem for you that you sometimes lose your temper over minor things?

Very much	1
To some extent	2
Not so much	3

21. Do you consider your family a source of help to you in finding solutions to most of the problems you have?

Very much	1
To some extent	2
Not so much	3

22. Do you think that most of the members of your family feel closely attached to one another?

Very much	1
To some extent	2
Not so much	3

23. Do you think you would be looked after well by your family in case you were seriously ill?

Very much	1
To some extent	2
Not so much	3

24. Do you feel your life is boring/uninteresting?

Very much	1
To some extent	2
Not so much	3

25. Do you worry about your future?

Very much	1
To some extent	2
Not so much	3

26. Do you feel your life is useless?

Very much	1
To some extent	2
Not so much	3

27. Do you sometimes worry about the relationship you and your wife/husband have?

Very much	1
To some extent	2
Not so much	3
Not applicable	4

28. Do you feel your friends/relatives would help you out if you were in need?

Very much	1
To some extent	2
Not so much	3

29. Do you sometimes worry about the relationship you and your children have?

Very much	1
To some extent	2
Not so much	3
Not applicable	4

30. Do you feel that minor things upset you more than necessary?

Very much	1
To some extent	2
Not so much	3

31. Do you get easily upset if you are criticized?

Most of the time	1
Sometimes	2
Hardly ever	3

32. Would you wish to have more friends than you actually have?

Very much	1
To some extent	2
Not so much	3

33. Do you sometimes feel that you miss a real close friend?

Very much	1
To some extent	2
Not so much	3

34 Do you sometimes worry about your health?

Very much	1
To some extent	2
Not so much	3

35. Do you suffer from pains in various parts of your body?

Most of the time	1
Sometimes	2
Hardly ever	3

36. Are you disturbed by palpitations/a thumping heart?

Most of the time	1
Sometimes	2
Hardly ever	3

37. Are you disturbed by a feeling of giddiness?

Most of the time	1
Sometimes	2
Hardly ever	3

38 Do you feel you get tired too easily?

Most of the time	1
Sometimes	2
Hardly ever	3

39. Are you troubled by disturbed sleep?

Most of the time	1
Sometimes	2
Hardly ever	3

40. Do you sometimes worry that you do not have close personal relationship with other people?

Very much	1
To some extent	2
Not so much	3

Annex 4

Scoring and Interpretation of SUBI

The SUBI can be scored by attributing the values 3, 2 and 1 to response categories of the positive items, and 1, 2 and 3 to the negative items. The minimum and maximum scores that can thus be obtained are 40 and 120 respectively. The total score can be interpreted summarily in the light of three broad score ranges: 40-60, 61-80 and 81-120 to have an overall picture of the well-being status. The mean score on normal adult Indian samples is 90.8 with a standard deviation of 9.2 (see Figure 1). Another way of interpreting the scores is in terms of sub-scores on the two sets of positive and negative items. The minimum and maximum scores on the positive items are 19 and 57 respectively. The mean score on normal adult Indian samples on positive items is 42.9 with a standard deviation of 4.6 (see Figure 2). The minimum and maximum score on negative items are 21 and 63 respectively. The mean score on normal adult Indian samples on negative items is 47.9 with a standard deviation of 5.1 (see Figure 3). These figures illustrate the satisfactory distribution of scores over the possible ranges.

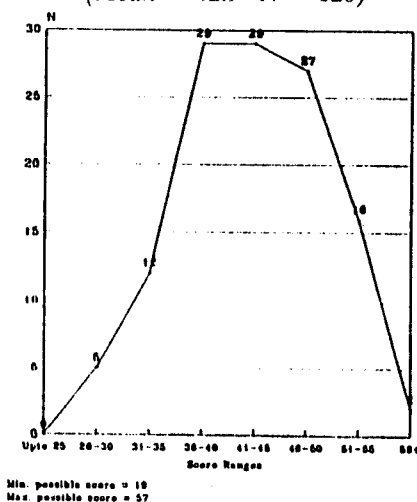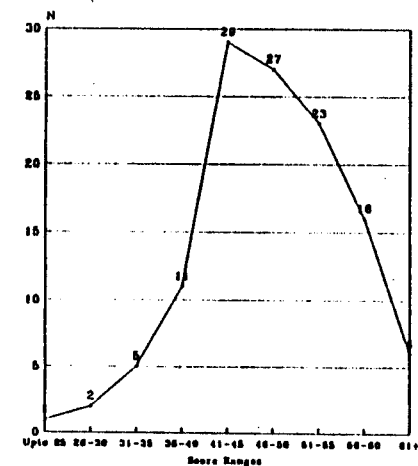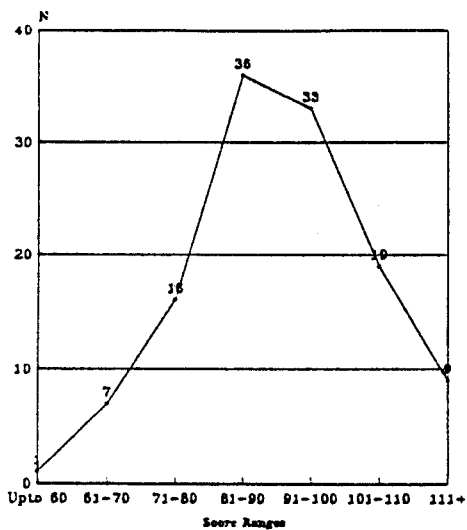**Figure 1.** *Distribution of SUBI scores: 19 positive items (Mean = 42.9 N = 120)*

Figure 2. *Distribution of SUBI scores: 21 negative items*
(Mean = 47.9 N = 120

Figure 3. *Distribution of SUBI scores: all 40 items*
(Mean = 90.8 N = 120)

Yet another way of interpreting the scores is in terms of working out scores for each factorial dimension and drawing a profile of these factorial scores in each case. The minimum and maximum scores of these is given in Table 3. It is possible to interpret the profile by comparing it with the middle values of scores in each factor. If most of the scores fall above middle values, the probability is that the person enjoys a good sense of well-being. If most scores are below the middle values, it may be inferrred that the individual is experiencing difficulties in terms of a happy living. A detailed study of sub-scores on all positive and all negative items may be more illustrative in such cases. Such a more detailed interpretation will be especially meaningful in intervention studies.

Table 3. *Minimum, maximum and middle values of scores in each factor.*

Factor	No. of items	Minimum score	Maximum score	Middle value
1	3	3	9	6
2	3	3	9	6
3	3	3	9	6
4	3	3	9	6
5	3	3	9	6
6	3	3	9	6
7	3	3	9	6
8	7	7	21	14
9	6	6	18	12
10	3	3	9	6
11	3	3	9	6
Total	40	40	120	80