

THE SATISFACTION WITH LIFE SCALE (SWLS): PSYCHOMETRIC PROPERTIES IN A NON-PSYCHIATRIC MEDICAL OUTPATIENTS SAMPLE*

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Summary—The Satisfaction With Life Scale (SWLS) was developed in the U.S.A. to represent a multi-item scale for the *overall* assessment of life satisfaction as a cognitive-judgemental process, rather than for the measurement of specific satisfaction domains (e.g. health, energy). Psychometric evaluations of the SWLS have been restricted to non-patient population samples comprising either American students (young adults) or elderly persons. The present study attempted to extend the applicability of the SWLS by examining specific reliability and validity aspects in a different cultural context (The Netherlands) with adult medical outpatients. In line with previous American findings, reliability figures were found to be quite favourable. In addition, SWLS scores were shown to be predictably associated with other measures of subjective well-being, including the General Health Questionnaire and the Symptom Checklist-90-R, and with health attitudes. SWLS scores were not affected by sex, age, educational level, health insurance status or social desirability, but, as could be expected, clearly so by marital status. The need for further studies with different groups was emphasized.

INTRODUCTION

The past two decades have witnessed an increase in research on subjective well-being (see Bryant & Veroff, 1982; Diener, 1984; Veenhoven, 1984; Argyle, 1987; Eysenck, 1990). In this vast array of research, three relatively independent components of subjective well-being have been identified: positive affect, negative affect, and life satisfaction (cf. Diener, 1984). The first two components refer to the affective, emotional aspects of the constructs; the latter to the cognitive-judgemental aspects. While several different scales for the assessment of affective components exist (e.g. Veenhoven, 1984, pp. 64-114; Argyle, 1987, e.g. pp. 1-13), few attempts have been made to construct psychometrically sound measures of general life satisfaction (Diener, 1984; Veenhoven, 1984, pp. 113-114).

As pointed out above, life satisfaction refers to a cognitive, judgemental process. Shin and Johnson (1978) have defined life satisfaction as an overall assessment of an individual's quality of life according to his/her chosen criteria. Thus, judgements of how satisfied individuals are with their present state of affairs is based on a comparison with a standard which each *S* sets for him or herself; the appropriate standard is not externally imposed. Diener (1984) has pointed out that it is a hallmark of the realm of subjective well-being that it centers on the individual's own judgements, not upon some criterion which is judged to be important by the investigator. In addition, Diener (1984) has argued that the proper assessment of life satisfaction requires that the possibility that different values are imposed on the distinctive desirable aspects determining satisfaction (e.g. health, energy) across individuals should be counteracted by asking them to rate their satisfaction with life as a whole, rather than summing across their satisfaction with specific domains, to obtain a measure of overall life satisfaction.

*This study was conducted as part of a larger on-going project entitled "*Interaction between primary and secondary health care*" (Faculty of Medicine of the Vrije Universiteit, Amsterdam, The Netherlands). The data were gathered in the context of the investigation termed "*Somatizing patients: the early case detection and prevention from a mental health care perspective*". Participating members of the research group include: J. G. Streefkerk, GP; F. Meiland, psychologist; J. J. Heimans, neurologist; Y. Dolstra, GP; Professor A. J. M. Donker, internist; and Professor R. Van Dyck, psychiatrist.

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As noted earlier, attempts to develop suitable measures for general life satisfaction have not been very prosperous. The available instruments have been criticized either on conceptual and psychometric grounds, on their lack of broad applicability across distinct samples, or both (see Diener, 1984; Veenhoven, 1984, Chap. 4, for detailed discussions).

In fulfilling the need for a multi-item scale to measure life satisfaction as a cognitive-judgemental process, Diener, Emmons, Larsen and Griffin (1985) developed the Satisfaction With Life Scale (SWLS). The scale is brief (it contains only five items) and was designed around the idea that one must ask *Ss* for an overall judgement of their life in order to measure the concept of life satisfaction. The psychometric properties of the American-developed SWLS were closely examined in two samples of undergraduates enrolled in introductory psychology classes ($n = 176$ and 163 , respectively) and in a geriatric population sample ($n = 53$ elderly volunteers). The SWLS was shown to have favourable characteristics, including high internal consistency and high temporal reliability. Its scores were found to be moderately to highly associated with other measures of subjective well-being, while being predictably correlated with specific personality characteristics. On these grounds, Diener *et al.* (1985) noted, among other things, that the SWLS is suited for use with different age groups, and that it might be useful in clinical settings. It should be noted however that the Diener *et al.* findings were restricted to population samples comprising young adults or the elderly and that there have not been any follow-up studies to substantiate the clinical usefulness of the SWLS.

The aim of the present investigation was to scrutinize whether specific psychometric findings reported by Diener *et al.* (1985) could be generalized to a group of *Ss* differing in at least three important aspects: (1) cultural/national background, (2) age, and (3) sample type. Specifically, this study sought to examine reliability and construct validity aspects of the SWLS with adult Dutch attenders at (non-psychiatric) medical outpatients clinics.

METHOD

Subjects and procedures

Consecutive attenders at two medical outpatients clinics of the Academic Hospital of the Vrije Universiteit, Amsterdam, namely those of internal medicine and neurology, were requested to volunteer for participation in a study on factors associated with somatic dysfunction. Potential candidates were applicants for treatment of either low-back (neurology patients) or pelvic pain (internal medicine patients). Exclusion criteria for both groups were: age falling outside the

Table 1. Description of medical outpatients sample in terms of sex, age, educational level, marital and health insurance status

	<i>n</i>	%
Sex		
Male	35	32.7
Female	72	67.3
Age		
18-29 yr	23	21.5
30-39 yr	26	24.3
40-49 yr	29	27.1
50-59 yr	18	16.8
60-65 yr	11	10.3
Education		
Low (1-3)	43	41.0
Medium (4-6)	31	29.5
High (7-9)	31	29.5
NA	2	1.0
Marital status		
Unmarried	24	22.4
Married or longlasting intimate relationship	69	64.5
Divorced/separated	11	10.3
Widowed	3	2.8
Health insurance status		
Sick-fund	85	79.4
Private	19	17.8
NA	3	2.8

NA = Not available.

18–65 yr range, illiteracy or poor ability to manage the Dutch language, or the presence of evident somatic pathology other than the target complaints mentioned above (e.g. ulcer ventriculi or ulcer duodeni in internal medicine patients, or cancer or other malignancies in neurology patients).

One-hundred and seven patients agreed to participate (41 low-back pain and 66 pelvic pain patients). The distributions of sex, age, educational level, marital status, and health insurance status are shown in Table 1. It should be noted that one notable difference that was observed across the patient groups was that volunteers with pelvic pain had enjoyed more education than their equivalents who applied for treatment of low-back pain ($|r| = 0.24$, $P = 0.01$, two-tailed).

Questionnaires were completed anonymously and prior to the initiation of medical treatment.

Measures

In addition to the SWLS, Ss were also administered a battery of measures assessing functional impairment, subjective well-being, psychiatric symptomatology, and personality features. These included: (a) the Functional Status subscale of the Quality-of-Life Assessment (Aaronson, Bullinger & Ahmedzai, 1988) as a self-report measure of functional impairment, i.e. of the degree to which one's present health status interferes with normal (i.e. basic) daily activities such as walking, climbing of stairs, eating, shopping, performance of household activities etc. (Cronbach's $\alpha = 0.87$); (b) the Münchener Alkoholismustest (München Alcohol Test or MALT; Feuerlein, Küfner, Ringer & Antons, 1979; Walburg & Van Limbeek, 1987) as an indicator of self-reported psychosocial maladjustment and somatic dysfunction associated with alcohol abuse or dependence ($\alpha = 0.95$); (c) a Somatization scale composed of 58 items derived from presenting complaints in DSM-III-R Somatoform disorders (American Psychiatric Association, 1987) ($\alpha = 0.87$); (d) the 28-item version of the General Health Questionnaire or GHQ-28 (cf. Goldberg & Williams, 1988; Koeter & Ormel, 1990) as a self-report instrument of psychological components of ill-health. The GHQ focuses on breaks in normal function (rather than upon lifelong traits) and concerns itself with two major classes of phenomena: inability to continue to carry out one's normal 'healthy' functions, and the appearance of new phenomena of a distressing nature ($\alpha = 0.91$); (e) the Revised version of the Symptom Checklist-90 or SCL-90-R (Derogatis, 1977) as a self-report inventory reflecting the psychological symptom patterns of psychiatric and medical patients. The Dutch version of the SCL-90-R (Arrindell & Ettema, 1986) is scored and interpreted in terms of eight primary symptom dimensions: Anxiety ($\alpha = 0.91$), Depression ($\alpha = 0.93$), Somatization ($\alpha = 0.86$), Agoraphobic fears ($\alpha = 0.85$), Cognitive-Performance Difficulty ($\alpha = 0.83$), Anger-Hostility ($\alpha = 0.84$), Interpersonal Sensitivity and Paranoid Ideation ($\alpha = 0.93$), and Sleep Disturbance ($\alpha = 0.83$). In addition, a general index of distress termed Psychoneuroticism or General Psychological Distress ($\alpha = 0.98$) was used to assess the patient's current overall psychological status; (f) the Multidimensional Health Locus of Control (MHLC) scale as a measure of separate dimensions of locus of control beliefs related to health behaviour (Wallston, Wallston & DeVellis, 1978). For the purpose of the present study, two factorially-derived dimensions termed 'Skepsis towards the medical profession' (6 items; $\alpha = 0.59$) and 'External orientation' (3 items; $\alpha = 0.51$) were used; (g) the 'Lie' (L) scale of the short form of the revision of the Eysenck Personality Questionnaire (s-EPQ-R; Eysenck, Eysenck & Barrett, 1985). The scale attempts to measure a tendency on the part of some Ss to 'fake good'. However, it seems that in addition to measuring dissimulation, the L scale also measures some stable personality factor which may possibly denote some degree of social naïveté ($\alpha = 0.80$). The items pertaining to the L scale were drawn from the original longer EPQ version (Eysenck & Eysenck, 1975; Sanderman, Eysenck & Arrindell, 1991).

A high score on each of the (sub)scales denotes a high position on the variable as named, with exception of the MHLC scale on which high scores are indicative of greater internality, and the GHQ on which high scores point to poor health.

In designing the Dutch version of the SWLS, guidelines proposed in the literature on cross-cultural methodology (cf. De Figueiredo & Lemkau, 1980) were followed as closely as possible (e.g. independent (blind) back-translations, educated translation, small-scale pretests).

Table 2. SWLS items and their corresponding component loadings and item-remainder correlations for a medical outpatients sample

Items	Component loadings	Item-remainder correlations
(1) In most ways my life is close to my ideal	0.84	0.73
(2) The conditions of my life are excellent	0.80	0.67
(3) I am satisfied with my life	0.85	0.75
(4) So far I have gotten the important things I want in life	0.83	0.72
(5) If I could live my life over, I would change almost nothing	0.76	0.64

$n = 107$. SWLS = Satisfaction With Life Scale.

Instructions for administering the scale are: below are five statements with which you may agree or disagree. Using the 1-7 scale below, indicate your agreement with each item by placing the appropriate number on the line preceding that item. Please be open and honest in your responding. The 7-point scale is: 1 = strongly disagree, 2 = disagree, 3 = slightly disagree, 4 = neither agree nor disagree, 5 = slightly agree, 6 = agree, 7 = strongly agree.

RESULTS* AND DISCUSSION

Descriptive statistics and reliability data

The mean SWLS score for this particular medical outpatients sample was 23.63 (SD = 7.01, range: 5-35) and fairly comparable to corresponding figures reported by Diener *et al.* (1985) for American undergraduates (M = 23.5) and elderly persons (M = 25.8).

Prior to examining the internal consistency reliability of the SWLS, the inter-item correlation matrix was submitted to a principal-components analysis. In line with the Diener *et al.* findings, a single factor emerged (one λ -value > 1), accounting for 67% of the variance (66% with American undergraduates). Table 2 gives the SWLS items and their respective component loadings on the first unrotated factor. The internal consistency coefficient was high and identical to the value published by Diener and his co-workers for American undergraduates, namely 0.87. As could be expected on the basis of the results of the factor and internal consistency analysis, the corrected item-total correlation for each SWLS item was substantial, i.e. over +0.50 (see Table 2). In terms of explained variance, these item-remainder r s were all in very close agreement with corresponding American figures. Predictably also, the mean interitem r (homogeneity) for the SWLS item set was more than acceptable, namely 0.58.

Construct validity†

SWLS correlates with background factors. Correlations were determined between the SWLS and sex, age, educational level, health insurance status, and marital status. Neither sex (male = 1, female = 2; $r = -0.10$, $n = 106$, $P > 0.10$), age ($r = 0.14$, $n = 106$, $P = 0.08$ NS), educational level (low = 1, high = 9; $r = 0.14$, $n = 104$, $P = 0.08$ NS), nor health insurance status (sick-fund insurance = 1, private insurance = 2; $r = 0.10$, $n = 103$, $P > 0.10$) were significantly associated with SWLS scores (one-tailed tests). However, SWLS scores were significantly correlated with marital status (unmarried = 1, married or other longlasting intimate relationship = 2, divorced/separated or widowed = 3): overall $F = 5.87$, d.f. = 2, $P < 0.01$. Further analyses (one-tailed tests) showed that S s who were married or involved in some longlasting intimate relationship were more satisfied with their lives as a whole than both S s who were either unmarried ($t = -2.23$, d.f. = 90, $P = 0.01$) or divorced/widowed‡ ($t = 3.01$, d.f. = 80, $P < 0.01$). In terms of effect size, d (Cohen, 1988, p. 40), these differences reflected medium and large magnitudes: 0.53 and 0.88, respectively. There was no significant difference between the SWLS means of the unmarried and the divorced/widowed ($t = 1.06$, d.f. = 36, $P > 0.10$ NS). Table 3 sets out the means (and SDs) for the respective marital subgroups.

*Variable *ns* are due to missing data. Throughout, the working α was set at 0.05.

†All correlations are of the Pearsonian type.

‡When the small subgroup of widows ($n = 3$) was deleted, the significant difference remained ($t = 2.54$, d.f. = 77, $P < 0.01$).

Table 3. SWLS means (and SDs) for subgroups of medical outpatients based on their marital status

	M	SD	n
Unmarried	21.67	6.68	24
Married, longlasting intimate relationship	25.22	6.72	68
Divorced separated or widowed	19.29	6.73	14

SWLS = Satisfaction With Life Scale.

Table 4. Correlations between the Satisfaction With Life Scale and other measures of well-being, health attitudes, and social desirability in a medical outpatients sample

	Pearson <i>r</i>	n	<i>P</i> (\leq)
Quality-of-life Assessment			
Functional Status	-0.07	105	NS
Münchener Alcoholismustest	-0.19	104	0.05
DSM-III-R Somatization	-0.41	91	0.001
General Health Questionnaire-28	-0.48	86	0.001
Revised Symptom Checklist-90			
Anxiety	-0.54	104	0.001
Depression	-0.55	103	0.001
Somatization	-0.34	104	0.001
Agoraphobic fears	-0.43	104	0.001
Cognitive-Performance Difficulty	-0.56	104	0.001
Anger-Hostility	-0.35	104	0.001
Interpersonal Sensitivity and Paranoid Ideation	-0.47	103	0.001
Sleep Disturbance	-0.33	104	0.001
General Psychological Distress	-0.55	101	0.001
Multidimensional Health Locus of Control			
Skepsis towards the medical profession	0.26	104	0.01
External orientation	0.30	102	0.001
Eysenck Personality Questionnaire Lie scale	0.12	105	NS

Supporting the construct validity of the Dutch SWLS, these findings were in accordance with previous data reported for the Dutch context (Van Rooijen, 1979, 1986) and with figures published in the international literature as covered by Diener (1984).

*Correlations between the SWLS and other dimensional measures**. The correlations between the SWLS on the one hand and other measures of subjective well-being, health attitudes (MHLC scale), and social desirability on the other hand are shown in Table 4. From this table, a number of conclusions can be drawn.

First, the medical patients' functional status, which could determine both the quality and extent of their *participation* in social activities, was unrelated to life satisfaction. This is perhaps not entirely unexpected in light of the mixed findings reported in the literature regarding the relationship between participation in social activities and life satisfaction. What has been reported to influence this relationship, namely the respondent's personality (cf. Diener, 1984, p. 558) may also hold for the association between the degree to which one is able to carry out normal daily activities and one's experienced satisfaction with life as a whole (see also Schulz and Decker, 1985). In addition, whether these associations are significant or not may also depend on the types of daily activities that are no longer carried out (see also Diener, 1984).

Second, in line with the findings reported by Diener and his colleagues (1985), it appears that medical outpatients who are satisfied with their lives overall are in general well-adjusted. Thus, *Ss* who are dissatisfied with their lives as a whole report greater difficulties concerning their consumption of alcohol, greater tendencies towards expressing psychological problems in terms of physical complaints (DSM-III-R and SCL-90-R Somatization scales) and more psychopathology than their satisfied counterparts. The correlation between the SWLS and the alcohol abuse and dependence scale (MALT) was smaller in magnitude than the *rs* between the former scale and the DSM-III-R Somatization, GHQ-28 and SCL-90-R scales (small vs medium to large effect sizes in

*Since there were no meaningful differences between the sexes in terms of the magnitudes of the correlations, the *rs* are reported for the pooled sample.

terms of Cohen, 1988, p. 83). Anxiety, Depression, Cognitive-Performance Difficulty, General Psychological Distress, Interpersonal Sensitivity and Paranoid Ideation, and satisfaction with health (GHQ) were the variables that correlated highest with the SWLS ($r_s > |0.5|$). Diener *et al.* (1985) reported correlations between the SWLS and different measures of well-being which ranged from -0.32 (Negative Affect) to 0.75 .

Third, as could be predicted on the basis of the literature (cf. Diener, 1984, p. 559), positive health attitudes (thus those pointing to internality rather than externality) were positively correlated with the SWLS (around 0.30). These correlations may be somewhat inflated, however, due to the clear difference in internal consistencies across measures. After correcting these r_s for attenuation (Nunnally, 1978, pp. 219–220), low Skepsis towards the Medical Profession and low External Orientation correlated 0.36 and 0.45 , respectively, with the SWLS.

Fourth, again in line with Diener *et al.* (1985), scores on the SWLS were found to be uncorrelated with social desirability (EPQ Lie scale), suggesting that the items of the former were not evoking a social desirability response set (at least not under the circumstances that the instrument was administered).

CONCLUSION

The results clearly support the reliability of the Dutch SWLS. They also underscore its convergent and divergent construct validity in it having significantly strong associations with other measures of well-being, correlations which were stronger in magnitude (i.e. effect size) than corresponding r_s with theoretically less-related measures (attitudes towards health, social desirability, and background factors such as sex, age, and specific elements of social class). While pointing to shared variances of respectable magnitudes across measures of well-being, the r_s were not too high (e.g. well above 0.80) so as to obstruct the use of the different scales as measures of non-equivalent constructs. Thus, compared to such measures as the GHQ and the SCL-90-R, the SWLS seems to provide qualitatively different, and therefore additional, information regarding the functioning of individuals.

In line with predictions, the SWLS was also able to distinguish between the married on the one hand and the unmarried or the divorced/separated and widowed on the other hand. This finding has important implications for further use of, and studies with, the SWLS. First, when larger and more heterogeneous samples than the one considered in this investigation become available, normative studies should break down descriptive statistics and specialized norms for separate marital status subgroups. The differences between these subgroups are large enough to warrant such. Second, the validity of the SWLS needs to be demonstrated empirically for each of such subgroups. Third, studies examining between-group differences in terms of mean SWLS scores require to control for the influences of marital status should the concerning groups differ meaningfully on this background variable. By contrast, variables such as sex, age, and education do not affect scores on the SWLS appreciably; neither do they require to be controlled when carrying out between-group comparisons on the SWLS, unless, of course, differences on those variables are very extreme.

Further studies are needed with different samples, including psychiatric patients, to examine the issue of discriminant construct validity discussed above in more depth and to take a close look at the SWLS's predictable differential correlates with positive and negative affect.

The present study reinforces the viewpoint of Diener *et al.* (1985) that the SWLS can be used with different age groups and in clinical settings. In addition, it supports the cross-national validity of the SWLS.

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