

# The Quality of Life Scale: An Instrument for Rating the Schizophrenic Deficit Syndrome

by Douglas W. Heinrichs,  
Thomas E. Hanlon, and  
William T. Carpenter, Jr.

## Abstract

There is growing interest in deficit symptoms in studies of the course and treatment response of schizophrenia. However, existing clinical assessment instruments focus primarily on productive symptoms. The authors describe the Quality of Life Scale (QLS), a 21-item scale based on a semistructured interview designed to assess deficit symptoms and thereby fill an important gap in the range of instruments now available. Data regarding reliability and training in the use of the QLS are presented. A factor analysis of the items yields results compatible with the conceptual model on which the scale is based. The factor analysis was also performed separately by sex and was fundamentally similar for men and women.

Psychotic symptoms such as dissociative thinking, hallucinations, and delusions are dramatic, socially disruptive manifestations of schizophrenia. This aspect of psychopathology has figured prominently in classification of the illness and has proved responsive to pharmacotherapy with antipsychotic drugs. It is thus natural that schizophrenic research methodology designed to assess clinical status and change over time has placed heavy emphasis on psychotic symptomatology. Yet, for most patients, fluctuations in these symptoms occur against a less variable background of significant impairment in intrapsychic, interpersonal, and instrumental functioning. There is apparently considerable continuity between premorbid, early morbid, and postpsychotic functional deficits. Such functional impairment is referred to as deficit or defect symptomatology. Although less dramatic and more difficult to describe precisely than psychotic

symptoms, deficit symptoms are often the most enduring and crippling aspects of schizophrenia. Indeed, Kraepelin (1971) described the core of the illness as follows:

a weakening of those emotional activities which permanently form the mainstrings of volition. In connection with this, mental activity and instinct for occupation become mute. The result . . . is emotional dullness, failure of mental activities, loss of mastery over volition, of endeavor, and of ability for independent action. The essence of personality is thereby destroyed. . . . [p. 741]

Unfortunately, deficit symptoms have also proved stubbornly resistant to traditional treatment strategies.

With the increasing capacity to control the psychotic symptoms of many patients and the emphasis on returning patients to the community, there is a growing interest in the assessment of deficit symptoms and impaired functioning in studies of the course and treatment response of schizophrenia. Malm, May, and Dencker (1981) have proposed a "quality of life" checklist to remind clinicians, researchers, and policy planners of the full range of illness-related dysfunction that should be considered in assessing schizophrenic patients. The checklist itself, however, does not contain the methodology for that assessment. The interest in careful assessments of the deficit state has also grown because a series of treatment strategies are emerging that may influence deficit symptoms (Carpenter and Heinrichs 1983).

One approach to standardized assessment is the use of scales of

Reprint requests should be sent to Dr. D.W. Heinrichs, Maryland Psychiatric Research Center, P.O. Box 3235, Baltimore, MD 21228.

social and occupational adjustment (Weissman 1975; Weissman, Sholomskas, and John 1981), and at least one scale has been specifically designed for use with schizophrenic populations (Schooler, Hogarty, and Weissman 1979). Such instruments primarily reflect the final consequences of the interaction of deficit symptoms with a multitude of other extraneous factors. For instance, the number of interpersonal contacts experienced by a patient is not only determined by that patient's level of social withdrawal but also by considerations such as money available for social activities, geographic area in which the patient lives, physical health and mobility, the tolerance of the community, and the appropriateness of the patient's appearance and manners. An assessment incorporating these factors can be a useful and even the preferred approach in certain instances, such as demonstrating the societal impact of the illness or its treatment. In studies comparing large cohorts of patients, random distribution of extraneous factors may permit these final consequences to reflect the level of deficit functioning. But in most clinical investigations, the direct clinical assessment of deficit symptoms in each patient will be more generously informative, especially in the study of treatment effects.

An alternative to scales of social and occupational adjustment is the rating of observable symptoms based on the same type of clinical observation used in the assessment of positive symptoms. Some aspects of the deficit state are included in most overall symptom assessments—for example, the Brief Psychiatric Rating Scale (Overall and Gorham 1962), the Present State Examination (Wing, Cooper, and Sartorius 1974), and the Schedule for Affective Disorders and Schizophrenia (Endicott and Spitzer

1978)—or have been the focus of special attention—for example, blunted affect (Abrams and Taylor 1978; Andreasen 1979). However, many aspects of the deficit state are inferred judgments as to why certain behaviors are either manifest or absent. Thus, a student, even one diagnosed as suffering from schizophrenia, who purposely reduces his social contacts to spend more time studying the week before final examinations would not be seen as exhibiting social withdrawal in the same sense as a schizophrenic patient who begins to refuse to see his friends and family and spends an increasing number of hours sitting alone in his room. A range of cues is used by the clinician to distinguish these two cases of reduced interpersonal contact. A judgment as to the nature of the process underlying the observed or reported behavior must be made. Although this task may appear complex, it is heartening to remember that such judgments are routinely made by clinicians caring for schizophrenic patients. The need is for a method to standardize and quantify these judgments in a meaningful and reliable manner.

Scales designed to measure negative symptoms are not adequate for rating the deficit state. Although overlapping, negative and deficit symptoms are not co-extensive. Blunted affect, for instance, may occur as part of a deficit state but is also frequently a component of florid psychotic episodes. In such cases it may show a time course and treatment response more in consonance with psychotic symptoms like hallucinations, delusions, and thought disorder. Presumably the pathogenesis and significance of blunted affect as a component of florid psychotic episodes may be quite different from that of the enduring blunted affect observed in

remitted phases of illness. Thus instruments to assess negative symptoms, although quite valuable in their own right, are not reflections of the deficit syndrome, *per se*.

By assessing both internal state and role performance, the scale described here incorporates multiple aspects of the deficit state into a single instrument.

## Description

The Quality of Life Scale (QLS) is a 21-item scale rated from a semistructured interview providing information on symptoms and functioning during the preceding 4 weeks. It is intended to be administered by a trained clinician and requires about 45 minutes to complete. Each item is rated on a 7-point scale and, in all but two cases, requires a judgment by the clinician/interviewer of the sort discussed above. Each item is composed of three parts: (1) a brief descriptive statement to focus the interviewer on the judgment to be made; (2) a set of suggested probes; (3) the 7-point scale with descriptive anchors for every other point.

The specific descriptors vary among items, but the high end of the scales (scores of 5 and 6) reflects normal or unimpaired functioning, and the low end of the scales (scores of 0 and 1) reflects severe impairment of the function in question.

The interviewer is instructed to probe around each item until he or she has an adequate basis for making the required judgment, and is encouraged to go beyond the suggested probes with questions tailored for the individual patient. The experience for both interviewer and patient is thus similar to that of a careful clinical interview. (Sample items are provided in the Appendix.)

The QLS was designed specifically to address the more insidious aspects

of schizophrenic psychopathology, that is, deficit symptoms. The scale is also focused on patients outside of institutions. Although some of the items are applicable to hospitalized patients (e.g., anhedonia, emotional interaction), others would be distorted by the hospital experience itself (e.g., sociosexual relations, social activity), and others would be inapplicable (e.g., work functioning). However, the QLS could be used at the time of hospitalization to assess deficit symptoms and functioning before admission. While the deficit syndrome of schizophrenia guided the development of the instrument, and it has only been used with schizophrenic patients thus far, the QLS taps dimensions that are of potential clinical interest across diagnostic groups (e.g., chronic affective or personality disorders).

Appropriate to the phenomenologic basis of this approach, work thus far has used the patient as the only informant in rating the QLS. Several of the items require descriptions of intrapsychic states or experiences to which the patient alone has direct access and about which others can only make inferences (e.g., work satisfaction, sense of purpose, curiosity, anhedonia). Furthermore, the instrument is intended to be applicable in a wide range of clinical settings where access to other informants is often limited. Studies on the collection of historic data suggest that patients, relatives, and clinical records at times provide conflicting information, but there is no suggestion that information from patients is less valid than data from other sources (Strauss, Carpenter, and Nasrallah 1978). We are currently examining the effects of using other sources of information together with patient interviews in making the ratings on the QLS.

### Theoretical Rationale for Categories

The scale items are derived from consideration of important manifestations of the deficit syndrome in schizophrenia and conceptually belong to the following four categories: (1) Intrapsychic Foundations; (2) Interpersonal Relations; (3) Instrumental Role; and (4) Common Objects and Activities.

The Intrapsychic Foundations items (13, 14, 15, 16, 17, 20, 21) elicit clinical judgments about intrapsychic elements in the dimensions of cognition, conation, and affectivity often seen as near the core of the schizophrenic deficit. Hence, the patient's sense of purpose, motivation, curiosity, empathy, ability to experience pleasure, and emotional interaction are assessed. These capacities are viewed as the building blocks from which interpersonal and instrumental role functioning are derived. Defects in these areas are expected to be reflected in impairments in the other three categories.

The second category, Interpersonal Relations (items 1-8), relates to various aspects of interpersonal and social experience. Many of the items go beyond rating amount or frequency of social contact to such complex judgments as capacity for intimacy, active versus passive participation, and avoidance and withdrawal tendencies.

The Instrumental Role Category (items 9-12) focuses on the role of worker, student, or housekeeper/parent. In addition to ratings of the extent of functioning, there are judgments about level of accomplishment, degree of underemployment given the person's talents and opportunities, and satisfaction derived from this role.

The final category, Common

Objects and Activities (items 18 & 19), is based on the assumption that a robust participation in the community is reflected in the possession of common objects and the engagement in a range of regular activities. Although all of these are not present for every individual, the absence of a large number of them implies some impairment of participation in day-to-day life.

This model of the deficit state implies a series of intrapsychic building blocks on the one hand, and a number of derivative functions on the other. Parenthetically, dysfunction in interpersonal and instrumental realms may have numerous extraneous causes other than a primary schizophrenic deficit, and thus the rater must exercise judgments that take this distinction into account. For instance, a reduction in social activity clearly resulting from an incapacitating physical injury could not be seen as reflecting increased deficit symptomatology.

In order to assess the plausibility of the model empirically, a principal component factor analysis with varimax rotation was performed on 111 cases rated on the QLS by one of the authors (T.E.H.). All subjects entered an outpatient research program with a clinical diagnosis of schizophrenia, which was augmented in 93 percent of the cases by meeting the requirements of Research Diagnostic Criteria (Spitzer, Endicott, and Robins 1975) for schizophrenia or schizoaffective disorder. All patients were hospitalized before clinic participation, most having recently been discharged from inpatient care. Eighty-five percent of the patients were classified as chronic or subchronic, with multiple previous hospitalizations the rule. Mean duration of illness since first hospitalization is 5.0 years, with a range of

0–29 years. The socioeconomic status by family of origin is as follows: Class I, 19 percent; Class II, 6 percent; Class III, 15 percent; Class IV, 23 percent; Class V, 37 percent. The sample is 65 percent black, 34 percent white, and 1 percent Oriental. Fifty-three percent are men. The mean age is 29.0 years, with a range of 18–47 years. As might be expected with a population of largely chronic but stable outpatients, the mean scores of the QLS (table 1) reflect intermediate but quite significant levels of impairment.

Table 2 shows the resultant rotated factor structure. Combined, these factors account for 73 percent of the variance of the QLS, with respective percentages of variance being approximately 52 percent, 9 percent, 7 percent, and 6 percent. The results are consistent with the hypothesized model. First, the three functional dimensions—Interpersonal Relationships (items 1–8), Instrumental Role Functioning (items 9–12), and Everyday Objects and Activities (items 18 and 19)—each form a distinct and coherent factor. The factor structure is reassuring both as to the conceptual validity of the scale's underlying constructs and the appropriateness of the chosen items for tapping them. The item relating to family is less strongly associated with the others on the interpersonal factor. This reflects the influence of that subset of patients who relate extensively to family members but have little contact with nonrelatives, as well as those patients with relatively adequate relationships in general but who have particular difficulties with their families. Clinically, both types would seem to be quite common. To some extent the sociosexual item is also less strongly associated with the other items, again suggesting that sexual adjustment is often at some

**Table 1. Mean scores and standard deviations of Quality of Life Scale Items for 111 schizophrenic patients**

Category	Mean (SD)
<b>Interpersonal Relations</b>	
1. Household	3.50 (1.69)
2. Friends	2.36 (1.79)
3. Acquaintances	2.47 (1.58)
4. Social activity	2.69 (1.33)
5. Social network	2.80 (1.07)
6. Social initiative	2.82 (1.57)
7. Withdrawal	3.52 (1.51)
8. Sociosexual	2.47 (1.55)
<b>Instrumental Role</b>	
9. Occupational role	2.93 (2.11)
10. Work functioning	2.55 (1.55)
11. Work level	2.36 (1.76)
12. Work satisfaction	2.10 (1.96)
<b>Intrapsychic Foundations</b>	
13. Sense of purpose	2.37 (1.31)
14. Motivation	2.79 (1.34)
15. Curiosity	3.20 (1.29)
16. Anhedonia	3.63 (1.55)
17. Aimless inactivity	3.30 (1.68)
20. Empathy	3.48 (1.29)
21. Emotional interaction	3.86 (1.35)
<b>Common Objects and Activities</b>	
18. Commonplace objects	3.97 (1.67)
19. Commonplace activities	3.38 (1.55)

variance—better or worse—with overall interpersonal competence. As expected, the Intrapsychic Foundation items (13–17, 20 and 21) do not show so coherent a relationship to one another. Since they were designed to tap varied intrapsychic elements, there would be no reason to expect them to share a factor in the same way as items relating to the same functional dimensions. Of more interest is their relationship to these dimensions, in that they could be expected to

contribute to the latter to varying degrees. In this respect the intrapsychic items fall into three categories: Sense of Purpose (item 13), Motivation (item 14), and Aimless Inactivity (item 17) load on the Instrumental Role factor. This may reflect the propensity of subjects to formulate their goals, future plans and drive to achieve them predominantly in terms of work and career. Conversely, Anhedonia (item 16) loads on the Interpersonal factor. Thus, while many other external

Table 2. Factor structure of Quality of Life Scale for 111 schizophrenic patients

Category	Factor 1	Factor 2	Factor 3	Factor 4
<b>Intrapsychic Foundations</b>				
13. Sense of purpose	.27	.58 <sup>1</sup>	.40	.14
14. Motivation	.46	.63 <sup>1</sup>	.35	.13
15. Curiosity	.31	.14	.46 <sup>1</sup>	.16
16. Anhedonia	.58 <sup>1</sup>	.27	.44	.08
17. Aimless inactivity	.44	.59 <sup>1</sup>	.27	.25
20. Empathy	.21	.23	.73 <sup>1</sup>	.21
21. Emotional interaction	.14	.21	.74 <sup>1</sup>	.02
<b>Interpersonal Relations</b>				
1. Household	.44 <sup>1</sup>	.31	.41	.15
2. Friends	.72 <sup>1</sup>	.23	.30	.13
3. Acquaintances	.89 <sup>1</sup>	.17	.02	.05
4. Social activity	.82 <sup>1</sup>	.18	.18	.17
5. Social network	.58 <sup>1</sup>	.24	.36	.06
6. Social initiative	.85 <sup>1</sup>	.20	.13	.18
7. Withdrawal	.76 <sup>1</sup>	.23	.25	.14
8. Sociosexual	.53 <sup>1</sup>	.27	.16	.00
<b>Instrumental Role</b>				
9. Occupational role	.16	.85 <sup>1</sup>	.16	.16
10. Work functioning	.22	.77 <sup>1</sup>	.26	.20
11. Work level	.25	.88 <sup>1</sup>	.11	.09
12. Work satisfaction	.28	.80 <sup>1</sup>	.19	.10
<b>Common Objects &amp; Activities</b>				
18. Objects	.01	.35	.14	.55 <sup>1</sup>
19. Activities	.36	.15	.18	.90 <sup>1</sup>

<sup>1</sup> Factor on which item loads.

factors are critical for occupational functioning (e.g., financial need, societal pressure), a correlate for sustained interpersonal functioning is the ability to derive pleasure and satisfaction from it. The remaining intrapsychic items—Empathy (item 20), Emotional Interaction (item 21), and Curiosity (item 15)—load on a factor of their own rather than with one of the functional dimensions. These items may be most relevant to the richness and fullness of the inner life and expressiveness of the patient,

with no clear relationship to measures of external functioning.

When the factor structure of the QLS is examined separately for females (table 3) and males (table 4), similarities of the factor loadings in both magnitude and pattern are evident. Reflecting this comparability, the coefficients of congruence (CC) between the factor loadings of females and males were .96, .96, and .92, and .81 for factors 1 through 4, respectively. The items comprising the three functional dimensions again

load as predicted on three separate factors. There are, however, several sex-related differences with respect to the intrapsychic items. For females, Sense of Purpose (item 13), while still showing a substantial relationship to instrumental role items, loads strongly on the separate factor along with curiosity, empathy, and emotional interaction. Thus, for this cohort of female subjects sense of purpose is not only related to job and career, but also appears to be a more global, comprehensive notion.

**Table 3. Factor structure of Quality of Life Scale for 52 female schizophrenic patients**

Category	Factor 1	Factor 2	Factor 3	Factor 4
<b>Intrapsychic Foundations</b>				
13. Sense of purpose	.15	.50	.53	.23
14. Motivation	.45	.68 <sup>†</sup>	.30	.15
15. Curiosity	.22	.04	.65 <sup>†</sup>	.12
16. Anhedonia	.51 <sup>†</sup>	.32	.42	.06
17. Aimless Inactivity	.27	.63 <sup>†</sup>	.21	.34
20. Empathy	.08	.25	.65 <sup>†</sup>	.14
21. Emotional Interaction	.10	.15	.79 <sup>†</sup>	.04
<b>Interpersonal Relations</b>				
1. Household	.46 <sup>†</sup>	.41	.42	-.06
2. Friends	.71 <sup>†</sup>	.16	.39	.14
3. Acquaintances	.86 <sup>†</sup>	.23	.01	.20
4. Social activity	.80 <sup>†</sup>	.17	.05	.29
5. Social network	.66 <sup>†</sup>	.17	.38	.19
6. Social initiative	.86 <sup>†</sup>	.24	.11	.26
7. Withdrawal	.73 <sup>†</sup>	.39	.23	.09
8. Sociosexual	.56 <sup>†</sup>	.31	.13	-.19
<b>Instrumental Role</b>				
9. Occupational role	.20	.83 <sup>†</sup>	.14	.27
10. Work functioning	.37	.68 <sup>†</sup>	.36	.20
11. Work level	.21	.95 <sup>†</sup>	.05	.08
12. Work satisfaction	.31	.77 <sup>†</sup>	.24	.01
<b>Common Objects &amp; Activities</b>				
18. Objects	.14	.35	.26	.52 <sup>†</sup>
19. Activities	.38	.20	.14	.66 <sup>†</sup>

<sup>†</sup> Factor on which item loads.

For males, Curiosity (item 15) loads on the Interpersonal Relations factor, perhaps reflecting more outer-directed, activity-related interests. Also for males, Aimless Inactivity (item 17) relates not only to instrumental role functioning, as is the case with females, but also loads on the Interpersonal Relationships factor. There may be societal differences that make it easier for women to sustain levels of interpersonal involvement in spite of an intrinsic passivity. Social involvement for

men is likely to require more initiative, thus being more strongly impaired by tendencies toward inactivity. Beyond this, for those women whose locus of action is largely in the home, there may be little relationship between activity level and social interaction.

### Reliability and Training

To determine the interrater agreement on the QLS, pairs of authors (T.E.H. with D.W.H. and

with W.T.C.) independently rated 24 of the 111 schizophrenic outpatients at a research clinic on an initial version of the scale during and after a 30- to 45-minute jointly conducted interview in which the role of principal interviewer was alternated between the raters. The interview was semistructured, with informal probes being mixed with standard cues in the questioning procedure. (See table 5 for the intraclass correlation and proximity of agreement for each item.) Intraclass correlations

**Table 4. Factor structure of Quality of Life Scale for 59 male schizophrenic patients**

Category	Factor 1	Factor 2	Factor 3	Factor 4
<b>Intrapsychic Foundations</b>				
13. Sense of purpose	.37	.62 <sup>1</sup>	.23	.12
14. Motivation	.44	.58 <sup>1</sup>	.37	.16
15. Curiosity	.50 <sup>1</sup>	.30	.26	.11
16. Anhedonia	.63 <sup>1</sup>	.23	.41	.07
17. Aimless inactivity	.59 <sup>1</sup>	.58	.21	.19
20. Empathy	.32	.20	.79 <sup>1</sup>	.29
21. Emotional interaction	.16	.25	.68 <sup>1</sup>	.03
<b>Interpersonal Relations</b>				
1. Household	.43 <sup>1</sup>	.19	.40	.31
2. Friends	.77 <sup>1</sup>	.30	.14	.13
3. Acquaintances	.86 <sup>1</sup>	.10	.07	-.09
4. Social activity	.85 <sup>1</sup>	.19	.22	.09
5. Social network	.45 <sup>1</sup>	.25	.39	-.04
6. Social initiative	.82 <sup>1</sup>	.16	.10	.13
7. Withdrawal	.78 <sup>1</sup>	.03	.26	.22
8. Sociosexual	.53 <sup>1</sup>	.24	.12	.09
<b>Instrumental Role</b>				
9. Occupational role	.11	.88 <sup>1</sup>	.15	.11
10. Work functioning	.10	.83 <sup>1</sup>	.17	.20
11. Work level	.26	.83 <sup>1</sup>	.15	.09
12. Work satisfaction	.21	.84 <sup>1</sup>	.14	.16
<b>Common Objects &amp; Activities</b>				
18. Objects	-.05	.33	.06	.70 <sup>1</sup>
19. Activities	.38	.15	.20	.84 <sup>1</sup>

<sup>1</sup> Factor on which item loads.

(ICCs) for the categories and for the total score (the average of all the items) were as follows: Intrapsychic Foundations = .91; Interpersonal Relations = .94; Instrumental Role = .97; Common Objects and Activities = .94; and Total Score = .94.

We also assessed training requirements and rater reliability of clinicians who had not been involved in developing the QLS. The QLS was presented to the clinical staff of a research clinic (one staff psychiatrist, one social worker, one bachelor's

level, one master's level, and one Ph.D.-level psychologist.) Approximately 3 hours were spent discussing the instrument and its use before initiating a reliability study consisting of simultaneous ratings of 10 live interviews, with raters alternating the role of principal interviewer. For the five trainees, ICCs for category and total scores were as follows: Intrapsychic Foundations = .84; Interpersonal Relations = .87; Instrumental Role = .94; Common Objects and

Activities = .94; and Total Score = .88 (see table 5).

For both the authors and the trained clinicians, good reliability was obtained on both the total score and the category scores. For the authors this was also true for most items, with the exception of empathy and emotional interaction. For the trained clinicians, individual item correlations tended to be lower. This may reflect the modest amount of training provided before the instrument was used.

**Table 5. Quality of Life Scale: Intraclass correlations (ICCs)**

Item	3 Original raters/24 patients			5 Trained raters/10 patients <sup>1</sup>
	ICC	% Exact agreement	% Agreement within 1 scale point	ICC
1. Household	.84	42	83	.77
2. Friends	.88	46	83	.67
3. Acquaintances	.81	29	83	.74
4. Social activity	.94	71	100	.69
5. Social network	.78	67	88	.68
6. Social initiative	.73	46	83	.58
7. Withdrawal	.88	50	96	.74
8. Sociosexual	.88	46	96	.86
9. Occupational role	.98	83	100	.87
10. Work functioning	.88	67	83	.76
11. Work level	.86	63	92	.64
12. Work satisfaction	.94	63	100	.86
13. Sense of purpose	.87	63	96	.78
14. Motivation	.80	50	88	.70
15. Curiosity	.81	54	92	.75
16. Anhedonia	.89	67	96	.59
17. Aimless inactivity	.88	50	92	.90
18. Commonplace objects	.94 <sup>2</sup>	83 <sup>2</sup>	100 <sup>2</sup>	.92
19. Commonplace activities				.94
20. Empathy	.58	33	88	.53
21. Emotional interaction	.61	25	75	.56

<sup>1</sup> Total  $n = 45$  (ratings unobtained in 5 instances).

<sup>2</sup> Originally, commonplace objects and activities were combined into 1 item, herein reported.

## Comments

Designed to standardize and quantify the judgments about deficit symptoms typically made by clinicians treating schizophrenic patients, the QLS has potential value in a range of settings. It is intended for use as an outcome criterion and a measure of change, thus allowing the impact on deficit symptoms to be a factor in evaluating therapeutic interventions and describing the course of the illness. The ease with which a clinician can learn to use the QLS reliably and its relative brevity make it especially suitable for monitoring

fluctuations in deficit symptoms in patients seen in outpatient treatment facilities for both research and clinical purposes. Finally, by articulating important clinical judgments often neglected in the care and study of schizophrenic patients, the QLS may enhance training as well as enrich data in clinical investigations. Reports from preliminary experience with the QLS by other workers have been encouraging, and one clinician uses the QLS as a supervisory tool with psychiatric residents learning the long-term management of schizophrenic patients.

The need to combine the QLS with

measures of other dimensions of pathology must be stressed. In addition to the fact that the QLS does not attempt to measure many important aspects of psychopathology, an appreciation of the significance of QLS scores requires a consideration of these other dimensions. Although items thought to be most characteristic of a deficit syndrome were selected for the QLS, no items are pathognomonic when viewed out of context of the general clinical condition of patients. Combined with existing measures of positive and negative symptoms, the QLS facilitates the careful assessment



of a full range of schizophrenic pathology (Carpenter 1980), thereby permitting a comprehensive appraisal of the impact of the illness itself and of efforts to treat it.

## References

- Abrams, R., and Taylor, M.A. A rating scale for emotional blunting. *American Journal of Psychiatry*, 135:226-229, 1978.
- Andreasen, N.C. Affective flattening and the criteria for schizophrenia. *American Journal of Psychiatry*, 136:944-947, 1979.
- Carpenter, W.T., Jr. Clinical research methods applicable to the study of treatment effects in chronic schizophrenic patients. In: Baxter, D.F., and Melnechuk, T., eds. *Perspectives in Schizophrenia Research: Presentations and Sessions of the V.A. Advisory Conference on Chronic Schizophrenia, Harpers Ferry, West Virginia, 1979*. New York: Raven Press, 1980. pp. 297-311.
- Carpenter, W.T., Jr., and Heinrichs, D.W. Early intervention, time-limited, targeted pharmacotherapy of schizophrenia. *Schizophrenia Bulletin*, 9:533-542, 1983.
- Endicott, J., and Spitzer, R.L. A diagnostic interview: The Schedule for Affective Disorders and Schizophrenia. *Archives of General Psychiatry*, 35:837-844, 1978.
- Kraepelin, E. *Dementia Praecox and Paraphrenia*. Huntington, NY: Robert E. Krieger Publishing Company, 1971.
- Malm, U.; May, P.R.A.; and Dencker, S.J. Evaluation of the quality of life of the schizophrenic outpatient: A checklist. *Schizophrenia Bulletin*, 7:477-487, 1981.
- Overall, J.E., and Gorham, D.R. The Brief Psychiatric Rating Scale. *Psychological Reports*, 10:799-812, 1962.
- Schooler, N.; Hogarty, G.; and Weissman, M.M. Social adjustment scale II (SAS II). In: Hargreaves, W.A.; Attkisson, C.C.; and Sorenson, J.E., eds. *Resource Materials for Community Mental Health Program Evaluators*. DHEW Publication No. (ADM) 79-328. Washington, DC: Superintendent of Documents, Government Printing Office, 1979.
- Spitzer, R.L.; Endicott, J.; and Robins, E. Research Diagnostic Criteria (RDC). *Psychopharmacology Bulletin*, 11:22-24, 1975.
- Strauss, J.S.; Carpenter, W.T., Jr.; and Nasrallah, A.T. How reliable is the psychiatric history? *Comprehensive Psychiatry*, 19:213-219, 1978.
- Weissman, M.M. The assessment of social adjustment: A review of techniques. *Archives of General Psychiatry*, 32:357-365, 1975.
- Weissman, M.M.; Sholomskas, D.; and John, K. The assessment of social adjustment: An update. *Archives of General Psychiatry*, 38:1250-1258, 1981.
- Wing, J.K.; Cooper, J.E.; and Sartorius, N. *The Measurement and Classification of Psychiatric Symptoms*. London: Cambridge University Press, 1974.

## Acknowledgment

John Bartko, Ph.D., provided valuable statistical consultation. Ms. Edwina Wilkinson assisted in the data analysis. The research reported was supported, in part, by Department of Health and Human Services Grant No. MH-35996-01.

## The Authors

Douglas W. Heinrichs, M.D., is Assistant Professor of Psychiatry; Thomas E. Hanlon, Ph.D., is Associate Research Professor; and William T. Carpenter, Jr., M.D., is Professor of Psychiatry, University of Maryland School of Medicine, Baltimore, MD. In addition, Dr. Heinrichs is Chief, Outpatient Research Programs, and Dr. Carpenter is Director, Maryland Psychiatric Research Center.

# Appendix: Sample Items From Quality of Life Scale

## 2. Rate Intimate Relationships

This item is to rate close relationships with significant mutual caring and sharing, with people other than immediate family or household members. Exclude relationships with mental health workers.

### Suggested Questions

Do you have friends with whom you are especially close other than your immediate family or the people you live with?

Can you discuss personal matters with them?

How many friends do you have?

How often have you spoken with them recently, in person or by phone?

What have these relationships been like?

Can they discuss personal matters with you?

0—Virtually absent

1—

2—Only sparse intermittent relations

3—

4—Some consistent intimate relations but reduced in number or intensity; or intimacy only present erratically

5—

6—Adequate involvement; intimate relationships with more than one other person

## 6. Rate Social Initiatives

This item is to rate the degree to which the person is active in directing his social interactions—what, how much, and with whom.

### Suggested Questions

Have you often asked people to do something with you, or have you usually waited for others to ask you?

When you have gotten together with friends, who decides what to do?

When you have had an idea for a good time, have you sometimes missed out because it's hard to ask others to participate?

Have you contacted people by phone?

Have you tended to seek people out?

0—Social activity almost completely dependent on initiatives of others

1—

2—Occasional social initiative, but social life significantly impoverished due to pattern of social passivity, or initiative limited to immediate family

3—

4—Evidence of some reduction of social initiative, but with only minimal adverse consequences on plans, both short- and long-range

## 14. Rate Degree of Motivation

This item is to rate the extent to which the person is unable to initiate or sustain goal-directed activity due to inadequate drive.

### Suggested Questions

How have you been going about accomplishing your goals?

0—Lack of motivation significantly interferes with basic routine

What other things have you worked on or accomplished recently?	1—
Have there been tasks in any area that you wanted to do but didn't because you somehow didn't get around to it?	2—Able to meet basic maintenance demands of life, but lack of motivation significantly impairs any progress or new accomplishments
Has this experience of just not getting around to it interfered with your regular daily activities?	3—
How motivated have you been?	4—Able to meet routine demands of life and some new accomplishments, but lack of motivation results in significant underachievement in some areas
Do you have much enthusiasm, energy, and drive?	5—
Have you tended to get into a rut?	6—No evidence of significant lack of motivation
Have you tended to put things off?	
Have you felt anxious to accomplish things?	

## 20. Rate Capacity for Empathy

This item is to rate the person's capacity to regard and appreciate the other person's situation as different from his or her own—to appreciate different perspectives, affective states, and points of view. It is reflected in the person's descriptions of interactions with other people and how he or she views such interactions. Specific probing to elicit the person's description and assessment of relevant situations can be done at this time if sufficient data have not emerged thus far in the interview.

### Suggested Questions

Consider someone you are close to or spend a lot of time with. What about them irritates or annoys you?	0—Shows no capacity to consider the views and feelings of others
What about you irritates or annoys them? What things do they like?	1—
What things that you do please them? If they appear upset, how do you usually react? If you have an argument or difference of opinion with them, how do you handle it?	2—Consideration of other people's views and feelings is grossly distorted by own egocentric perspective.
Are you usually sensitive to the feelings of others?	3—
Are you affected very much by how other people feel?	4—Can consider other people's views and feelings but tends to be caught up in own world.
	5—
	6—Spontaneously considers the other person's situation in most instances, can intuit the other person's affective responses, and can use this knowledge to adjust responses.