

Social Functioning and the Treatment of Depression

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For economic and scientific reasons, there has been a recent increase in the use of social functioning as an outcome measure in clinical trials of psychotropic drugs. The new antidepressants are more expensive than the older agents, and improvement in social functioning, e.g., return to work, may justify their use. New assessments (e.g., vitality, motivation, and performance) that go beyond symptom reduction may also capture a broader spectrum of outcomes for the newer drugs. This article presents the historical background and rationale for interest in social functioning as an outcome of treatment with psychotropic medications, presents recent examples of measures of social functioning from clinical trials of new antidepressants, discusses several of the methods for assessing social functioning, and suggests how these assessments can be used in clinical practice.

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In his best selling book *Listening to Prozac*, author Peter Kramer claimed that the new antidepressants had behavioral targets that went beyond those captured by traditional depressive symptom measures. Indeed, concerning the outcome of a patient treated with antidepressant therapy he writes, “Sam not only recovered from his depression, he declared himself ‘better than well.’ He felt unencumbered, more vitally alive, and less pessimistic. Now he could complete projects. . . .”^{1(p. x)}

Kramer’s report of personality changes due to medication received a great deal of attention but was discounted by most prudent consumers. But what is meant by *personality* other than *characteristic behaviors in social situations*?² Kramer was describing changes in patients’ usual social perception, drive, and behavior as reflected in func-

tioning in social situations. Until now, Kramer’s observations have not been empirically assessed.

Increasingly, drug trials of antidepressants have included measures of social functioning. This interest stems from several convergent trends indicating that new assessments are needed to include a broad spectrum of possible outcomes in recovery, in addition to the traditional symptoms of depression, such as mood, sleep, and appetite disturbance.

This article presents the historical background for interest in social functioning as an outcome of treatment with psychotropic medications, discusses the rationale for interest in social functioning, presents recent examples of measures of social functioning used in clinical trials of new antidepressants, discusses several of the methods for assessing social functioning, and suggests how these assessments can be used in clinical practice.

HISTORICAL BACKGROUND

In the late 1960s, as a natural growth of the shift in psychiatry from custodial care to therapy and prevention, there was unprecedented interest in *social functioning*, primarily defined as *performance in social roles of severely ill psychiatric patients*. The trend received momentum with the opening of community mental health centers and a vast increase in outpatient care. The trend was both mandated by and reflected an increased awareness that mental disorders occur in a social context and that the patient’s family life, friendships, and work patterns may have an impact on his or her treatment and clinical course.

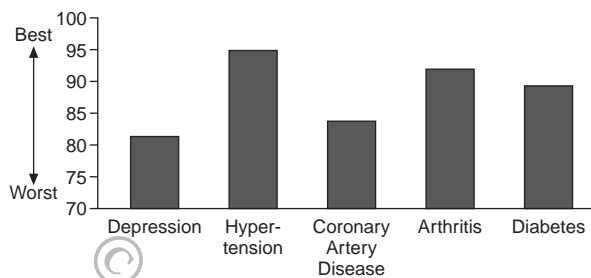
Interest was also motivated by the increase in studies of maintenance treatment with medications and/or psychotherapy for depression.^{3–7} It was clear that many patients who recovered from an acute depressive episode were left

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Figure 1. Medical Outcomes Study Social Functioning^a

^aData from Wells et al.¹⁶ Assessed by the Short Form Health Survey (SF-36).

with residual symptoms and impairments that required continuing treatment to prevent relapse and recurrences.⁸ Social functioning was seen as an important assessment of patients with remitting or recurring symptoms and patients receiving psychotherapy.^{4,9,10}

Interest in the social world of patients involved the addition of new measures of disturbance—those of social functioning—that were distinct from abnormalities of thought and symptoms. The first scales developed were used for evaluating the posthospital adjustment of schizophrenic patients who had been discharged taking new tranquilizers. Other scales were developed primarily to assess psychotherapy outcome in selected outpatient populations. In 1975, 15 social functioning scales of variable quality and coverage were available.¹¹ In 1981, 12 new scales were added to this list.¹²

Numerous clinical and epidemiologic studies during the 1980s and 1990s documented the enormous morbidity of depression.^{13–16} The Medical Outcomes Study¹⁶ of over 11,000 outpatients with different chronic medical conditions in 3 U.S. sites showed that the morbidity of major depression as assessed by the Short Form Health Survey (SF-36) was comparable to or greater than other chronic medical conditions (Figure 1). Patients with either current depressive disorder or symptoms tended to have worse physical, social, and role functioning; worse perceived current health compared with patients with no medical conditions; and comparable or worse medical conditions. Surprisingly, patients with depressive symptoms spent more days in bed than patients with hypertension, diabetes, or arthritis.

The World Health Organization-World Bank-Harvard University study showed the worldwide disability of various disease states.¹⁵ Of all causes, depression was associated with the highest disability adjusted life years (DALY): a measure of life lost, premature death, or years lived with a disability (e.g., 1 lost year of healthy life equals 1 DALY) (Table 1).

The American Psychiatric Association *Diagnostic and Statistical Manuals*—DSM-III (1980),¹⁷ III-R (1987), and

Table 1. Leading Causes of Disability, World, 1990^a

All Causes	Total (Millions)	% Total
All Causes	472.7	
Unipolar depression	50.8	10.7
Iron-deficiency anemia	22.0	4.7
Falls	22.0	4.6
Alcohol use	15.8	3.3
Chronic obstructive pulmonary disease	14.7	3.1
Bipolar disorder	14.1	3.0
Congenital anomalies	13.5	2.9
Osteoarthritis	13.3	2.8
Schizophrenia	12.1	2.6
Obsessive-compulsive disorder	10.2	2.2

^aReprinted from Murray and Lopez,¹⁵ with permission.

IV (1994)¹⁸—included separate assessments of functioning on Axis V. The Global Assessment of Functioning (GAF) scale, which rates overall functioning in a single measure, is employed in the most current version of DSM-IV. The World Health Organization has developed a separate classification system for impairments and disabilities and social consequences of diseases.^{19,20} However, interest in social functioning as an outcome measure in clinical trials waned after these initial efforts.

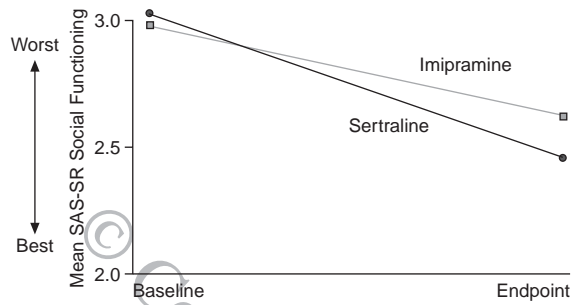
SOCIAL FUNCTIONING AND RECENT CLINICAL TRIALS

Recently, for economic and scientific reasons, the pendulum has begun to swing back.^{21–25} New antidepressants are usually more expensive than older agents, especially when compared with the tricyclic antidepressants. In the United States and elsewhere, the preoccupation with reduction of health care expenditures has required cost-effectiveness evidence to justify the use of new antidepressants. Third party payers want to know if these newer drugs improve compliance, result in fewer days lost at work, improve work performance, or provide other evidence for reduced economic and social burden. Clinical trials have begun to include social functioning outcomes, as will be described.

In a comparative study of sertraline and imipramine, Miller and colleagues²⁶ showed some modest differences favoring sertraline over imipramine in overall functioning using the Social Adjustment Scale-Self Report (SAS-SR) (Figure 2). In a different study using a quality of life score based on SF-36, fluoxetine was associated with better overall social functioning and general health perception compared with 2 tricyclic antidepressants, amitriptyline and clomipramine (Figure 3).²³

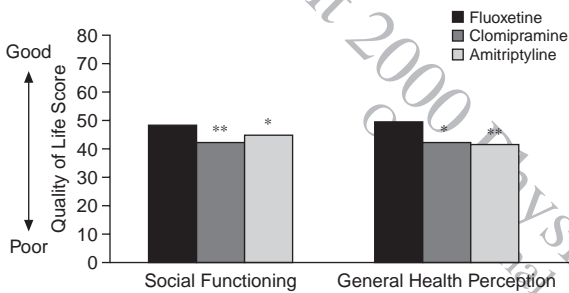
New assessments may be needed to scientifically capture a broader spectrum of outcomes for the new classes of antidepressants. Anecdotal reports have suggested that the newer antidepressants have targets of outcome that go beyond symptom reduction. Traditional depression scales assess mainly the core biological features of the illness—

Figure 2. Effects of Treatment on Social Functioning: Sertraline vs. Imipramine^a



^aData from Miller et al.²⁶

Figure 3. Quality of Life and Antidepressants^a



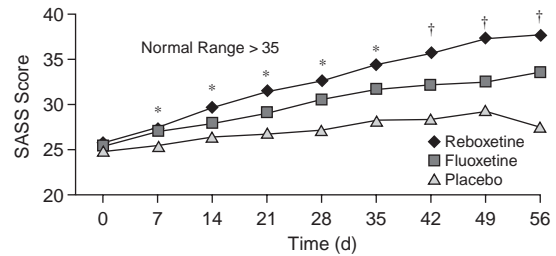
^aData from Souetre et al.²³
*p < .05. **p < .01.

mood, pessimism, and vegetative signs (i.e., appetite and sleep loss)—whereas the assessment of drive, motivation, performance, and quality of interpersonal relations—that is, the social context, once the symptoms are improved—may be lost in traditional symptom scales.

Social functioning measures have been used to detect possible different outcomes with antidepressants of different pharmacologic profiles. Dubini and colleagues,²⁷ using a new self-rating scale, the Social Adaptation Self-Evaluation Scale (SASS),²⁸ compared a new selective norepinephrine reuptake inhibitor (selective NRI), reboxetine, with a selective serotonin reuptake inhibitor (SSRI), fluoxetine, used for the treatment of major depression. The hypothesis was that the selective NRI would have a more positive effect on motivation and drive, decreasing negative self-perception, than the SSRI. As hypothesized, in the direct comparison of reboxetine with fluoxetine, a significant correlation between change in item score and treatment was evident for 9 items in favor of reboxetine (Figure 4). The association was maximal for 6 items, mainly related to negative self-perception and to active social behavior.

An examination of the individual items shows more of the effect as hypothesized (Table 2). For example, there were differences in social behavior, e.g., community

Figure 4. Reboxetine vs. Fluoxetine vs. Placebo in Major Depressive Disorder: Improvement in Social Functioning^a



^aFrom Dubini et al.²⁷ with permission.

*p < .05 versus placebo.

†p < .05 versus fluoxetine.

Table 2. Comparison of Reboxetine vs. Fluoxetine vs. Placebo With Respect to Social Functioning: Improvement in Social Adaptation Self-Evaluation Scale (SASS) Item Scores^a

Items that are significantly different ^b	
Social attractiveness	
External relationship appreciation	
Control of surroundings	
Interest in hobbies	
Rejection sensitivity	
Gregariousness	
Vainness	
Community involvement	
Social compliance	
Items that are not significantly different	
Work enjoyment	
Social inquisitiveness	
Family relationship quality	
Communication difficulties	
External relationship quality	
Intellectual interest	
Job interest	
Difficulties in coping with behavior	
Relationship-seeking behavior	
Home/work interest	
Family-seeking behavior	

^aData from Dubini et al.²⁷

^bReboxetine > fluoxetine.

involvement, social compliance, gregariousness, and others. In addition, there were differences in social self-perception, rejection sensitivity, and control of surroundings. Much needs to be learned about these measures, and further U.S. studies are needed to confirm these preliminary European findings.

COMPARISON OF SOCIAL FUNCTIONING SCALES

Many scales have been developed to assess the social functioning termed *quality of life*, *social adjustment*, *social adaptation*, and/or *disabilities*. A description of 3 easy-to-use self-report scales follows. Each of the scales has been used in clinical trials with depressed patients. They are the Social Adjustment Scale-Self Report (SAS-SR),²⁹ which assesses performance in roles (work,

Table 3. Comparisons of Social Functioning Scales^a

Variable	SAS-SR	SASS	SF-36
Items	54	21	41
Time frame	2 weeks	...	4 weeks
Work	✓	✓	✓
Family	✓	✓	✓
Marital	✓	✓	
Parental	✓	✓	
Economic	✓	✓	
Leisure	✓	✓	✓
Sexual	✓		
Symptoms			✓
Physical health			✓
Disability			✓

^aAbbreviation: SAS-SR = Social Adjustment Scale-Self Report, SASS = Social Adaptation Self-Evaluation Scale, SF-36 = Short Form Health Survey.

family, etc.); the SASS,²⁸ which assesses self-perception, motivation, and behavior; and the SF-36,³⁰ which assesses activities of daily living (symptoms, physical, social).

Social Adjustment Scale-Self Report (SAS-SR)

The SAS-SR is a 54-item self-report questionnaire that examines both instrumental and affective role performance and takes between 15 and 20 minutes to complete. Six major areas of functioning are examined: (1) work, as a student, within and outside the home; (2) social and leisure activities; (3) relationships with extended family; (4) marital roles including sexual functioning; (5) parental role; and (6) membership in the family unit.²⁹ Four categories are assessed within each area: (1) performance, (2) interpersonal behaviors, (3) friction, and (4) feelings and satisfactions. Each item is rated on a 5-point scale with higher scores representing greater impairment. The self-rating format was initially validated in comparison with the interview format in 76 depressed patients. Community norms are available. The scale has been shown to be sensitive to change in clinical trials and has been translated into 19 languages.

Social Adaptation Self-Evaluation Scale (SASS)

The SASS is a new scale that takes 5–10 minutes to complete. It consists of 21 items that examine behavior and subjective perceptions, including satisfaction, self-perception and motivation in participating in and maintaining relationships with family and friends, satisfaction in work, home and leisure activities, and intellectual interests. The scale has been validated in over 3000 subjects in the general population and in several clinical trials and has been shown to be sensitive to change.²⁸

Short Form Health Survey (SF-36)

The SF-36, a 36-item questionnaire with 3 additional questions on depressive symptoms, examines overall health and the effect of symptoms and physical and emotional problems in the activities of daily living. It was de-

Table 4. Social Adjustment Scale-Self Report (SAS-SR): Work^a

Please check the situation that best describes you:	
I am a	<input type="checkbox"/> worker for pay
	<input type="checkbox"/> homemaker
	<input type="checkbox"/> student
	<input type="checkbox"/> retired
	<input type="checkbox"/> unemployed
Do you usually work for pay more than 15 hours per week?	
Did you work any hours for pay in the last two weeks?	
How many days did you miss from work?	
How well have you been able to do your work?	
Have you been ashamed of how you do your work?	
Have you had any arguments with people at work?	
Have you felt upset, worried, or uncomfortable while doing your work?	
Have you found your work interesting?	

^aFrom Weissman et al.²⁹

veloped for use in medical settings. Thus, physical symptoms and disability are assessed. The scale must be self-administered, administered over the telephone, or completed during a personal interview. The SF-36 was developed in order to survey health status in the Medical Outcomes Study (MOS)³⁰ and includes one multi-item scale that assesses 8 health concepts: (1) physical functioning (10 items), (2) role limitations due to physical problems (4 items), (3) social functioning (2 items), (4) bodily pain (2 items), (5) general mental health (5 items), (6) role limitations due to emotional problems (3 items), (7) vitality (4 items), (8) and general health perceptions (5 items). It is widely used; translation scoring and norms are available, and it has also been shown to be sensitive to change.

As can be seen from the comparison of number of items, time frame, and areas covered (Table 3), there is variation among the scales. The SAS-SR and SASS cover a range of role areas, while the SF-36, developed in a medical setting, is the only scale of the 3 that also includes physical functioning and disability. The listings presented in Table 3 illustrate the range of options available.

Even within the same areas, the items covered vary. Tables 4 to 6 compare the 3 scales on work area assessment items. The SAS-SR (Table 4) allows the patient to report work roles and covers both instrumental performance (i.e., days lost) as well as affective performance (i.e., feelings of satisfaction). It allows for the assessment of how frequently the patient goes to work, the patient perception of work performance, and whether the patient derives pleasure from the work experience.

The SASS exclusively assesses interest and enjoyment (Table 5). It emphasizes measurement of interest and motivation. It does not, however, measure number of days lost from work, so it is a less effective tool for economic estimates.

The SF-36 (Table 6) links work performance and emotional problems. It can be a useful tool for some aspects of economic studies because it includes questions on quantity and actual performance.

Table 5. Social Adaptation Self-Evaluation Scale (SASS): Work^a

Do you have an occupation?
 How interested are you in your occupation?
 How interested are you in your home-related activities?
 Do you pursue this occupation/these activities with enjoyment?

^aFrom Bosc et al.²⁸

UTILITY OF SOCIAL FUNCTIONING ASSESSMENTS IN CLINICAL PRACTICE

All 3 scales vary in their item coverage and complexity, but provide additional measures of the global impact of depression and the efficacy of antidepressant treatment. To summarize, the SAS-SR covers instrumental and affective performance in role. The SASS covers self-perception, motivation, and behavior. The SF-36 covers activities of daily living, including symptoms, physical functioning, and social functioning.

The SASS may detect dimensions that include measures of sociability, curiosity, mastery, and drive, or as Kramer described, “better than well . . . more vitally alive.” It also has limitations that restrict its use as an exclusive social adjustment scale. Instrumental role performance (for example, days lost from work) is missing from the scale, and it lacks a more specifically differentiated assessment of family roles.^{29,31}

The SASS assessment of work functioning focuses on interest and enjoyment in job and daily activities. Information is not obtained on days lost from work or whether work is full or part time. There are no specific instructions as to how students, homemakers (not employed outside the home), or retired persons are to complete the job interest and work enjoyment questions.

The efficacy of new drugs on instrumental work performance is important to third-party payers, whether large insurance companies, businesses, or governments, who often seek justification for the use of more expensive new drugs in increased work productivity.³² One half of the economic costs of depression in the United States is estimated to derive from indirect costs caused by absenteeism and work impairment.^{14,22,24,33} Work functioning may take considerably longer than symptom remission to show an improvement.⁸

The SASS includes 2 general questions on seeking contact and state of relationships with family members as a group: “How frequently do you seek contact with your family members (spouse, children, parents, etc.)?” and “Is the state of relations in your family very good to unsatisfactory?” However, separate specific questions about marital and parental role functioning are not included. By contrast, the SAS-SR includes separate assessments of instrumental and affective functioning in the extended family, with the spouse or partner and children or stepchildren living at home.

Table 6. Short Form-36 (SF-36): Work^a

During the past 4 weeks, have you had any of the following problems with your work or other regular daily activities as a result of any emotional problems?
 Have you cut down the amount of time you spend on work or other activities?
 Have you accomplished less than you would like?
 Did you not do work or other activities as carefully as usual?

^aFrom Ware et al.³⁰

These relationships may be differentially important for depressed patients. Marital disputes are one of the important risks for depression, and ongoing marital discord is one of the predictors of poor outcome and relapse in recovered patients.^{34,35} Moreover, the population with highest risk for major depression is women of child-bearing age,³⁶ and the serious impact of parental depression has been well documented in a number of studies of the offspring of depressed parents.³⁷⁻³⁹ The absence of an assessment of parental role functioning may miss an important area of intervention and future prevention. Finally, there are limitations to studying disease burdens on the individual that ignore the effects on family. This is an especially important point, because health care costs involve the entire family.

The widely used SF-36 is an excellent overall assessment because of its reliability, validity, and available norms, although its lack of detailed information on functioning in marital and parental roles is a limitation for persons of child-rearing age. However, it is the only one of the scales that covers physical functioning and disability, which makes it particularly useful in a primary care medical setting. Moreover, it does include a vitality factor (energy/fatigue) and an assessment of the patient’s general health perception. The latter has been shown to predict clinical course of illness.³⁰

Each of these scales can have utility in clinical practice. Acute depression is associated with pervasive impairment in functioning that can persist long after symptomatic recovery. Patients may be “better” but not yet “functionally well.” Adequate treatment (i.e., medications and psychotherapy) can improve social functioning. Since these and other scales are both available and easy to use, monitoring of social functioning in addition to the usual signs and symptoms of depression should become part of routine clinical practice. By assessing social functioning during the maintenance or recovery phase, it may be possible to detect early signs of relapse before symptoms emerge in patients who are at high risk for relapse. Assessing social functioning in “recovered” patients may also be of value in detecting residual problems that may benefit from psychotherapy. Clearly, the assessment of social functioning can be important in determining the depressed patient’s outcome on treatment. More work needs to be done in direct comparisons of the scales as well as in the review of

the many others available that assess different components of social functioning.

Drug names: amitriptyline (Elavil and others), clomipramine (Anafranil and others), fluoxetine (Prozac), reboxetine (Vestra), sertraline (Zoloft).

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