The frequency of social dysfunction in a general population sample and in patients with mental disorders*

A comparison using the Social Interview Schedule (SIS)

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Summary.

The frequency of social dysfunctions in a general population sample and in different diagnostic groups was investigated by using the Social Interview Schedule (SIS). Based on the results of the general population sample, several of the a priori derived cut-off scores of the SIS were modified. The analysis of the general population sample revealed sex-specific relationships between age and different aspects of social functioning. Especially for younger women significantly more objective social restrictions, were found due to the burden of multiple role responsibilities. With regard to different diagnostic subgroups including patients and mostly untreated cases from the community sample with Affective Disorders and Anxiety Disorders, results indicate that the degree of social impairment and dysfunctions and the degree of satisfaction with different role areas are strongly dependent on type of disorder and on former treatment status. Specific findings are: (1) The highest number of social impairments and dysfunctions were found in cases and patients with affective syndromes and in schizophrenic patients, but not in schizoaffective patients. (2) Management difficulties and dissatisfaction in intimate relationships were primarily found in depressed women. (3) Unlike anxiety patients, anxiety cases, although mostly chronically ill, had significantly less objective impairments and a lower rate of dissatisfaction than depressed cases. The results are discussed with special reference to the possible key role of depression for the development of social dysfunctions, as measured by the SIS. (4) Problems were, however, acknowledged concerning the use of the SIS with severely disturbed chronic schizophrenic patients.

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In many recent studies considerable attention has been focused on the structure and extent of social impairments and dysfunctions associated with mental disorders. The development of several comprehensive instruments for the evaluation of social impairments and dysfunctions (e.g. Barrabee et al. 1955; Clare and Cairns 1978; Faltermaier et al. 1985; Gurland et al. 1974; Henderson et al. 1980; Remington and Tyrer 1979; Weissmann and Bothwell 1976; Weissman and Paykel 1974) has permitted substantial progress towards a more reliable assessment of the social concomitants of mental disorders (for reviews see Kane et al. 1984; Katschnig 1983; Weissman 1975; Weissman et al. 1981). The use of these instruments, however, is seriously restricted by our lack of knowledge about the actual frequency of social impairments in different biosocial groups of the general population. Among other reasons, such estimates are important as a basis for judging the specificity of psychosocial

dysfunctions for mental disorders. In the absence of this kind of empirical data, most existing instruments for the assessment of social functioning can only suggest criteria for impaired social role functioning that have been derived either by common sense or a priori by a consensus of experts, but not on statistical grounds.

One traditional approach to this problem is the quasi-standardization of an instrument in a general population sample. This allows both the determination of "impaired functioning" on a much broader and representative basis, and stratification by variables such as age, sex, and marital status.

A second problem in this line of research is that very few studies have used the same instrument under strictly the same experimental conditions in different groups of treated and untreated cases in the general population or patients with different disorders. Thus little is known about the specificity of social dysfunctions in different diagnostic groups. We recently reported on the structure and reliability of a modified version of the Social Interview Schedule (SIS) (Faltermajer et al. 1985), originally introduced by Clare and Cairns (1978). In this paper we provide additional information about the results obtained with this schedule in a general population sample, and in different psychiatric patient groups.

The main questions with which this paper deals are: 1. What is the frequency of impaired social functioning, measured in terms of objective social conditions, social management, and social satisfaction, in different biosocial groups of an adult general population sample? 2. To what degree can community cases with a current DSM-III Affective or Anxiety Disorder be differentiated from subjects without a mental disorder with regard to objective social conditions, social management, and social role satisfaction? 3. To what degree can psychiatric patients with different mental disorders be differentiated from normal controls and from one another with regard to these three social dimensions?

Methods

The analysis is based on (a) a general population sample (age range 25-65) and (b) a cohort of former psychiatric inpatients (same age range as general population subjects). Both samples are part of the 7-year Munich Follow-up Study (MFS) whose particulars have already been presented in detail in two earlier publications (Wittchen et al. 1985; Wittchen and von Zerssen 1987).

Subjects from the general population

Three subject groups from the general population sample were chosen for the present study:

- a simple random sample (n=419); 26 persons had some missing data in the SIS and thus had to be excluded, leaving 393;
- 24 subjects with a current (defined as present in the past six months) DSM-III diagnosis of an Anxiety Disorder (phobia or panic disorder); and
- 35 subjects with a current (6-month) DSM-III diagnosis of an Affective Disorder (Major Depression, Dysthymia).

Diagnoses were based on the Diagnostic Interview Schedule (DIS, version II). Seventy subjects either with a lifetime but no current DSM-III diagnosis or with DSM-III diagnosis other than anxiety and affective disorders were excluded from these analyses. Table 1 gives some social and sociodemographic characteristics of the three groups. The groups of cases with anxiety or depressive disorders are characterized by a higher percentage of women. Moreover, a high percentage of widowed and divorced subjects was found among cases with a depressive disorder.

Patient groups

The patients were selected from the follow-up sample of former psychiatric inpatients ($n = 218$) of the Munich Follow-up Study (MFS). All inpatients (with a probable or definite ICD-8 diagnosis of an endogenous psychosis or an affective neurosis, an inpatient-treatment duration of more than 10 days, at least average intelligence - $IQ > 80$ - and a complete data set) admitted to the MPI-P during 1973-1975/76 were chosen for the study. 218 out of 291 could be interviewed 6-8 years later, 18 persons had committed suicide, 45 refused and 10 could not be located. For this analysis, we decided to use DSM-III as a main diagnostic criterion for the classification of both patients and subjects in the general population. Our reasons were that (1) the Diagnostic Interview Schedule (DIS; Robins et al. 1981), as a fully standardized diagnostic instrument, works in a more uniform way than the clinical diagnostic examination by psychiatrists based on the ICD; and (2) the DIS could be applied in the same way in both the general population and the patient samples, and would permit us to determine how recent the diagnosis had been. Thus, the same 6-month time-frame for current diagnoses could be applied in both samples. Based on the DIS diagnostic computer program, three groups were defined:

- 63 patients with a DSM-III Schizophrenic or Schizophreniform Disorder;
- 51 patients with a current (6-month) DSM-III diagnosis of Major Depression or Dysthymia; and
- 30 patients with a current (6-month) DSM-III diagnosis of an Anxiety Disorder.

The remaining patients who did not meet the criteria for one of these current diagnoses were excluded ($n = 74$).

Furthermore, seven schizophrenic patients hospitalized at the time of the follow-up interview were also excluded because the SIS requires at least outpatient status at the time of assessment. This exclusion has to be taken into account when interpreting the results presented later in this paper. The sociodemographic distribution in Table 2 shows only minor differences between the patient groups. Compared with the other patient groups, schizophrenic and schizophreniform patients were younger and more often unmarried. Further, a slightly higher percentage of patients who were unable to work or had to retire prematurely was found in the schizophrenic group. However, there are major differences when the patient groups are compared with the general population sample and case groups, i.e. a lower percentage of women among former inpatients than among cases, and a higher rate of unmarried former inpatients.

Instruments and procedures

DSM-III diagnoses were assessed by using the Diagnostic Interview Schedule (DIS/Version II) (Robins et al. 1981; German edition, Wittchen and Rupp 1981) and its diagnostic program. 6-month criteria were used for all groups. Interviews were conducted by eight psychiatrists and nine clinical psychologists, all of whom were trained extensively in the use of the study instruments. The test-retest and interrater reliability of the Social Interview Schedule (SIS) and the DIS can be regarded as high (Faltermaier et al. 1985; Semler and Wittchen 1983; Wittchen 1983 a). Because the DSM-III schizophrenic/schizophreniform group included a high number of patients judged by the clinician to have Schizoaffective Psychosis according to the ICD-8 ($n = 35$) - a disorder not positively operationalized in DSM-III - this group will be dealt with separately in some analyses. Social functioning was assessed with the SIS as described in our earlier publications (Faltermaier et al. 1985; Hecht et al. 1987). Ratings were made by the interviewer for all SIS areas of objective social conditions (O) and social management (M). Satisfaction (S) with social roles was assessed by means of subject self-rating. The SIS is a cross-sectional instrument; it assesses the level of social functioning in 13

different social role areas during the 4-week period preceding its administration. To obtain a better differentiation in the O-dimension, additional impairment scores were introduced for disabled subjects, which also allowed a weighted scoring for those subjects too impaired to take over a work role (see appendix). For the areas of "having no partner" and "living alone", a simple additional rating was given, indicating the "non-participation" of a subject in these social role areas. For the overall analysis, the SIS mean summary scores for objective social conditions, social management, and satisfaction were used in addition to the separate social role area scores. The SIS ratings for each category are based on a 4-point rating, for which a rather skewed score distribution would be expected in the general population. As can be seen in Table 3, for most subjects in the general population SIS scores of either 1 or 2 can be found in each of the role areas considered, indicating no or only minor impairment. In order to determine a threshold (cut-off-score) to define "impairment", we decided to define all subjects who had SIS scores higher than 75% of the general population sample for a given social role area as "highscorers", indicating social role impairments. Table 3 summarizes the rating score thresholds. We are aware that the "threshold" definition derived from Table 3 constitutes in some SIS areas a slight modification of a calculation recommended in our earlier paper (Faltermäier et al. 1985), where all SIS scores higher than 2, indicating at least marked difficulties, were recommended as indicators for impaired functioning.

Results

Social functioning in the general population

In Table 4, the SIS mean score (percentile) distribution for objective conditions, social management and satisfaction across all SIS social role areas is summarized separately for men and women of two age groups. The overall general population sample includes 14.6% of subjects with a 6-month DSM-III disorder (Wittchen and von Zerssen 1987); the last column shows the score distribution for the general population sample, after excluding all subjects with a lifetime DSM-III diagnosis ($n = 293$). In accordance with our earlier recommendations for scale point interpretation (Faltermäier et al. 1985), the score distribution indicates that the average score across the different SIS areas in all three dimensions is lower than 2 for almost 90% of the general population sample. Figure 1 shows the mean score distribution of the same groups demonstrated by boxplots (Emerson and Strenio 1983). The boxplot shows the location, spread, tail length and outlying data points. The location is summarized by the median, the length of the box indicates the spread, using the fourth spread. Tail length is indicated by the lines and by the outliers. Men over 44 have fewer management problems than all other comparison groups ($p < 0.05$ in all comparisons), whereas women between 25 and 44 are confronted with more objective social restrictions and difficulties compared with men of the same age group ($p < 0.05$). An analysis of single SIS scores for each social role area allows a more differentiated exploration of the reasons for these differences: Although 53% of them have been employed for at least 20 hours per week, women between 25 and 44 are significantly more often confronted with more severe objective difficulties in their everyday household conditions: They often have the responsibility of caring for one or two members of the extended family who are living in the household (such as parents or children over 18), as well as the main responsibility of bringing up young children (see Fig. 2). The significantly lower SIS summary score in the management dimension for men between 44 and 65, as illustrated in Fig. 1, could be attributed mainly to fewer problems in the role areas of "care for children", "living alone", "domestic situation" and "interaction with parents and relatives". In comparison, a rather high percentage of women over 44 - surprisingly independent of their mental status - reported severe management problems with the situation of living alone.

Differentiation of subjects from the general population with and without a DSM-III mental disorder

In order to evaluate social dysfunction of community subjects with a current diagnosis of an Anxiety Disorder or an Affective Disorder, we compared each case group with subjects who had no DSM-III lifetime diagnosis. Figure 3 shows the score distribution of all three comparison groups in each dimension. Subjects with a current Affective Disorder are significantly more handicapped in all dimensions when compared with those of the comparison groups. Anxiety disorders show only indications of impairment in the SIS dimension for management ($p < 0.05$). The comparison of both case groups reveals significant differences for objective conditions and satisfaction. Table 5 summarizes in detail the percentage of subjects in each of the three groups with severely impaired functioning. In order to control for sex and age differences, we compared the patients with matched control subjects without a DSM-III mental disorder from the community group, thus allowing a judgement about the specificity of the impairments. These results (Table 5) indicate that there are no specific objective restrictions for subjects with affective disorders. The significantly higher total Oscores (Fig. 3) are due to a higher - although not significant - percentage of burdened persons in nearly all social role areas when compared with a matched with management problems and difficulties results mainly from extremely higher scores for the role area of "interaction with relatives". Furthermore, in all other social role areas, the percentage of subjects with at least moderate social difficulties is also higher than in the control group. With regard to "dissatisfaction" the highest scores were found in the role areas of "housework", "leisure activities", "partnership" and "sexual compatibility". No clear indication of specific social dysfunctions was found for cases with a current anxiety disorder.

Differentiation of groups of psychiatric patients

Regarding all SIS dimensions, significantly higher scores (Fig. 4), indicating severe impairments, resulted for the three groups of former psychiatric patients compared with those of the general population sample. The highest impairment scores were found for patients with a current Depressive Disorder and not for patients with Schizophrenia or Schizophreniform Disorder ($p < 0.01$ for M- and S-scores). For the interpretation of these results, it should be recalled that the group of former inpatients with a DSM-III Schizophrenia or Schizophreniform Disorder included a relatively high number of patients with a diagnosis of Schizoaffective Disorder, as diagnosed by the interviewing clinicians using the ICD-8. For these patients, only episodic deteriorations are expected. As can be seen in Fig. 5, the differentiation between schizophrenic and schizoaffective patients (according to the clinicians ICD-8 diagnosis) changes considerably the SIS summary scores. Generally, schizoaffective patients have a significantly higher degree of social functioning than schizophrenic patients. In contrast to the case groups, very specific impairments can be seen for all patient groups. In all three groups, significantly more patients show a markedly deficient social support system (having no partner or living alone). Patients with affective disorders are more often unemployed than their controls. Schizophrenic patients reported significantly more management difficulties with their income and difficulties in spending their leisure time adequately. Furthermore, they have problems significantly more often than their matched controls in interaction with their partners, relatives and children. They are more often dissatisfied in the role areas of "housework", "leisure activities", "social contacts", "sexual compatibility" and "interaction with partners and relatives" (who often live far away). Patients with affective disorders show management problems mainly in the role areas of "work", "interaction with work colleagues", "housework", "living alone" and "interaction with

relatives and adults living in their household". Marital problems of patients with affective disorders, however, were only pronounced in female patients. Whereas all men were satisfied with their relationships and no man reported difficulties with his spouse, a substantial proportion of women (33% and 43%) did so, and more than 50% were dissatisfied with their marriages. Discontent is rather generalized in patients with affective and anxiety disorders. With regard to management difficulties, patients with anxiety disorders are less impaired than schizophrenic and depressive patients.

Discussion

1. Although the statistical analysis of the SIS score distribution in the general population generally confirmed our earlier "a priori" suggestions for coding SIS variables, (Faltermaier et al. 1985), a number of important issues must be taken into consideration: (a) The "non-participation" in social role areas of work (due to disability) and partnership, as defined by the "objective condition" dimension in the SIS, is extremely infrequent in the general population. However, objective restrictions in work settings and opportunities for leisure activities are relatively frequent in the community, suggesting the need for a higher threshold in these SIS areas. (b) Another major area where modification of threshold definition was indicated is the SIS dimension "satisfaction"; social conditions such as "living alone", "having no partner", "being disabled or unemployed" are clearly associated with severe subjective dissatisfaction irrespective of any current mental disorder. These results point to the fact that establishing a partnership and family seems to play a key role in well-being. Furthermore, a successful integration into the work-setting seems to be another important role area in this respect, especially for men. Both results underline the frequently discussed key role of these social conditions as potential risk factors (Aneshensel 1981; Brown and Harris 1978; Lang and Müller-Andritzky 1984; Tennant et al. 1982; Warr and Parry 1982).
2. Based on these empirically derived modifications of our thresholds, we found a sex-specific relationship between age and social functioning in the community sample. Like Hurry et al. (1983) we found a tendency for better social functioning in men than in women, which is mainly due to the significantly better social management of men older than 45. The higher scores for social dysfunction in women are associated with a significantly greater number of objective restrictions. A substantial proportion of young women are employed, but additionally they are significantly more objectively restricted by housework, a burdensome domestic situation and the rearing of children than their male counterparts. This "traditional" social role pattern is also described by Glatzer and Herget (1984) in their study of the quality of life in Western Germany (see also Atkinson and Huston 1984; Kotkin 1983; Weiss 1985). Maybe the strain of these multiple role obligations, or the lower social prestige of housewives, together with the greater sensitivity to family and personal stresses, are mainly responsible for the higher rates of mental morbidity in married women (Gove 1972; Weissman and Klerman 1977; von Zerssen and Weyerer 1982). With regard to methodology, these results also indicate the need to control for age and sex when studying social impairments in heterogeneous groups.
3. With regard to diagnostic groups, the degree of social impairment, dysfunction and discontent is related to the type of disorder and to treatment status. Cases in the general population with anxiety disorders are less impaired than cases with affective disorders and all patient groups, in terms of degree and type of social impairments. Although the overall score for the dimension of social management is significantly higher than in the comparison group, there is no specific social role area with marked or severe problems. This refers mainly to cases with mild symptoms, in the course of Simple Phobia and Agoraphobia without Panic Attacks. The number of subjects with an Anxiety Disorder was not large enough for further

diagnostic subdivision. For cases in the general population with affective disorders, however, objective impairments, pronounced management difficulties, and dissatisfaction were found. As with the group of patients, severe and significant impairments can be cited for the social management dimension, especially for management of work conditions, interaction with relatives, and the situation of living alone. Furthermore, a higher percentage of cases were characterized by "non-participation" in the social role area of partnership. Unlike Blumenthal and Dielmann (1975), we could not find specific management difficulties in the social role area of household and children. This might be explained by the specific selection criteria for that study, which included only married subjects.

4. The highest number of social impairments in all dimensions was found for patient groups with a current DSM-III Affective, Schizophrenic, or Anxiety Disorder. This raises a number of issues:

(a) Generally, most depressed patients are characterized by impairments in almost all social role areas. Dissatisfaction tends to be more marked than objective management difficulties. Although this general result is consistent with the findings of Weissman and Paykel (1974) and Weissman et al. (1978), we found a greater proportion of subjects without a partnership at all (38%), and without children (67%). Furthermore, management difficulties and dissatisfaction with regard to intimate relationships in marriage were evident only for female patients, not for male patients. Thus, the overall group comparison with regard to marked dysfunctions in partnership was not significant. At first sight, this seems to be a rather surprising result that could only partly be explained by the fact that 53% of the sample was either single or divorced at the time of the examination with the SIS. A second explanation can be derived from a more detailed analysis of the literature on this topic. Whereas marital problems - prior to illness onset (Brown and Harris 1978; Campbell et al. 1983; Costello 1982; Solomon and Bromet 1982), during the acute phase (Weissman and Paykel 1974), and after recovery (Bothwell and Weissman 1977; Weissman and Paykel 1974) - are often described for depressed women, few studies examined depressed men or compared depressed men and women regarding their quality of marriage. Furthermore, the results with regard to depressed men are inconsistent, probably due to marked methodological differences (e.g. diagnostically heterogeneous vs homogeneous groups) and to the (often) small sample sizes of male patients: Roy (1978, 1981) and Weissman et al. (1978) found no differences regarding marital maladjustment between the sexes in acutely depressed patients, whereas Coleman and Miller (1975) reported a higher correlation between depression and marital maladjustment for men than for women, and Crowther (1985) found a higher association for women. Matussek et al. (1986) and Hinchliffe et al. (1978) described the interaction style of male patients and their spouses as less hostile than the communication between female depressives and their partners. Whereas the affect-laden interaction style reverted to a "normal" pattern upon recovery in the male patients' marriages, the maladaptive communication of female patients was maintained (Hinchliffe et al. 1978). Since it has been found that a male preponderance (e.g. in alcoholism) is more pronounced in single subjects and a female preponderance in married subjects (Weissman and Klerman 1977; von Zerssen and Weyerer 1982), some authors conclude that being married has a protective effect for males but a detrimental effect for females (Gove 1972; Radloff 1975).

(b) Whereas the social dysfunctions of (female) depressed patients have been well documented in earlier studies, we are not aware of studies concerning the frequency and the quality of social impairments in anxiety disorders. Our results concerning former inpatients with an Anxiety Disorder - and this also applies to depressed patients - show that a high percentage are impaired in terms of non-participation in social roles: that is, almost half of the patients lived alone, and many of them did not have a partner. Management difficulties were found particularly in close human relationships, whereas discontent was rather generalized.

(c) Comparing social dysfunctions of the former inpatient group with those of anxiety cases, no such impairments and dysfunctions could be ascertained among the latter. There are two possible explanations for this finding: (1) It may be that only chronic severe anxiety symptoms (for example with marked avoidance behavior) are associated with the development of marked social impairments, especially in terms of non-participation in social roles and discontent with social life. (2) It is also possible that only patients with an Anxiety Disorder and a concurrent, or subsequently developing affective syndrome do develop social dysfunctions (Wittchen 1983b; Hecht and Wittchen 1985). This latter assumption is substantiated by the fact that almost two thirds of our former patients with an Anxiety Disorder also had at least a lifetime diagnosis of Major Depression (Bronisch et al. 1985; Krieg et al. 1987).

Furthermore, as discussed by Dohrenwend et al. (1983), this finding might reflect the tendency to select for psychiatric treatment primarily those persons with more severe symptoms and, hence, somewhat higher levels of social dysfunction. These explanations are, of course, not exclusive. They require more detailed analyses.

(d) At first sight it might be surprising that former inpatients with a DSM-III diagnosis of Schizophrenia or Schizophreniform Disorders do not differ more clearly from the non-psychotic groups with regard to the rates of subjects with non-participation in social roles and the proportion of patients showing severe management difficulties and dissatisfaction. However, by subdividing this group into patients with a Schizoaffective or Schizophrenic Disorder according to the ICD, it became clear that this "favorable social outcome" result is due primarily to the good social integration of former patients with Schizoaffective Disorder, whereas "pure" DSM III schizophrenics show, as expected, a rather unfavorable social outcome. It also has to be taken into account that due to the pure cross-sectional investigation, only indications of present social functioning were assessed. Many schizophrenics, however, although functioning well in their current job settings, were working in work settings far below their original professional qualifications. In addition, it must be remembered that the SIS only allows judgments about subjects living in the community and not about those living in inpatient settings or "sheltered environments". Thus, our results for former schizophrenic inpatients might be somewhat biased in a positive direction. Our findings suggest the existence of disorder-specific social impairments and dysfunctions, with affective syndromes apparently playing a key role in their development.

Table 1. Sociodemographic characteristics of the General Population Sample and cases with a 6-month DIS/DSM-III-diagnosis of an Anxiety Disorder or Depression

		General population sample (n = 393)		Cases with anxiety disorders (n = 24)		Cases with depressive disorders (n = 35)	
		n	%	n	%	n	%
Sex	male	196	50	9	38	10	29
	female	197	50	15	63	25	71
Age	mean (years)	44.2		44.5		43.8	
	SD	9.5		9.4		9.3	
Legal Status	Single	26	7	1	4	3	9
	Married	322	82	21	88	2	66
	Widowed	15	4	1	4	5	14
	Divorced/Separated	30	8	1	4	4	11
Professional Status	Full time occupation	21	53	9	38	13	37
	Housewife	144	37	12	50	19	54
	in Education	6	2	-	-	1	3
	on Pension	23	6	1	4	2	6
	Sick Leave	3	1	2	8	-	-
	Others (no job)	8	2	-	-	-	-
Social Class (Hollingshead and Redlich)	V	17	4	1	4	0	-
	IV	62	16	3	12	5	14
	III	177	45	9	38	14	40
	II	125	32	11	46	15	43
	I	10	3	0	-	1	10

Table 2. Sociodemographic characteristics of the patient samples (n = 144) with current DIS/DSM III diagnoses

		Schizophrenic/ Schizophreniform Disorders n = 63		Affective Disorders/ Dysthymia n = 51		Anxiety Disorders n = 30		Patients Total n = 144	
		n	%	n	%	n	%	n	%
Sex	male	27	43	26	51	14	47	67	47
	female	36	57	25	49	16	53	77	54
Age	mean (years)	37.7		40.4		40.6		39.2	
	SD	7.5		8.5		8.6		8.1	
Legal Status	Single	30	48	21	41	13	43	64	44
	Married	20	32	24	47	11	37	55	38
	Widowed	1	2	-	-	-	-	1	1
	Divorced/Separated	12	19	6	12	6	20	24	17
Professional Status	Full-time occupation	27	43	27	53	13	43	67	47
	Housewife	11	18	10	20	7	23	28	19
	in Education	5	8	2	4	2	7	9	6
	on Pension	8	13	4	8	4	13	16	11
	Sick Leave	2	3	2	4	-	-	4	3
	Others (no Job)	10	16	6	12	4	13	20	14
Social Class (Hollingshead and Redlich)	V	10	16	9	18	2	7	21	15
	IV	13	21	9	18	7	23	29	20
	III	28	44	24	47	15	50	67	47
	II	10	16	7	14	6	20	2	16
	I	2	3	2	4	-	-	4	3

Table 3. Social Interview Schedule (SIS): Threshold and mean scores for each social role area in the General Population Sample ($n = 393$)

Objective Material Conditions (O)	threshold	mean	SD	Social Management (M)	threshold	mean	SD	Satisfaction (S)	threshold	mean	SD
Housing conditions	3.0	1.52	0.67	^c				with housing	3.0	1.66	0.59
Work/Study conditions ^a	4.0	1.97	0.99	Management of work/study ^a	2.0	1.28	0.53	with work/study	3.0	1.93	0.60
Opportunities for interaction with work colleagues	3.0	1.64	0.88	Quality of personal interaction with work colleagues	3.0	1.59	0.72	with personal interaction with work colleagues	3.0	1.80	0.48
Housework conditions ^a	3.0	1.74	0.85	Management of housework	3.0	1.36	0.55	with housework situation	3.0	1.91	0.48
^c				^c				with being retired	3.0	1.96	0.62
Being disabled ^b	3.0			^c				with being disabled	4.0	2.46	0.65
Being unemployed ^b	2.0			^c				with being unemployed	4.0	2.83	0.75
Household income	2.0	1.37	0.74	Management of income	2.0	1.06	0.28	with income	3.0	1.98	0.63
Opportunities for leisure activities	3.5	1.88	0.84	Extent of leisure activities	3.0	1.62	0.80	with leisure activities	3.0	2.00	0.65
				Extent of social activities	3.0	1.66	0.77	with social activities	3.0	1.85	0.59
Opportunities for interaction with relatives	3.0	1.76	0.85	Quality of interaction with relatives	3.0	1.60	0.86	with interaction with relatives	3.0	1.86	0.71
Opportunities for domestic interaction (with other adult household members)	3.0	1.73	0.84	Quality of domestic interaction (with other adult household members)	3.0	1.52	0.78	with domestic interaction (with other adult household members)	3.0	1.83	0.58
Living alone ^b	2.0			Management of living alone	3.0	1.83	0.91	with living alone	4.0	2.12	0.77
Marital/partnership				Partnership: Sharing of interests/activities	3.0	1.45	0.69	with marital relationship/partnership	3.0	1.65	0.57
^c				Partnership: Sharing of responsibilities and decision-making	3.0	1.42	0.65	with sexual compatibility	3.0	1.90	0.60
Having no partner ^b	2.0			^c				with having no partner ^a	4.0	2.40	0.82
Situational handicaps to child management	3.0	1.75	0.89	Child management	3.0	1.52	0.71	with parental role	3.0	1.78	0.59

^a New items in the German SIS version

^b additional impairment score (O-dimension), see appendix

^c no rating scale available in the SIS

Table 4. SIS summary score percentile score distribution across sex and different age groups for the General Population with and without Cases with a mental disorder^a

Percentile	Male ≤ 44			Male > 44			Female ≤ 44			Female > 44			Overall General Population ($n = 393$)			General Pop. excluding "cases" ^a ($n = 293$)		
	$(n = 108)$			$(n = 88)$			$(n = 107)$			$(n = 90)$								
	O	M	S	O	M	S	O	M	S	O	M	S	O	M	S	O	M	S
10%	1.17	1.11	1.50	1.10	1.00	1.50	1.20	1.10	1.44	1.09	1.00	1.56	1.13	1.10	1.50	1.11	1.09	1.44
20%	1.18	1.22	1.64	1.20	1.11	1.63	1.25	1.20	1.60	1.17	1.14	1.63	1.22	1.14	1.63	1.20	1.13	1.60
30%	1.27	1.25	1.71	1.29	1.13	1.70	1.33	1.30	1.67	1.33	1.25	1.73	1.30	1.22	1.70	1.27	1.22	1.70
40%	1.36	1.33	1.80	1.36	1.22	1.80	1.42	1.38	1.78	1.38	1.29	1.78	1.36	1.30	1.78	1.36	1.29	1.78
50%	1.44	1.44	1.90	1.42	1.29	1.82	1.46	1.45	1.89	1.44	1.38	1.88	1.44	1.38	1.88	1.42	1.33	1.82
60%	1.45	1.56	1.99	1.50	1.33	1.90	1.56	1.56	1.99	1.63	1.50	1.90	1.50	1.50	1.91	1.46	1.44	1.90
70%	1.55	1.60	2.00	1.60	1.50	1.99	1.67	1.67	2.00	1.71	1.63	1.99	1.64	1.60	2.00	1.58	1.55	1.99
80%	1.64	1.78	2.10	1.73	1.63	2.00	1.83	1.80	2.11	1.83	1.71	2.00	1.77	1.73	2.10	1.73	1.67	2.00
90%	1.82	1.89	2.22	2.00	1.78	2.18	2.00	2.00	2.27	2.00	1.88	2.18	2.00	1.89	2.20	1.89	1.78	2.17
100%	2.17	2.75	2.60	2.50	2.63	3.29	2.33	2.75	2.89	2.63	2.67	2.70	2.63	2.75	3.29	2.63	2.67	3.29

^a All subjects with either a DIS/DSM-III life-time, a cross-sectional DIS/DSM-III disorder or a ICD 8 diagnosis by a clinician in the clinical reexamination were excluded ($n = 100$)

Table 5. SIS social role areas: Percentage of cases with a current 6-month diagnosis of affective/anxiety disorders with rating scores equal to or above the threshold

Social role areas	n1/n2	Objective conditions			Social management			Satisfaction		
		Non-cases %	Affective Dis. %	Anxiety Dis. %	Non-cases %	Affective Dis. %	Anxiety Dis. %	Non-cases %	Affective Dis. %	Anxiety Dis. %
Housing	33/24	10	23	4	^d	^d	^d	5	14	0
Work/study	19/14	5	21	14	19	<u>44</u>	43	7	<u>26</u>	14
Interaction with work colleagues	19/14	12	16	14	7	11	31	4	6	0
Housework	31/17	19	29	18	2	7	6	7	<u>16</u>	24
Being retired	3/1	^d	^d	^d	^d	^d	^d	11	67	0
Being disabled ^a	6/2	7	18	9	^d	^d	^d	0	17	0
Being unemployed ^a	0/0	2	0	0	^d	^d	^d	25	0	0
Income	35/21	23	34	29	3	<u>11</u>	13	11	<u>29</u>	17
Leisure activities	35/24	2	6	4	14	26	8	14	40 ^b	22
Social contacts	35/23	^d	^d	^d	12	14	13	10	<u>20</u>	13
Interaction with relatives	35/24	22	20	17	13	44 ^b	8	9	<u>21</u>	0
Domestic interaction	7/3	16	14	33	10	29	33	8	29	33
Living alone ^a	7/0	9	20	0	12	<u>71</u>	0	4	0	0
Partnership: interests/activities	25/22	^d	^d	^d	5	24	10	2	24 ^c	5
Partnership: decision-making	17/14	^d	^d	^d	4	28	9			
Sexual compatibility	23/20	^d	^d	^d	^d	^d	^d	7	35 ^u	15
Having no partner ^a	35/24	10	29	8	^d	^d	^d	10	11	50
Children	17/14	19	<u>53</u>	14	10	24	21	6	18	21

n1 indicates number of subjects with Affective Disorder in the respective social role area

n2 indicates number of subjects with Anxiety Disorder in the respective social role area

^a additional scoring (0-dimension), see appendix

Levels of significance:

^b $p \leq 0.01$

^c $p \leq 0.05$ compared with matched controls (one-tailed)

^d $p \leq 0.10$

Table 6. SIS social role areas: percentage of former psychiatric inpatients with rating scores equal to or above the threshold

Social role areas	n1/n2/n3	Objective conditions				Social management				Satisfaction			
		General Popul. %	Schizo-phr. Dis. %	Affect. Dis. %	Anxiety Dis. %	General Popul. %	Schizo-phr. Dis. %	Affect. Dis. %	Anxiety Dis. %	General Popul. %	Schizo-phr. Dis. %	Affect. Dis. %	Anxiety Dis. %
Social role areas	Housing	10	8	16	10	d	d	d	d	5	3	20 ^c	13
	Work/study	7	16	3	0	24	32	60 ^b	40	10	21	31 ^b	10
	Interaction with work colleagues	14	8	14	15	14	21	41 ^b	5	9	13	36 ^b	10
	Housework	21	9	6	12	3	7	27 ^b	4	7	15 ^c	39 ^b	32 ^b
	Being retired	d	d	d	d	d	d	d	d	17	38	50	50
	Being disabled ^a	7	6	4	13	d	d	d	d	4	33	0	25
	Being unemployed ^a	2	14	13 ^c	14	d	d	d	d	17	17	20	0
	Income	25	32	24	20	5	18 ^b	16 ^c	7	14	26	31	17
	Leisure activities	3	2	4	3	15	32 ^b	26	13	18	30 ^b	51 ^b	40 ^c
	Social contacts	d	d	d	d	12	16	26	33	10	27 ^b	49 ^b	50 ^c
	Interaction with relatives	22	45 ^b	49 ^b	40	16	31 ^b	35 ^c	41 ^c	12	27 ^c	35 ^c	38 ^c
	Domestic interaction	19	6	25	40	12	29	44 ^b	20	11	24	38	60 ^c
	Living alone ^a	9	36 ^b	28 ^c	48 ^b	22	32	71 ^c	57	9	5	29	14
	Partnership: interests/activities	d	d	d	d	8	31 ^c	17	35 ^c				38 ^b
	Partnership: decision making	d	d	d	d	8	21	21	9	4	17 ^c	26 ^b	
	Sexual compatibility	d	d	d	d	d	d	d	d	13	40 ^b	42 ^b	25
Having no partner ^a	11	52 ^b	38 ^b	40 ^b	d	d	d	d	12	28	32	25	
Children	21	24	24	44	12	29 ^c	29 ^c	11	7	24	29	0	

n1 indicating number of subjects with Schizophrenic Disorder taking over the specific social roles

n2 indicating number of subjects with Affective Disorder taking over the specific social roles

n3 indicating number of subjects with Anxiety Disorder taking over the specific social roles

^a modified scoring (0-dimension), see appendix

Level of significance:

^b $p \leq 0.01$; ^c $p \leq 0.05$; ^d $p \leq 0.10$ compared with matched controls; U-test (one tailed)

Fig. 1. Distribution of SIS-summary scores across sex and different age groups in the general population sample

Fig. 2. SIS social role areas: sex- and age-related differences (percentages of subjects with scores equal to or above the threshold)

Fig.3. Distribution of SIS-summary scores in subjects with and without mental disorders (cases/non-cases)

Fig.4. Distribution of SIS-summary scores in different groups of former inpatients

Fig.5. Distribution of SIS-summary scores in schizoaffective and schizophrenic former inpatients diagnosed according to ICD-8

Additional rating scores

Being disabled (0):

Disablement is defined as a marked or severe objective restriction:

3 = despite disablement employed, in training or ("full-time") housewife

4 = prematurely retired due to disablement (housewives: main responsibilities for the household must be delegated to other members of the family due to disablement)

Being unemployed (0):

1 = no restrictions (in training, employment > 20 hours per week, full-time housewife)

2 = restrictions (job seeking for three month or longer)

Living alone (0):

1 = not living alone

2 = living alone

Having no partner (0):

1 = having a partner

2 = having no partner

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