Eur Arch Psychiatr Neurol Sci (1985) 234:348–356

European Archives of Psychiatry and Neurological Sciences

Social Disability in Schizophrenia: The Controlled Prospective Burghölzli Study*

II. Premorbid Living Situation and Social Adjustment – Comparison with a Normal Control Sample

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Summary. The assessment of premorbid adjustment in schizophrenia has gained increasing interest in psychiatric research. Numerous studies have provided evidence on the predictive power of premorbid adjustment in the course and outcome of schizophrenic psychoses, but only little systematic research has been done on this topic comparing schizophrenics and healthy persons.

In this study we have analyzed the premorbid life situation and social adjustment of 69 first onset schizophrenics in contrast to 60 healthy subjects. The comparisons between these samples showed significant differences for nearly all areas assessed, indicating a premorbid disablement of the schizophrenics both for quantitative and qualitative aspects of social functioning. Compared to that of healthy people, the size of the schizophrenics' social network is markedly reduced and often characterized by a strong link to their family of origin. In general, the schizophrenics fail to establish close relationships or engage in social contact. Moreover, they tend to withdraw from existing relationships, especially heterosexual ones.

Even when the schizophrenics appear quite normal on formal criteria (such as partnership or employment situation), further analyses often reveal problems, e.g., conflicts at work or reticence with partners. The results of this study clearly demonstrate the necessity of assessing not only formal criteria but also behavioral patterns and emotions of the persons concerned.

Key words: Premorbid social adjustment – First onset schizophrenia – Normal control sample

1. Introduction

This paper presents results from a prospective study of WHO on first onset schizophrenics that has been described in an earlier paper (Isele and Angst 1985). Some preliminary results have already been published by Malzacher et al. (1981). They reported on the irrelevance of stressful life events to schizophrenics who had experienced their first psychotic episode (compared with a matched sample of normal controls). Isele and Angst (1982) reviewed supplementary analyses concerning life events, so-called 'basic disturbances', and premorbid social relations for the same samples. In this paper we want to report on the premorbid social situation and adjustment of schizophrenics compared with normal controls.

2. Theoretical Considerations

Numerous studies emphasize the relevance of 'premorbid adjustment' to the prognosis of schizophrenia (Bland et al. 1978; Bleuler 1972; Burstein et al. 1974; Evans et al. 1973; Gaebel et al. 1981; Harrow et al. 1969; Huber et al. 1979; Nuttall and Solomon 1965; Rosen et al. 1968, 1971; Strauss and Carpenter 1974, 1977; Vaillant 1978; Zigler et al. 1977). There is some agreement that 'good premorbid adjustment' is related to a more favourable outcome as fas as duration of hospitalization, rate of readmissions, and posthospital level of occupational and psychosocial functioning are concerned. Despite Bland's critical review on the prediction of outcome in schizophrenia (1982), he himself has recently stated that premorbid adjustment has to be considered in any comprehensive assessment of outcome.

The definition of 'premorbid adjustment' given by Strauss et al. is a rather broad one: "By premorbid adjustment in schizophrenia , we understand those characteristics of a person, especially his interpersonal relations and occupational functioning, that can be found any time before the onset of florid symptoms of schizophrenia" (1977, p 182).

Traditionally, the scales for the assessment of premorbid adjustment are focused on social adjustment. So it is not surprising that a wide variety of instruments have been elaborated in the past decades in order to assess attributes called, for instance, 'social functioning' (Remington and Tyrer 1979) or 'social compentence' (Wagener 1974). Weissman (1975), Weissman et al. (1981), and Kokes et al. (1977) reviewed in detail the instruments available for the assessment of social adjustment. According to Bland's definition (1982), socio-

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* Project supported by grants 3.877.79 and 3.975.82 from the Swiss National Science Foundation

demographic variables, e.g., age and marital status, may also belong to the set of premorbid characteristics. In fact marital status has turned out to be among the most powerful predictors in a variety of studies concerning prognosis in schizophrenia.

Earlier scales for the assessment of premorbid adjustment may especially be questioned as to whether they can account for substantially greater amounts of outcome variance than individual sociodemographic variables such as sex, marital status, etc. (Kokes et al. 1977). As a result, increased attention has been directed to the refinement of premorbid dimensions in order to evaluate the predictive components of sociodemographic variables. In other words, what characteristics make up the predictive power of—for example—marital status? To overcome these problems developmental approaches have been increasingly integrated in recent years (Gittelman-Klein and Klein 1969; Harris 1975).

'Premorbid adjustment' is undoubtedly difficult to define. Due to a general lack of conceptualization, the number of definitions is equal to that of investigators, and the characteristics of the definitions more or less idiosyncratic of their authors. As a result of this situation, it seems impossible to describe a uniform 'good premorbid adjustment'. Kokes et al. (1977) have even reported different studies using the same scales with different cut-off points to identify good and poor premorbid groups.

In our prospective study on the development of social disability in schizophrenia we are far from having solved the various problems regarding social adjustment and its classification. We use a pragmatic approach in comparing the 'premorbid social adjustment' of our schizophrenic sample to that of a normal control group, the distributions of attributes for the normal sample provide an empirical basis for the classification of the schizophrenics. Yet there remains some margin for the discretion of the investigator: it is his task to decide which formal measures of 'normal' distributions should be defined as cut-off points for the determination of normal/deviant or good/poor adjustment.

It seems somewhat astonishing that the empirical approach just described has been rather seldomly practiced in the past. Serban (1975) was one of the pioneers in comparing acute schizophrenics (first hospitalization), chronic schizophrenics, and normal persons with respect to their social and interpersonal functioning. He justified his design by saying: "Moreover, no systematic attempts have been made to compare the schizophrenic's functioning with that of normals for a determined period prior to hospitalization" (p. 447). We hope that this paper will not support these critical remarks.

3. Methods

3.1. Samples

Our screening criteria and sampling procedure have been described in detail in an earlier paper (Isele and Angst 1985), thus it should be sufficient to summarize the main characteristics of samples only:

Schizophrenic Sample. Sixty-nine persons, hospitalized for the first time in their life due to a first schizophrenic episode of recent onset. All persons reside in a defined catchment area (canton of Zurich). Mean age = 24.7 years, ranging from 16 to 40. About 70% have been diagnosed as paranoid schizophrenics.

Control Sample. Sixty persons, selected at random—but stratified for age and sex—from a rural community of the canton of Zurich. Mean age = 26.2 years, ranging from 15 to 40. None of these persons have ever received psychiatric treatment.

The 'normality' of the control sample was examined by the AUPI personality inventory (Baumann and Dittrich 1976). In extraversion and openness (lie scale) it did not deviate from the norms of the Swiss population, but in neuroticism and psychoticism the controls differed significantly ($P < 0.01$) by exhibiting 'ultranormal' values. We will reconsider this finding in the discussion of results.

3.2. Assessment of Social Adjustment

The tabulation of results (see appendix) provides a review of the different subjects of inquiry. We used the SSA (Malzacher and Merz unpublished observations 1980), which has been described in more detail by Isele and Angst (1982, 1985). Contents, structure, and technique of assessment of this semistructured interview are based essentially on the Social Adjustment Scale 'SAS' (Weissman and Paykel 1974) and the Structured and Scaled Interview to Assess Maladjustment 'SSIAM' (Gurland et al. 1972a, b).

Some problems have arisen over the determination of the time period to be assessed. We had decided a priori that the interview should refer to a period of 2 months (analogous to SAS) prior to the onset of symptoms, for the controls we selected the 2 months preceding the interview. For the schizophrenics we had to proceed more carefully, on the one hand, the period should be dated definitely prior to the onset of symptoms, on the other—to prevent the effect of memory—it should not be dated back too far.

As about 80% of our schizophrenics had experienced an acute or subacute onset of symptoms, the period to be covered by the interview referred on average to the months '3' and '4' prior to admission (months '1' and '2' prior to onset). In order to obtain more reliable data the schizophrenics were interviewed after the acute symptoms had subsided (on average within the 3rd or 4th week of hospitalization). For practical purposes it did not seem reasonable to match the controls and the schizophrenics as far as the exact dates to be assessed were concerned. This might have constituted a source of error as we can not control the effect of memory.

3.3. Controlling for Interfering Variables

Variables such as sex, age or parental social class may relate to kind and type of social adjustment (Klorman et al. 1977).

Marital status, education, occupation, and employment status may also represent interfering variables, but they can be assumed to be indicators of adjustment as well. The effect of these variables is reported in the fourth section.

Table 1 presents the distribution of age (classes) and sex of the samples (and additionally it reflects the stratified sampling procedure for the control sample).

Of the schizophrenics 58% belong to age class II (21–30 years). This overrepresentation bears statistical significance (there is no significant difference, if we compare the samples on the uncategorized age distributions). As a consequence of

Table 1. Distribution of age and sex for schizophrenics and normal controls (in brackets)

Age categories	*N* male	*N* female	*N* total
I: 15–20	7 (10)	11 (10)	18 (20)
II: 21–30	18 (10)	22 (10)	40 (20)
III: 31–40	7 (10)	4 (10)	11 (20)
	32 (30)	37 (30)	69 (60)

χ^2 for sex × sample = 0.05, 1 *df*, NS
χ^2 for age categories × sample = 8.80, 2 *df*, $P < 0.05$

this result, subsequent comparisons of the samples are computed separately for each age category.

The class of origin was measured by the father's educational and occupational level. The statistical analyses on these variables revealed no relevant differences between the samples.

4. Results

4.1. Interpersonal Relations

We first want to consider a formal aspect of interpersonal relationships, the life situation (Table 2). The control sample reflects what may be called 'usual normal development'. During the period of educational and/or occupational training (age class I: 15–20 years) most subjects live with their parents. There is a marked change in the next age class (21–30 years), as 75% live with a partner, and only a few live alone or with their family of origin. Finally, almost all persons aged 31 to 40 years live with a partner. Whereas both youngest and oldest schizophrenics do not differ from controls, the intermediate age class exhibit special characteristics, nearly half live alone, one quarter still, with their parents, and only 28% with a partner.

Another formal characteristic of interpersonal relationships is the presence or absence of a permanent close heterosexual relationship (presence was assumed if the relationship had lasted at least 6 months; living with a partner was not a prerequisite for positive rating). Table 3 reviews the results.

In an earlier paper, Isele and Angst (1985) reported significant differences between the samples in their marital status (more single persons among the schizophrenics) that held for the total samples and for men, but not for women. Further computations for this paper reproduced these results exactly for age class II (21–30 years). There were no differences at all for the other classes, however.

Table 2. Life situation: Percentage distributions in age classes (values for control sample in brackets)

Life situation	Age classes			Total
	15–20	21–30	31–40	
With parents	78 (90)	25 (15)	9 (0)	36 (35)
With partner	0 (10)	28 (75)	82 (95)	29 (60)
Communal	11 (0)	2 (0)	0 (0)	4 (0)
Alone	11 (0)	45 (10)	9 (5)	31 (5)
χ^2 life situation × sample	6.41	12.96	2.14	20.89
Degrees of freedom	3	3	2	3
Significance	NS	0.01	NS	0.001

Table 3. Permanent close heterosexual relation: Percentage distribution in age-classes (values for control sample in brackets)

Partner	Age classes			Total
	15–20	21–30	31–40	
Present (6 months)	22 (45)	37 (85)	82 (95)	41 (75)
Not present	78 (55)	63 (15)	18 (5)	59 (25)
χ^2 presence of partner × sample (1 *df*)	1.39	12.09	1.41	13.96
Significance	NS	0.001	NS	0.001

As expected the intermediate age class of the schizophrenic sample differed markedly from the corresponding control subjects, nearly two-thirds had no permanent heterosexual relationship as against 15% of the control subjects. This situation is to be observed even among the youngest schizophrenics. Only late onset schizophrenics (aged 31 to 40) seem to be well adjusted—as long as we do not analyze some aspects of their heterosexual relationships in detail. The results of such analyses are summarized in the appendix (see section 'relationship to partner'), clearly pointing out that the premorbid heterosexual relationships of our schizophrenics are not as harmonic as those of healthy persons of the same age. The schizophrenics are more reticent in expressing both feelings and needs to their spouses; at the same time they are—relative to normals—submissive to and dependent on their partners; generally, the relationships appear cool and distressing. A more detailed discussion of these facets would be beyond the scope of this paper.

In a previous paper Isele and Angst (1982) gave a detailed review of the amount and kind of social contacts for the samples. In this paper we want only to discuss the findings briefly:

Each subject was requested to specify all persons with whom he had regular contact. Then he had to subdivide these persons into two categories: a so-called 'core circle' (intimate relationships of high emotional importance) and a so-called 'wider circle' (usually good friends, colleagues, and others, with whom he did not feel so close but had regular contact). The relationships were then categorized in a second way, assigning them either to the family of origin (what we have called the 'field of primary socialization') or not (autonomously acquired relationships).

Table 4 comprises the comparisons between the samples for each age class and totally with respect to the four categories of contacts just mentioned above.

We found no difference between the samples as far as the allocation of persons stemming from the family of origin to the emotionally important 'core circle' was concerned. Both schizophrenics and controls showed the same tendency, with increasing age the emotional relevance of the family of origin decreases, but the field of primary socialization remained more relevant for the schizophrenics than for the controls. The schizophrenics located more persons from their family of origin in the 'wider circle' of contacts. Whereas for the youngest age class the distribution between the groups was very similar, there were clear differences for both other classes that achieve at least a statistical tendency ($P < 0.10$). It

Table 4. Social contacts with respect to origin and emotional relevance: Percentage distribution for age classes (values for control sample in brackets)

'Contact categories'	*N* of 'contact persons'	Age classes			Total
		15–20	21–30	31–40	
Core circle: Persons from family of origin	0	22 (45)	55 (50)	73 (80)	49 (58)
	1– 2	72 (45)	40 (30)	27 (20)	47 (32)
	≥ 3	6 (10)	5 (20)	0 (0)	4 (10)
Median		1.6 (1.6)	0.4 (0.5)	0.2 (0.1)	0.5 (0.4)
M-W – *U*-Test		NS	NS	NS	NS
Core circle: Autonomously acquired relations	0	22 (5)	30 (0)	18 (0)	26 (2)
	1– 2	67 (35)	53 (30)	64 (30)	58 (32)
	≥ 3	11 (60)	17 (70)	18 (70)	16 (66)
Median		1.2 (3.5)	1.0 (3.3)	1.0 (3.5)	1.0 (3.4)
M-W – *U*-Test		$P < 0.01$	$P < 0.001$	$P < 0.001$	$P < 0.001$
Wider circle: Persons from family of origin	0	6 (15)	20 (45)	9 (40)	15 (33)
	1– 2	44 (45)	45 (50)	55 (35)	46 (43)
	≥ 3	50 (40)	35 (5)	36 (25)	39 (24)
Median		2.5 (1.4)	1.9 (0.8)	2.2 (1.0)	2.1 (1.2)
M-W – *U*-Test		NS	$P < 0.05$	$P < 0.10$	$P < 0.01$
Wider circle: Autonomously acquired relations	0	11 (0)	18 (0)	9 (0)	15 (0)
	1– 4	28 (0)	40 (0)	27 (5)	35 (2)
	5–10	50 (0)	42 (15)	55 (10)	46 (7)
	≥11	11 (100)	0 (85)	9 (85)	4 (91)
Median		6.5 (45)	3.5 (29.8)	5.0 (23.5)	4.6 (30.5)
M-W – *U*-Test		$P < 0.001$	$P < 0.001$	$P < 0.001$	$P < 0.001$

might be hypothesized that the schizophrenics stick more closely to their field of primary socialization than the controls.

The most impressing results exist in the autonomously acquired relationships. Within the 'core circle' the schizophrenics apparently have difficulty in establishing close relationships. The circle of persons they confide in is rather small and about 20% of each age class have no intimate relationships at all.

However, it is not only the lack of close relationships that characterizes our schizophrenic sample, but also the failure to engage in social contact in general. This is clearly emphasized if one looks at the comparisons of the wider circles of autonomously acquired contacts.

In a next step we compared the situation of employment of our samples. As the educational level is one basis for the vocational career and also predetermines the chances of an employee on the labor market, it is useful to consider this variable first of all (Table 5).

As the samples do not differ in parental social class (see Section 3) the educational/vocational chances should be equal for both groups. This is confirmed by Table 5 indicating no difference between the samples. Yet the trend is remarkable that (in relation to the control group) the schizophrenics comprise both an increased rate of persons who did not pass through a vocational training after having completed the obligatory schooling, and a decreased rate of persons who have completed higher education.

Table 5. Level of completed educational/vocational training

Level	Schizophrenics		Control sample	
	N	(%)	*N*	(%)
Vocational training not completed	7	14	4	10
Low level apprenticeship (1–2 years) completed	9	18	6	15
Normal apprenticeship (3–4 years) completed	28	56	21	51
Higher education completed (secondary school, university)	6	12	10	24
	50	100	41	100

χ^2 for level × sample = 2.6, 3 *df*, NS
19 persons are missing for each sample because they had not yet completed their educational/vocational training at the time of assessment

Whether the psychosis will have consequences for those people who were still in educational or vocational training at the onset of symptoms cannot be assessed before the completion of the follow-up assessments.

Table 6 reviews status and position of employment for our samples, 12% (8 persons) of the schizophrenics being unemployed prior to the onset of the psychosis. It should be

Table 6. Employment status and vocational position

Employment status	Schizophrenics		Control sample	
	N	(%)	*N*	(%)
Fulltime in				
— employment, school, university	48	69	48	80
— household	10	15	9	15
Part-time	3	4	3	5
Unemployed	8	12	0	0
Vocational position*				
Labourors	14	20	5	8
Employees on subordinate level, employed craftsmen, farmers without employees	16	23	14	23
Employees on medium positions, self-employed craftsmen, theachers for primary school, farmers with employees	6	9	10	17
Employees in leadership positions, self-employed graduates (e.g. physicians), industrialists	4	6	3	5
Housewives	10	14	9	15
Apprentices, students	19	28	19	32
χ^2 for employment status × sample	= 7.4, 2 *df*, $P < 0.05$			
χ^2 for vocational position × sample (housewifes and students excluded)	= 4.7, 3 *df*, NS			

* For the unemployed the positions in the last job were substituted

noted, however, that this proportion might be misleading as two of these persons had given up their jobs in order to travel extensively.

In vocational position there was no significant difference between the samples despite the accumulation of schizophrenics in the lowest category.

In addition, we assessed the adequacy of the job and/or vocational position with respect to educational level and previous vocational experience. For both samples over 90% of the working people had acquired appropriate positions, none had worked under grossly inadequate or sheltered conditions. It will be a task of follow-ups to examine whether the psychosis induced a secondary downward drift.

Despite the apparent similarity of the samples under more formal criteria we found a difference of working situation between the schizophrenics and controls. The schizophrenics experienced more conflicts and felt more distressed at work than their healthy counterparts (see Appendix, section 'work').

Finally, we want to summarize some further aspects that are tabulated in the appendix. Comparing the total samples (not split into age classes) we found significant differences for almost all items assessed. As the majority of the schizophrenics belonged to age class II (21–30 years) most differences also applied to this group. The youngest schizophrenics (15–20 years) were less maladjusted, but also tended to withdraw from social contact in general and heterosexual ones in particular. They felt oppressed by others, but concurrently expressed the need for more social contact. Actually, this can be found for all age classes of the schizophrenics: on the one hand, social contact was perceived as stressing—sometimes also characterized by conflicts—on the other hand, the schizophrenics often felt lonely and longed for more contact. Compared to their healthy peers the youngest schizophrenics showed more feelings of inferiority concerning the opposite sex, and more frequently expressed the desire to have a partner.

Most differences between the samples could be found for age class II (21–30 years), though nearly all of them were also valid for the eldest class. The most characteristic feature of the schizophrenics was the tendency to withdraw from any contact whatsoever (work excluded). That was not only expressed behaviorally in merely avoiding contact, but also by the reticence towards parents and partners. The relationships to parents were strained by conflicts and often appeared distant. The same was true for the marital relations (irrespective of legal status), the schizophrenics were less affectionate and considerate to their partners (in sexual life too). They expressed resentment towards their partners and concurrently displayed their need for more warmth and attention.

Finally, another characteristic feature should be mentioned that might play an important role for the development of a later disability, the lack of self-reliance and competence concerning financial budgeting and purchasing items for everyday life. This was also indicated by the increased frequency with which the schizophrenics had to ask their partner for advice and practical help.

5. Discussion

The results of our study clearly emphasize the request of Rosen et al. (1968) for the development of age appropriate definitions of social competence. By the use of a normal control group and the subdivision into age classes it was possible to outline the 'normal development' and to locate the schizophrenics along this fluctuating continuum.

It should also be pointed out that it is not sufficient to investigate formal criteria exclusively (e.g., sociodemographic variables). Certainly these may easily be assessed by the study of case notes, but they may provide misleading information. It is necessary to have a glimpse behind the scenes. As far as formal criteria are concerned (e.g., marital status or presence of a partner) many schizophrenics appear quite normal—as long as we know nothing about qualitative facets. The moment we start to assess behavioral patterns and feelings (especially regarding interpersonal relations) as well, the superficial impression of normal adjustment often—not always—will fade, and several problems that may impede the daily life of schizophrenics prior to their first psychotic episode will become manifest.

Our results point to the same direction as the carefully designed study of Serban (1975), who demonstrated the premorbid maladjustment of a schizophrenic sample for nearly all variables assessed. He summarized his impression as follows: "The acutes as a group may be best described, on the basis of the present data, as a young population functioning relatively poorly for years before hospitalization who have a confused social-role identity and disinterest in the established social values (work, money, high standard of living). Consequently, they are often drifters, escaping responsibilities through psychedelic drugs or alcohol, presenting long-standing difficulty in social and sexual relationships" (pp. 454–455). Our

results certainly do not support all of these statements, but neither can we describe our schizophrenics as sociable persons. Many of them are withdrawn, display difficulties in social contact with respect to a variety of reference persons or groups.

Serban also analyzed the predictive power of social adjustment concerning readmission for a 2-year period. Relationships with parents and friends turned out to be the major factor leading to readmission. Faibish and Pokorny (1972) mentioned that poor prognosis would be predicted by the failure to establish friendships, to engage in group activities, to form and maintain marital relationships, and to participate in religious activities.

Gittelman-Klein and Klein (1969) who have assessed preadolescent and adolescent adjustment separately, conclude from their results: "This study affirms that early withdrawn, asocial behavior, and a lack of interest in activities involving one's peers are uniformly associated with a decreased frequency of successful, lasting recovery in schizophrenic patients, as measured by follow-up variables. This consistent negative outcome associated with a bimodal score distribution argues strongly for the presence of a qualitative distinct schizoid type" (pp. 44–45).

Indeed, many of our schizophrenics would best be characterized by this 'classic' term. Since the time of Kraepelin, numerous investigators have reflected on the permorbid personality of schizophrenics and its prognostic relevance (a comprehensive review has been provided by Fritsch 1976).

However, when speaking about shut-in, asocial, or schizoid personality, we will inevitably have to face the question whether these characteristics cannot be understood as the first signs of the psychosis, and some legitimate questions might be raised. Is it justifiable to designate the 2 months prior to onset of the psychosis as 'premorbid' or should 'prepsychotic' not be preferred as a more adequate term? And can we claim that just these 2 months should represent 'premorbid social adjustment', a term that may potentially include the whole life prior to psychosis? We used a rather pragmatic approach for this study, not impaired by any etiologic considerations, we selected persons according to clearly specified symptoms and did not use diagnostic schemes that combine etiologic models, premorbid characteristics, and symptomatology. As our interview for the assessment of social adjustment included questions dealing nearly exclusively with everyday life, we were forced for practical reasons to limit the period to be examined. This period was very carefully determined, in order to exclude changes concerning the patient's behavior (perceived by key-persons) that might have occurred prior to florid symptoms.

Further criticism may be directed to the validity of our results. As we mentioned in Section 3.1., our control group appeared 'ultranormal' with respect to psychoticism and neuroticism. It may be argued that the differences between the samples were merely the result of this 'hypernormality'. In order to assess the influence of these personality dimensions we conducted separate analyses of correlations and comparisons of high score/low score groups (with respect to the dimensions) for each item of the SSA interview. About 20% of the SSA items turned out to be potentially influenced by either one or both of the personality dimensions (that in turn correlated rather high in our control group: Rho = 0.64). As only 10% of all computed correlation coefficients exceed 0.30 it seems reasonable to assume that the actual effect of the personality dimensions on answering the SSA items is rather small, perhaps negligible. Nevertheless it is not possible to control this influence appropriately, since we do not have 'premorbid' AUPI values for the schizophrenics. In the appendix we have designated those items for which an influence of personality dimensions might be involved.

With respect to the problem just mentioned above, a study by Angst et al. (1985) might provide some noteworthy results. Based on the widely used 'Freiburger' personality inventory (FPI, Fahrenberg et al. 1973) 25 schizophrenics were compared with 20 control samples. The analyses revealed significant differences for the scales 'extraversion' and 'sociability', indicating lower values for the schizophrenics. With respect to 'neuroticism' the samples did not differ ('psychoticism' is not assessed by the FPI). All of the FPI assessments had been performed (within a broad epidemiological survey) definitely prior to the onset of psychoses and because of this might reflect 'real' premorbid conditions (although the problem of 'insidious onset' remains unsolved here too).

Finally, we want to mention some methodological aspects of our data anaylsis. We used a rather simple approach due to the skewed distribution of items for both samples. Moreover, we renounced combining the items with respect to themes of contents (e.g., stress, conflicts) as we had done in a previous paper (Isele and Angst 1982), or summing up a total score for 'overall functioning' or scores for specified social roles (approaches that are widely used in prognostic research). This paper intended to display facets of the premorbid living situation of schizophrenics in as detailed a way as possible. We did not want to lose information by condensing the available data to factor scales or sum scores.

It is obvious that this detailed approach cannot be used for further analyses including additional samples and repeated assessments (follow-ups). It will be an inevitable task to reduce the quantity of data, but this might in turn cause the loss of potentially relevant information. In a subsequent paper we will report on our attempts to avoid these problems inherent in traditional statistical methods by an approach using multidimensional scaling and cluster analysis.

Acknowledgement. The present paper is based on data and experience obtained by the authors in the course of their participation in the WHO collaborative study on the assessment and reduction of psychiatric disability. The study is a multicenter project sponsored jointly by the World Health Organization (Dr. A. Jablensky, Geneva, Switzerland) and field research centers in Turkey (Prof. O. Oztürk, Ankara), the Netherlands (Prof. R. Giel, Groningen), Sudan (Dr. M. A. Suleiman, Khartoum), the Federal Republic of Germany (Dr. G. Krüger, Mannheim), Bulgaria (Prof. I. Temkov, Sofia), Yugoslavia (Dr. Z. Kulzar, Zagreb), and Switzerland (Prof. J. Angst, Zurich).

The goals of the project are twofold:

(1) to develop standardized methods and instruments for the evaluation of impairments and disabilities in psychiatric patients, and
(2) to increase knowledge about the nature, course and susceptibility to interventions of impairments and disabilities occurring in association with mental disorders in various socioeconomic and cultural settings.

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Received October 26, 1984

Appendix

Comparisons Between First Onset Schizophrenics and Normal Controls on all SSA Items

The figures represent the levels of significance for the differences between the samples, based on Mann-Whitney *U*-tests.

In general all differences indicate higher scores (mean ranks) for the schizophrenics (meaning more disability), unless they are signed with an asterisk (then the normals score higher).

Where the analyses cound not be performed (too few cases), this is marked by 'ic' ('incalculable').

'N' and 'P' mean neuroticism and psychoticism respectively. These literals are added to those items for which an influence of either of these personality dimensions on normals' answering behavior cannot be precluded. For the items concerned the calculated differences between the samples might in part be caused by the 'hypernormality' of the control subjects.

SSA items			Age classes			Total
			15–20	21–30	31–40	
Work:	a) If employed					
	Adequacy of vocational position		NS	NS	NS	NS
	Absenteism		NS	NS	NS	NS
	Withdrawal	N + P	NS	NS	NS	NS
	Efficiency		NS	NS	NS	NS
	Conflicts		NS	0.05	NS	0.05
	Distress		0.05	NS	0.05	0.001
	Boredom		NS	0.10	NS	0.05
	b) If unemployed					
	Interest for employment		ic	ic	ic	ic
	Distress due to unemployment		ic	ic	ic	ic
Social contacts: Amount (see Table 4)						
	Withdrawal		0.05	0.05	NS	0.01
	Conflicts	P	NS	0.01	NS	0.05
	Distress		0.001	0.05	0.10	0.001
	Lonelines	N	0.001	0.10	0.10	0.001
Leisure time:	Interests and activities		NS	NS	NS	0.10
	Boredom		0.10	0.05	0.01	0.001
Relation to family of origin:	a) Relation to father					
	Withdrawal		NS	0.10	NS	0.05
	Reticence		0.10	0.05	0.05	0.001
	Submissiveness	N	NS	NS	NS	NS
	Dependency		0.05	NS	0.10	0.01
	Conflicts		NS	0.01	0.05	0.001
	Feelings of guilt		NS	NS	NS	0.05
	Resentment		NS	NS	NS	0.10
	Worries		NS	NS	NS	NS
	b) Relation to mother					
	Withdrawal		0.10	0.05	NS	0.01
	Reticence		0.10	0.01	0.05	0.001
	Submissiveness		NS	NS	NS	NS
	Dependency		0.10	0.10	NS	0.05
	Conflicts	P	0.10	0.01	NS	0.001
	Feelings of guilt		NS	0.10	NS	0.01
	Resentment		NS	0.05	NS	0.01
	Worries		0.10	NS	NS	NS
Relation to spouse: (common law mariage included)						
	Reticence		NS	0.10	0.01	0.01
	Submissiveness		NS	NS	0.05	0.05
	Dependency		NS	0.05	0.01	0.01
	Interest in spouse		NS	0.05	NS	NS
	Conflicts	P	NS	0.001	0.001	0.001
	Feelings of guilt		NS	NS	NS	NS
	Resentment		NS	0.01	NS	0.01
	Feelings of deprivation (warmth and affection)	N + P	NS	0.05	NS	0.01
	Feelings of inadequacy	N	NS	0.10	NS	0.05
Sexual relation:	Activity (intercourse)		NS	NS	NS	NS
	Interest in partner		NS	0.01	NS	0.001
	Satisfaction		NS	0.001	NS	0.001
	Feelings of deprivation (intercourse)		NS	NS	0.10	0.05

Appendix (continued)

SSA items			Age classes			
			15–20	21–30	31–40	
Heterosexual relation:	(for persons without permanent heterosexual partner)					
	Dating activity		0.05	ic	ic	NS
	Resentment against opposite sex		NS	ic	ic	0.10
	Longing for a partner	N	0.01	ic	ic	0.001
	Feelings of inferiority		0.01	ic	ic	0.01
	Sexual activities (intercourse)		NS	ic	ic	NS
	Feeling of sexual deprivation		0.05	ic	ic	0.001
Parental role:	Activities		ic	NS	NS	NS
	Conflicts	N	ic	NS	NS	NS
	Worries		ic	NS	NS	NS
	Overstrain		ic	NS	NS	NS
Further areas:	Self-care (clothes, hygiene)		NS	NS	NS	NS
	Interest in general information (e.g., world affairs)		NS	0.10	NS	0.05
	Age and position appropriate engagement in household tasks		0.05	0.10	NS	NS
Economic:	Self-reliance in purchasing things of daily use		0.01	0.10	0.05	0.001
	Self-reliance in financial budgeting		0.10*	0.01	0.01	0.001