

Premorbid personality traits of men who develop unipolar or bipolar disorders

Paula J. Clayton¹, Cécile Ernst², Jules Angst²

¹ Department of Psychiatry, University of Minnesota Medical School, Minneapolis, Minnesota 55455, USA

² Psychiatric University Hospital Zurich, Research Department, CH-8029 Zurich, Switzerland

Received May 3, 1993

Summary. In 1972, all Swiss males in the Canton of Zurich who reported for a compulsory medical examination for selection for military service were given the Freiburg Personality Inventory. This was repeated in half the sample on three subsequent occasions. From 1983 to 1988, an effort was made to identify all male psychiatric cases. There were 99 unipolars and 26 bipolars. The unipolars who had their age of onset after the personality testing displayed elevated scores on a constellation of symptoms labelled autonomic lability which consisted of items that correlated highly with neuroticism. The trait endured even when it was retested at age 36 years. The bipolars did not differ from the controls in any respect on any occasion.

Key words: Bipolar – Depressive – Premorbid personality – Neuroticism – Autonomic lability

Introduction

Looking for quantifiable, verifiable antecedents of unipolar depression and bipolar illness has been a legitimate pursuit of psychiatric investigators for years. Premorbid personality represents one of those antecedents. We reported (Angst and Clayton 1986) on a cohort of 6375 Swiss males given the Freiburg Personality Inventory (Fahrenberg and Selg 1970) in 1971 at the age of 19 years when they presented for selection for the army. In 1983 the hospital psychiatric records and outpatient records in the Canton of Zurich pertaining to males born in 1952 were identified. A subsample of 87 were reviewed and diagnosed according to Feighner criteria (Feighner et al. 1972). Nineteen received the diagnosis of unipolar depression and 16 of bipolar, with 2 and 3, respectively, having the onset of their illnesses prior to the testing. Without excluding these, we found that according to the standard nine primary factor FPI solution (nervousness, aggressivity, depressiveness, excitability, sociability, resiliency,

dominance, inhibition, frankness) and three secondary scales (neuroticism, extraversion, and masculinity), unipolars endorsed items that produced a significant elevation in only the aggressivity scale. A three-factor solution was derived from the Zurich sample. These factors were labelled autonomic lability, extraversion, and aggressivity. The depressives showed elevated scores on autonomic lability, which correlated highly with Eysenck's neuroticism scale, and on aggression. The bipolars, on the other hand, demonstrated no significant differences on either the nine-factor solution of Freiburg or the three-factor solution from the Zurich sample. Because of small numbers, incomplete sampling and the inclusion of those who had the onset of their illnesses prior to the testing, we now report on the same sample expanded to include additional inpatients, all those treated in outpatient departments, and those whose army records detailed psychiatric conditions which were sometimes referred for evaluation by a psychiatrist in order to make a decision about entry into or continuation in the army. We will look specifically at 99 unipolar patients and 26 bipolar patients. Of those included, 2 bipolar patients and no unipolars committed suicide.

Methods

The methods are fully described in the manuscript by Angst and Clayton (1986). To summarize, all Swiss men at the age of 19 years had to report for a compulsory medical examination which preceded being selected for military service. Based on all the records, school reports, radiographs, previous medical histories, a physical examination, and a history which included a mental status examination, three physicians recorded clinical impressions and diagnoses and made a decision about fitness for service. Between 80 and 85% of the men qualified for military training, which began at the age of 20 years. In 1971 The Swiss National Science Foundation allowed one investigator (JA) to administer in groups of 10–20 a personality inventory, The Freiburg Personality Inventory (Fahrenberg and Selg 1970), and a set of questions about family, school, and habits (smoking, drinking, drugs, etc.). The original purpose of the study was to correlate personality and social attributes with the consumption of alcohol, tobacco, and drugs.

Of the 6,375 qualified, only 18 refused to cooperate and 44 additional tests were excluded because they were not useable, either because of low IQ, speaking a foreign language, etc. Of the sample, 50% were examined anonymously ($N = 3158$) and the second half nonanonymously. The two samples did not differ on measurement of personality or other data including drug intake, social and family factors, etc. (Angst et al. 1973; Müller et al. 1973). Two postal questionnaires followed the nonanonymous subsample in 1983 and 1988. The response rate in 1988 was 1,952 (70.5%). Personality measures were done on all three occasions – 1971, 1983, 1988. In the 1971 survey the full Form A + B of the FPI (Fahrenberg and Selg 1970) was used and in the 1988 survey Form B was used. In the 1988 survey, responders and nonresponders did not differ significantly in their original FPIs measured at age 19 years. The present study is based on the data of the first and last investigations of 1971 and 1988.

The FPI is a personality questionnaire consisting of 212 items which is highly used in German-speaking countries. It is modelled after the questionnaires of Hathaway and McKinley (1947), Eysenck (1952), Guilford (1959), and Cattell (1966). The factor analysis solutions have already been discussed (Angst and Clayton 1986). In the new factor analysis solution to the FPI using the Zurich sample the extraversion factor showed a correlation of 0.75 with the extraversion factor in the old solution. The autonomic lability factor correlated highly, (0.78), with the neuroticism factor and the aggression factor correlated highly with spontaneous aggressivity (0.72) and reactive aggressivity (0.78). There were almost no items in this inventory that assessed obsessiveness.

In addition to the information obtained by questionnaires, several other data sets became available over the years. From 1983 to 1985, an effort was made to identify all male psychiatric cases born in 1952, who had records in hospital and outpatient clinics in the Canton of Zurich. Furthermore, in 1985 and 1991 mortality data were obtained from the federal register. Finally, from 1987 to 1991, the military health records of the nonanonymous sample were made available in 97% ($N = 3062$) of all subjects. In those cases who were not qualified for military training at age 19 years (between 15 and 20%) original but no follow-up data were available in the military health records. The rest contained medical and psychiatric data collected over the whole period up to 1983–85, which included certificates of family doctors, general and psychiatric hospitals, and numerous psychiatric reports and expertise. Based on all psychiatric information, psychiatric diagnoses were made in a pair-wise fashion by three investigators: PJC and JA or CE and JA. In the earlier stages of the study, PJC dealt mainly with the psychiatric hospital and outpatient records, whereas CE worked mainly on the health records. The information available between the two types of records differed widely. Therefore, PJC could make formal Feighner criteria diagnoses, whereas CE could only make the best estimate of these diagnoses, because in many cases detailed information about all the diagnostic criteria were not available. Furthermore, the cases diagnosed by CE were generally milder and did not require psychiatric treatment to the same extent. In order to check for significant differences, the personality profiles at age 19 years of the subjects assessed by PJC were compared with those of CE and were not found to be significantly different on any scales. This check was carried out for all the larger diagnostic groups: unipolar depression, anxiety disorders, drug dependence, alcohol dependence, sociopathy.

The final collection of cases also includes psychiatric cases from the anonymous sample simply because all men born in 1952 were included in the search of psychiatric inpatient and outpatient records. They were identified by day of conscription and other characteristics (profession, denomination, number of siblings). After they were linked by computer, the cases were made anonymous again, so they no longer could be identified. We have assumed that these cases were the more severe. We therefore also statistically compared the cases from the anonymous and the nonanonymous sample in the unipolar sample. They, too, did not differ in their personality profiles. For all further analyses, the results of the different raters and from the two samples have been combined. This

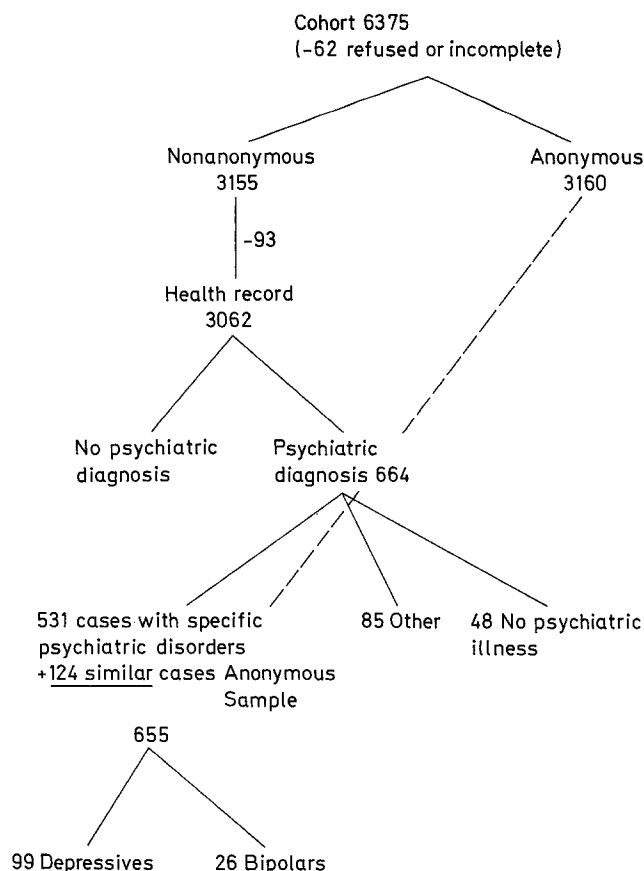


Fig. 1. Swiss males from the Canton of Zurich, born in 1952

study cannot be considered a study of prevalence of psychiatric disorders, since we are missing large numbers from the anonymous cases.

Results

Description of the sample

The collection of the sample ended in 1988, which means that the men were 36 years old when the sampling was completed. The groups include 99 unipolars, 26 bipolars, and 2894 controls. The controls are from the anonymous sample, with those who had missing data and who entered the diagnostic studies deleted.

Since the age of onset of psychiatric disorder could not be estimated for every patient, 96 of 99 depressives had a mean age at onset of illness of 21.7 years, SD 5.58 with a median of 21 years and a range of 5–33 years. In 26 bipolars, the mean age at onset was 21.1 years, SD 5.35 with a median of 20 years and a range of 10–34 years. Of the unipolars, 50 were diagnosed by CE, 49 by PJC. Of the bipolars, two were diagnosed by CE and 24 by PJC. Of the depressives, 28% were inpatients whereas 85% of the bipolars were inpatients. Since we began our study with hospital records as indicated in our first report, the bipolars were identified earlier and were much more likely to be hospitalized and seen by PJC. The majority were mainly manic. As stated, despite that, in the unipolars the FPIs of the groups assessed by the two diagnosticians and by whether or not they were hospitalized, showed no sig-

nificant differences. Because of small numbers, these comparisons were not made in bipolars.

Other variables

In the original design, subjects were asked at age 19 years by questionnaire whether their parents were married, divorced, or separated, and whether their fathers drank alcohol excessively. The probands themselves were asked about which of four different levels of secondary schools they had attended and about use of substances, including analgesics, cigarettes, alcohol, cannabis, tranquilizers, and hypnotics. Compared with the controls, both the unipolars ($P \leq 0.002$) and the bipolars ($P \leq 0.006$) were more likely to have attended the more demanding type of secondary school attended by about 50% off all males of the normal population. IQ was also estimated for the patients' sample from all available information about school and professional achievement and in a minority of cases, scores on the Hamburg Wechsler Intelligence Test. Although not a measure independent of school information, the IQ of the 26 bipolars was 113, SD 15.17, of the unipolars 110, SD 13.03, and of the other psychiatrically ill sample 103, SD 13.96 ($P \leq 0.0001$). Since the controls were not reviewed, there is no estimate of their IQ.

In addition, in the depressives, JA judged the seriousness of negative life events (psychosocial and physical) in the month preceding the onset of illness on a scale from 0 to 99. The median score was 30. Using a score of 30 to divide the sample, we compared the "nonreactive" and the "reactive" depressives on FPI scores. Here, too, there were no significant differences.

Personality

As Table 1 indicates, in 1971 the bipolar patients did not differ in any aspect from the controls. The unipolars, on the other hand, displayed a number of differences. Compared with the controls, the unipolars scored lower on masculinity and higher on nervousness, depressiveness, neuroticism, and autonomic lability, the new factor that correlated strongly with those four previous factors (Angst and Clayton 1986). In addition, they scored lower on sociability and resiliency which all expresses lack of confidence and low frustration tolerance in interactions with people. There were no aggression scales that were abnormal.

When the unipolars were divided by age at onset into those who were less than 19 years or those were 19 years or older (the age when they were tested) the earlier-onset depressives were significantly more depressive, less stable, and more neurotic. More interestingly, the later-onset group scored prior to the onset of depression (at age 19 years) high on depressiveness and autonomic lability (Table 1). These represent the premorbid attributes of the typical depressed patient. So depressive somatic symptoms and attitudes predict depression. The bipolars, divided by age at onset, still showed no differences.

We retested these groups in 1988 at the age of 36 years. Here the controls are the other retested nonanonymous sample. As Table 2 shows, compared with the con-

Table 1. Premorbid personality (FPI) at age 19 years of bipolar and unipolar depressives compared to controls

FPI scale	A Controls (n = 2842)		B Unipolar depression (n = 91)		A vs B P*	C Bipolar disorder (n = 26) ^a		D Unipolar depression Age of onset < 19 (n = 20)		E P* ≥ 19 (n = 68)		A vs D P*	A vs E P*
	\bar{x}	SD	\bar{x}	SD		\bar{x}	SD	\bar{x}	SD	\bar{x}	SD		
1. Nervousness	19.5	7.75	22.9	8.88	0.001	21.1	9.39	23.4	6.83	22.9	9.55	0.02	ns
2. Aggressivity	20.5	8.03	21.5	8.10	ns	20.3	8.95	22.0	7.75	21.5	8.35	0.0001	0.0005
3. Depressiveness	19.7	7.92	23.9	8.10	0.000	20.8	9.07	27.2	7.12	23.2	8.18	0.0001	0.0005
4. Excitability	19.8	8.02	20.5	7.86	ns	19.1	8.78	22.6	8.77	19.9	7.68	0.008	ns
5. Sociability	20.2	7.89	17.7	8.62	0.009	19.8	8.45	15.2	8.38	18.6	8.58	0.008	ns
6. Resiliency	20.9	7.80	17.3	9.02	0.001	18.7	7.58	12.9	9.71	18.8	8.54	0.0002	ns
7. Dominance	20.8	8.15	20.4	8.46	ns	18.0	7.82	21.9	8.97	20.0	8.41	0.004	ns
8. Inhibition	19.2	7.65	20.8	8.25	ns	20.4	9.30	23.6	8.92	19.9	7.60	0.004	ns
9. Frankness	20.5	7.98	20.8	7.26	ns	17.8	8.84	22.5	6.83	20.4	7.47	0.02	ns
E. Extraversion I	20.5	7.81	18.2	9.06	ns	19.3	7.78	15.9	9.26	19.0	9.01	0.02	ns
N. Neuroticism I	19.6	7.85	22.9	8.03	0.001	19.3	8.74	26.7	7.45	22.0	7.98	0.0001	ns
M. Masculinity	21.6	7.31	18.1	8.08	0.000	19.4	7.85	15.9	7.58	18.6	8.03	0.002	ns
S1 Aggression	20.6	8.15	20.8	7.85	ns	18.4	8.13	21.4	8.34	20.7	7.87	0.004	0.0007
S2 Extraversion II	20.4	7.77	17.8	8.64	ns	19.1	8.54	14.5	9.42	18.9	8.11	0.004	0.0002
S3 Auton. Lability	19.3	7.65	23.3	8.06	0.000	20.8	9.69	25.7	6.26	22.8	8.53	0.0002	0.0007

A vs C: ns; D vs E: ns

* Wilcoxon-test; significances corrected for multiple testing according to Bonferroni

^a 7 early onset bipolars vs 19 late-onset bipolars showed no significant difference

Table 2. Postmorbidity personality profiles (FPI) of unipolar depressives and controls at age 36 years

FPI 1988 Version B	A Controls (<i>n</i> = 1855)		B Unipolar depres- sion (<i>n</i> = 47)		A vs B <i>P</i> *	C Unipolar depression ^a D				A vs D controls vs ≥ 19 years <i>P</i> *
						< 19 years (<i>n</i> = 10)		≥ 19 years (<i>n</i> = 36)		
	\bar{x}	SD	\bar{x}	SD		\bar{x}	SD	\bar{x}	SD	
1. Nervousness	13.7	5.89	16.5	6.91	ns	14.2	3.87	17.2	7.53	ns
2. Aggressivity	13.4	6.02	16.3	6.41	ns	15.3	5.92	15.4	6.69	ns
3. Depressiveness	11.6	6.44	15.7	7.20	0	15.4	5.21	15.7	7.80	ns
4. Excitability	17.3	7.25	18.5	7.91	ns	17.7	7.03	18.5	8.24	ns
5. Sociability	20.6	7.65	18.5	8.72	ns	16.9	10.73	19.0	8.29	ns
6. Resiliency	18.6	7.59	16.8	8.56	ns	18.3	6.87	16.5	6.59	ns
7. Dominance	16.2	7.24	15.0	7.87	ns	16.1	10.30	14.6	7.26	ns
8. Inhibition	15.2	7.86	16.8	9.19	ns	16.5	8.89	16.6	9.31	ns
9. Frankness	15.8	7.85	16.3	7.41	ns	16.7	5.80	16.1	7.94	ns
E. Extraversion I	17.2	7.73	15.4	8.77	ns	14.4	11.43	15.8	8.14	ns
N. Neuroticism I	12.9	6.81	17.2	7.92	0.0001	15.9	7.80	17.3	8.02	0.0004
M. Masculinity	21.8	7.03	17.9	7.76	0.001	19.1	7.55	17.8	7.89	ns
S1 Aggression	15.9	6.63	16.2	6.56	ns	16.6	6.34	16.0	6.73	ns
S2 Extraversion II	22.6	7.80	20.7	9.00	ns	20.9	9.94	21.0	8.81	ns
S3 Auton. Liability	13.7	16.23	17.5	7.12	0.0001	15.3	4.15	18.0	7.77	0.0002

* Wilcoxon test; significances corrected for multiple testing according to Bonferroni

^a C vs D: ns

trols, the unipolar depressives as a group retained the core of factors linked to autonomic liability: higher depressiveness and neuroticism and lower masculinity, indicating that these traits have an enduring quality. The later-onset depressives retained their significantly lower scores on neuroticism and autonomic liability. When the personalities tested in 1988 of the early-onset depressives were compared with the later-onset depressives, there were no significant differences. It should be noted that for all groups, that is controls and depressives, there were striking falls in scores, indicating that all traits were clearly less frequently endorsed as abnormal. Other studies have shown normative decline in negative emotionality from late adolescence to adulthood (Angst et al. 1988; McGue et al. 1993).

Discussion

We present two major findings. Male bipolar patients, whose ages at onset are definitely after the psychological testing, showed no differences in their personality attributes from controls. On the other hand, male unipolar depressives, tested prior to the onset of their illness, displayed elevated scores on a constellation of symptoms that we have chosen to label autonomic liability, which is made up of questions related to somatic anxiety and psychological depressive features. These traits endured and were still endorsed by these depressives at age 36 years. It must be remembered that the majority of these depressives were not hospitalized and many of them did not see psychiatrists. Although there were several significant differences at 19 years between those who had their onset

before the testing and those who had it after the testing, those differences faded when they were retested at age 36 years.

Although there is a great body of literature on the premorbid personalities of bipolar and unipolar patients, for the most part these reports come from retrospectively gathered information or from testing patients when they were in the well or remitted state. The personality traits of bipolar patients are not yet clarified. Akiskal et al. (1977) identified 46 outpatients (2.3% of the outpatient population) as cyclothymic and reported that 22% became bipolar in the follow-up period. Cyclothymia is now considered a bipolar mood disorder and not a personality description (Akiskal et al. 1983; Pritz and Mitterauer 1984). As opposed to cyclothymia, von Zerssen (1993) and von Zerssen and Pössl (1990) have defined a "manic type" premorbid state in bipolars, especially those who are mainly manic. This type resembles the hyperthymic temperament as described by Akiskal et al. (1979). Similarly, some (Jamison et al. 1980; Targum et al. 1981; Bouman et al. 1992) have indicated that even in remission, manics evaluate themselves in a positive way. Others (Akiskal et al. 1983; Matussek and Feil 1983) emphasized the work-oriented, obsessional personality of the bipolars, which was also demonstrated (Klein and Depue 1985) in the bipolars' offspring. Still others (MacVane et al. 1978; Lumry et al. 1982) have found that bipolars who are well or stabilized on lithium have personalities similar to those of controls. Bech et al. (1980) suggested that lithium mutes the cyclothymia and causes bipolars to test more like unipolars. To our knowledge, other than our previous work, there are no reports premorbidly of patients who develop bipolar disorder. Although this inventory did not measure

obsessionality, our findings are that the premorbidly bipolar, mainly manic, patients have normal personality features.

In re-examining the items that make up the trait of neuroticism from the EPQ, it is quite clear that a number of these questions tap depressed mood and depressive symptoms. The first three items are: Does your mood often go up and down? Do you ever feel just miserable for no reason? Do you often worry about things you should not have done or said? There are additional items on irritability, feeling fed up, feeling guilty, nervous, worried, sleepless, tired, feeling dull, wishing to be dead, feeling lonely, easily hurt, without energy. In fact, it would be hard to choose an item that could not be identified as depressive. Similarly, in the FPI, the item pool that taps neuroticism describes emotional lability, negative affect, feeling miserable and hostile, lack of concentration, being oversensitive and easily slighted. The idea then that such a trait would be highly connected to a later onset of depression should not be surprising. It was nicely predicted by Henderson (1983) and detailed by Martin (1985) in examining the relationship between the cognitive mechanisms seen in the trait of neuroticism and the illness of depression. It is also highly consistent with von Zerssen and Pössl's (1990) description of the premorbid personality of patients with depression as being "melancholic," and completely in line with Phillips et al. (1990) and Gunderson et al. (in press) emphasis on the depressive personality. That these traits endure leads to the conclusion that this is personality attribute or trait rather than subsyndromal symptoms.

There have been four studies of the premorbid personalities of depressed patients. The first (Nyström et al. 1975a and b) was based on a postal health questionnaire mailed to men who were registering for licenses that was then linked at a later date with visits to the psychiatric clinic or mental hospital in the city. The second (Lewinsohn et al. 1981) was a volunteer community study of subjects who were tested at entry and followed over a year for the development of a depression. The third (Hirschfeld et al. 1989) investigated relatives and spouses of inpatients and outpatients with affective disorders who were tested before they developed a psychiatric illness and then followed for emergence of depression for 6 years. A fourth (Ernst et al. 1992) used a stratified community sample of young men and women followed longitudinally for 9 years for the emergence of psychiatric disorders. In the second and third studies, the majority of new cases were women and the new cases were from community samples, where the goal was to identify new onsets of depression. The fourth study had equal numbers of men and women as new cases. In comparison, all of our cases were identified after consulting a physician or, rarely, a mental health worker. The results of these studies are conflicting. The first, which was not entirely premorbid and in whom diagnoses were according to the records and not by definitive criteria, showed that the depressives compared with controls from the same group had more psychasthenic traits, tended to ruminate, were shy in company, and lacked endurance. They also endorsed asthenic subclinical symptoms such as habitual fatigue and irritability, depressive

subclinical symptoms, various kinds of anxiousness, and insomnia. These findings are similar to the traits we report as autonomic lability in our depressives. Since both studies concern men and identify samples from physician contacts, they are similar. In the fourth study, although the majority of findings were in the women, the men endorsed premorbid symptoms on the SCL-90 that resulted in elevated depression, interpersonal sensitivity, anxiety, anger/hostility, and somatization scales, again similar to our findings. In the second study, there were no significant differences found in abnormal cognitive attributes between those who became depressed and those who did not. Of 908 subjects, only 9 new cases, meeting RDC criteria for major, minor, or intermittent depression, emerged. Perhaps the small number accounts for the lack of differences, because, in our data, one FPI factor that was significantly higher premorbidly is a set of psychological depressive symptoms, including negative cognitions. The third study (Hirschfeld et al. 1989) on the premorbid personalities of 29 high-risk subjects who experienced a depression for the first time reported that there were significant differences in their personalities compared with never-ill controls. These differences, however, disappeared when the group was split by age. The "younger" onset (17–30 years) adult depressives were not different from their age-matched controls, whereas "older" onset (31–41 years) depressives premorbidly were more likely to be neurotic, less emotionally stable, less resilient, to demonstrate more emotional reliance on other people, lack social self-confidence and to be more thoughtful. These differences again seem similar to those we report. That the younger onset depressives were similar to non-ill younger controls is not consistent with our data. In the data of Hirschfeld et al. (1989), the personalities of all young people, normal or with psychiatric illness, were more deviant. The oldest never-ill control group was the most healthy and the two depressive groups looked similar and like the younger never-ill group. It could be hypothesized that the normal will improve with time, whereas the personalities of psychiatric patients fail to improve and, therefore, at a later age appear more pathologic. In the same report, the first-onset depressives, regardless of age, had premorbid personality scores that were considerably more healthy than those of recovered unipolar and bipolar patients from the same study. It again emphasizes the danger of assessing personality once an illness has begun.

Another prospective premorbid personality study (Rorsman et al. 1993) of depressives has recently been published. From the Lundby 25-year study, 18 men and 36 women developed endogenous depression. A larger group developed depression plus some phobic or anxiety symptoms. In men, the most prominent premorbid trait in the "depression proper" group was asthenia defined as reduced energy resources as well as anxious qualities such as being anxious, forgetful, nervous, and having a tendency toward blushing and sweating, as well as having a history of allergy. Although these traits are certainly part of the autonomic lability we define, they do not describe the depressive features we feel are prominent. The women who developed depression proper did have these symptoms.

In a slightly different paradigm, Krieg et al. (1990) reported on a study of first-degree relatives of patients with major mood disorder, who were "at risk" for developing a depression. They were chosen by being without psychiatric disorders but related to a person who had been diagnosed as having bipolar or major depression and had at least one other first-degree relative with a DSM-III-R diagnosis of affective disorder, schizophrenia, schizoaffective disorder, anxiety disorder, or eating disorder. These 20 "high-risk relatives" (8 women, 12 men) underwent a variety of tests, including psychometric, neuroendocrine and sleep measurements. They were compared with ten healthy volunteers (four women, six men) who were screened by the SCID and found to have no personal history or family history of psychiatric disorder. They found that the personality trait of neuroticism as measured by the MPT (Munich Personality Test; Zerssen et al. 1988) was significantly higher for the high-risk relatives than for the controls, as were scores on depressive symptomatology, state anxiety, vegetative lability, emotional restraint and a report of negative life experiences. On the neuroendocrine and sleep measurements there were no differences. These findings complement those that we report. Using the same personality inventory, Maier et al. (1992) studied the relatives of unipolar depressive inpatients and controls and found that the healthy relatives of depressives scored higher on neuroticism and rigidity.

We were not able to confirm our previously reported association of aggressivity and depression. It still remains an important trait in predicting suicide.

In summary, the overwhelming evidence indicates that young men who endorse items formerly labelled as neuroticism and autonomic lability are at risk to also develop major depressive disorder at a young age. These factors contain individual psychological and somatic depressive symptoms and negative cognitions. Although these items, when examined carefully, are subsyndromal depressive symptoms, they are also enduring and most likely represent a personality trait which should be labelled depressive rather than neuroticism. It probably could be identified as early as high school age. Although it seems obvious to reveal that "depressive symptoms foretell depression," it is still important to emphasize, since education and cognitive interventions could perhaps have an impact on the development and course of depressive disorder and influence an outcome of suicide. In addition, the differences between the unipolars and the bipolars argues for continued separation of the two disorders.

References

- Akiskal HS, Khani MK, Scott-Strauss A (1979) Cyclothymic temperamental disorders. *Psychiatr Clin North Am* 2:527-554
- Akiskal HS, Hirschfeld RMA, Yerevanian BI (1983) The relationship of personality to affective disorders. A critical review. *Arch Gen Psychiatry* 40:801-810
- Akiskal HS, Djenderedjian AH, Rosenthal RH, Khani MK (1977) Cyclothymic disorder: Validating criteria for inclusion in the bipolar affective group. *Am J Psychiatry* 134:1227-1233
- Angst J, Blankenburg W, Ciompi L, Eggers C, Huber G, et al. (1988) *Persönlichkeit und Psychose*. Enke, Stuttgart
- Angst J, Baumann U, Müller U, et al. (1973) Epidemiologie des Drogenkonsums im Kanton Zürich. Repräsentative Umfrage bei 6315 Zürchern und 1381 Zürcherinnen (Alter: 19 Jahre). *Arch Psychiatr Nervenkr* 217:11-24
- Angst J, Clayton P (1986) Premorbid personality of depressive, bipolar and schizophrenic patients with special reference to suicidal issues. *Compr Psychiatry* 27:511-532
- Bech P, Shapiro RW, Sihm F, Nielsen B-M, Sørensen B, Rafaelsen OJ (1980) Personality in unipolar and bipolar manic-melancholic patients. *Acta Psychiatr Scand* 62:245-257
- Bouman TK, Vries J de, Koopmans IH (1992) Lithium prophylaxis and interepisode mood. A prospective longitudinal comparison of euthymic bipolars and non-patient controls. *J Affective Disord* 24:199-206
- Cattell RD (ed) (1966) *Handbook of Multivariate Experimental Psychology*. Rand McNally, Chicago
- Ernst C, Schmid G, Angst J (1992) The Zurich Study. XVI. Early antecedents of depression. A longitudinal prospective study on incidence in young adults. *Eur Arch Psychiatry Clin Neurosci* 242:142-151
- Eysenck HJ (1952) *The scientific study of personality*. Routledge & Kegan Paul, London
- Fahrenberg J, Selg H (1970) *Das Freiburger Persönlichkeitsinventar (FPI)*. Hogrefe, Göttingen
- Feighner JP, Robins E, Guze SB, Woodruff RA, Jr., Winokur G, Munoz R (1972) Diagnostic criteria for use in psychiatric research. *Arch Gen Psychiatry* 26:57-63
- Guilford JP (1959) *Personality*. McGraw-Hill, New York
- Gunderson JG, Triebwasser J, Phillips KA, Begin CN (in press) Personality and vulnerability to affective disorders. In: *Personality and Psychopathology*, (Ed.) CR Cloninger. American Psychiatric Association Press, Washington, D.C.
- Hathaway SR, McKinley JCA (1947) *Multiphasic personality schedule*. Psychological Corp., New York
- Henderson AS (1983) Vulnerability to depression: The lack of social support does not cause depression. In: *The Origins of Depression: Current Concepts and Approaches*. (Ed.) J. Angst. Springer, Berlin, Heidelberg, New York
- Hirschfeld RMA, Klerman GL, Lavori P, Keller MB, Griffith P, Coryell W (1989) Premorbid personality assessments of first onset of major depression. *Arch Gen Psychiatry* 46:345-350
- Jamison KR, Gerner RH, Hammen C, Padesky C (1980) Clouds and silver linings: Positive experiences associated with primary affective disorders. *Am J Psychiatry* 137:198-202
- Klein DN, Depue RA (1985) Obsessional personality traits and risk for bipolar affective disorder: An offspring study. *J Abnorm Psychol* 94:291-297
- Krieg JC, Lauer CJ, Hermle L, Bardeleben U von, Pollmächer T, Holsboer F (1990) Psychometric, polysomnographic, and neuroendocrine measures in subjects at high risk for psychiatric disorders: Preliminary results. *Neuropsychobiology* 23:57-67
- Lewinsohn PM, Steinmetz JL, Larson DW, Franklin J (1981) Depression-related cognitions: Antecedent or consequence? *J Abnorm Psychol* 90:213-219
- Lumry AE, Gottesman II, Tuason VB (1982) MMPI state dependency during the course of bipolar psychosis. *Psychiatry Res* 7:59-67
- MacVane JR, Lange JD, Brown WA, Zayat M (1978) Psychological functioning of bipolar manic-depressives in remission. *Arch Gen Psychiatry* 35:1351-1354
- Maier W, Lichtermann D, Minges J, Heun R (1992) Personality traits in subjects at risk for unipolar major depression: A family study perspective. *J Affective Disord* 24:153-164
- Martin M (1985) Neuroticism as predisposition toward depression: A cognitive mechanism. *Person Individ Diff* 6:353-365
- Matussek P, Feil WB (1983) Personality attributes of depressive patients. *Arch Gen Psychiatry* 40:783-790
- McGue M, Bacon S, Lykken DT (1993) Personality stability and change in early adulthood: A behavioral genetic analysis. *Dev Psychology* 29:10-14

- Müller U, Ruppen R, Baumann U, et al. (1973) Persönlichkeitsaspekte jugendlicher Drogenkonsumenten. Eine repräsentative Umfrage an 6315 neunzehnjährigen Zürichern. *Arch Psychiatr Nervenkr* 217:207–222
- Nyström D, Lindegard B (1975a) Depression: Predisposing factors. *Acta Psychiatr Scand* 51:77–87
- Nyström S, Lindegard B (1975b) Predisposition for mental syndromes: A study comparing predisposition for depression, neurasthenia and anxiety state. *Acta Psychiatr Scand* 51:69–76
- Phillips KA, Gunderson JG, Hirschfeld RMA, Smith LE (1990) A review of the depressive personality. *Am J Psychiatry* 147:830–837
- Pritz WF, Mitterauer BJ (1984) Bipolar mood disorders: An affected sibling study. I. Genetic background and course of illness. *Psychopathology* 17:67–79
- Rorsman B, Gräsbeck A, Hagnell O, Isberg PE, Otterbeck L (1993) Premorbid personality traits and psychosomatic background factors in depression: The Lundby Study 1957–1972. *Neuropsychobiology* 27:72–79
- Targum SD, Dibble ED, Davenport YB, Gershon ES (1981) The family attitudes questionnaire. *Arch Gen Psychiatry* 38:562–568
- Zerssen D von, Pfister H, Koeller D-M (1988) The Munich Personality Test (MPT) – a short questionnaire for self-rating and relatives' rating of personality traits; Formal properties and clinical potential. *Eur Arch Psychiatry Neurol Sci* 238:73–93
- Zerssen D von (1993) Normal and abnormal variants of premorbid personality in functional mental disorders. Conceptual and methodological issues. *J Personality Disorders* 7:116–136
- Zerssen D von, Pössl J (1990) The premorbid personality of patients with different subtypes of an affective illness. Statistical analysis of blind assignment of case history data to clinical diagnoses. *J Affective Disord* 18:39–50