

# The Concept of Distinct but Voluminous Groups of Bipolar and Unipolar Diseases

## I. Bipolar Diseases

A. Marneros, A. Deister, and A. Rohde

Psychiatric Department of the University of Bonn, Sigmund-Freud-Strasse 25, W-5300 Bonn 1, Federal Republic of Germany

Received May 8, 1990

**Summary.** One hundred and six affective (76 unipolar and 30 bipolar) and 101 schizoaffective patients (45 unipolar and 56 bipolar) were investigated after a long-term course of illness, evaluating sociodemographic and general data, the long-term course of illness, disability and psychosocial alterations according to WHO/DAS, WHO/PIRS and GAS, as well as several social consequences of the illness (living situation at the end of the observation time, downward occupational drift, downward social drift, premature retirement, achievement of the expected social development). Comparing the 30 bipolar affective and 56 bipolar schizoaffective disorders, no differences were found regarding (a) sociodemographic and general data (i.e. sex distribution, age at onset, education and occupation at onset, stable heterosexual relationship, premorbid personality and social interactions, mental illness in the family, broken home, life events, season of birth and social classes) and (b) relevant patterns of the long-term course. Regarding long-term outcome, the only difference found concerned the more favourable outcome of the bipolar affective disorders according to WHO/DAS, while using GAS the difference was not statistically significant. No difference was found either between the two bipolar groups in the social consequences of the illness. The combining of both bipolar groups as "bipolar diseases" is discussed, as well as the use of the terms "bipolar disease, affective subtype" and "bipolar disease, schizoaffective subtype".

**Key words:** Affective disorders – Schizoaffective disorders – Bipolar diseases – Premorbid features – Long-term course and outcome

## Introduction

Previous work shows that relevant differences exist between bipolar and unipolar affective disorders (Angst

1966, 1980a, b; Perris 1966, 1969; Winokur and Clayton 1967). The differences found concern mainly sociodemographic and premorbid data and in particular features of course (Angst 1986a, b; Angst and Clayton 1986; Rohde et al. 1990). Recent work shows that the dichotomy unipolar/bipolar is valid not only for affective but also for schizoaffective disorders. It has been found that the differences between unipolar and bipolar schizoaffective disorders are similar to those between unipolar and bipolar affective disorders (Angst 1986c, 1989; Marneros et al. 1989a, b, c; Rohde et al. 1990).

Consequently several questions arise: (a) How relevant are the similarities between the *two unipolar forms*, i.e. between unipolar affective and schizoaffective disorders? (b) How relevant are the similarities between the *two bipolar forms*, i.e. between bipolar affective and schizoaffective disorders? (c) How relevant are the differences between a *voluminous group of unipolar diseases* and a *voluminous group of bipolar diseases*? (d) Are the similarities between unipolar affective and schizoaffective disorders, on the one hand, and bipolar affective and schizoaffective disorders, on the other hand, so strong that they can support the assumption of two different disease entities, namely unipolar diseases and bipolar diseases?

We tested these hypotheses comparing sociodemographic and premorbid features, long-term course, long-term outcome and social consequences of the illness in 106 affective and 101 schizoaffective disorders. In this first part of the study we have tried to answer the above-mentioned questions with regard to bipolarity.

## Material, Methods and Definitions

This study presents the results of the completed Cologne Study on long-term course and outcome of psychotic disorders (Marneros et al. 1986a–c, 1988a–c, 1989a–c). It is based on the findings from 106 patients diagnosed as having an affective disorder and 101 patients diagnosed as having a schizoaffective one.

## Diagnostic Criteria and Definitions

The diagnostic criteria used in this study distinguish between "episode" (defined cross-sectionally) and "disorder" or "illness" (defined longitudinally). The diagnostic criteria for episodes are based on DSM-III-oriented criteria and definitions (Marneros et al. 1988a). For statistical purposes we considered an episode as the time between the beginning and the end of inpatient or inpatient-like treatment (intensive medical care and interruption of usual work or duties; Marneros et al. 1988a). The following different types of episodes were defined: schizophrenic, melancholic, manic, manic-depressive mixed, schizodepressive, schizomanic and schizomanic-depressive mixed (Marneros et al. 1988a).

An *affective disorder* was diagnosed if during the whole course only affective episodes (melancholic, manic, manic-depressive mixed) and no schizophrenic or schizoaffective (schizodepressive, schizomanic, schizomanic-depressive mixed) episodes were present. A *schizoaffective disorder* was defined as being the concurrent or sequential presence of schizophrenic symptoms and melancholic or manic symptomatology during the course (Marneros et al. 1986b).

A *unipolar affective disorder* was diagnosed for patients having only melancholic episodes during the whole course. A *bipolar affective disorder* was diagnosed if manic or manic-depressive mixed episodes were also present. Schizoaffective disorders without any manic symptomatology during the course were diagnosed as *unipolar schizoaffective disorders*, schizoaffective disorders with manic symptomatology during the course (manic, schizomanic, manic-depressive mixed or schizomanic-depressive mixed) as *bipolar schizoaffective disorders* (for more details and definitions see Marneros et al. 1989a).

At the end of the observation time all patients were interviewed using the following standardized instruments: Present State Examination (PSE; Wing et al. 1974, 1982); Disability Assessment Schedule (WHO/DAS; WHO 1979, 1988; Schubart et al. 1986a); Psychological Impairment Rating Schedule (WHO/PIRS; WHO 1979; Biehl et al. 1986, 1989; Schubart et al. 1986b); Global Assessment Scale (GAS; Spitzer et al. 1976; Endicott et al. 1976). These instruments are described in detail elsewhere (Marneros et al. 1989d).

For the patients investigated, case records of all hospitalizations during the course were evaluated using a standardized protocol. The symptom list was AMDP-oriented.

For the patterns of course (number of episodes and cycles, annual frequency of episodes and cycles, mean duration of episodes and cycles) a log-normal distribution was found (Angst 1980; Angst and Weis 1967; Angst et al. 1973; Marneros et al. 1988a, 1989b). For these parameters a logarithmic transformation was applied and a comparison between the diagnostic groups was then made using the *t*-test. For other statistical investigations we used univariate methods such as the chi-square test, *t*-test, and the Mann-Whitney U-test. Computation was carried out using SPSSx.

Seventy-six patients were diagnosed as having a unipolar affective disorder and 30 patients as having a bipolar affective disorder. Forty-five patients had a unipolar and 56 patients a bipolar schizoaffective disorder. This investigation is based on this total of 207 patients (Table 1).

In this first part of the study 30 bipolar affective and 56 bipolar schizoaffective disorders were investigated, comparing three clusters of selected variables, i.e. (a) sociodemographic and general data, (b) premorbid features, (c) variables of long-term course and of long-term outcome. Definitions and explanations of the variables are given in the appropriate sections below.

## Results

### Sociodemographic and Premorbid Data

No significant difference between the two groups was found regarding *sex distribution* (Table 2). Although the *age at onset* in schizoaffective bipolars was found to be somewhat lower than in affective bipolars, the difference was not significant (Table 2). This is an unexpected finding as recent works of Angst (1986, 1989) showed. As we found in a former investigation (Marneros et al. 1989a) the following factors can interfere with the age at onset:

1. Patients with a bipolar course without depressive symptomatology had a much lower age at onset (mean

**Table 1.** Features of population studied

	Schizoaffective (n = 101)	Affective (n = 106)
Sex		
Male	36.6%	24.5%
Female	63.4%	75.5%
Age at onset (years)		
Arithmetic mean	30.4	36.1
Median	29.0	35.0
Standard deviation	10.4	11.0
Minimum value	15	15
Maximum value	58	63
Length of observation time (years)		
Arithmetic mean	25.5	27.9
Median	25.0	25.0
Standard deviation	10.5	9.3
Minimum value	10	10
Maximum value	61	56
Course (n)		
Bipolar	56	30
Unipolar	45	76

**Table 2.** Features of bipolar population

	Schizo- affective bipolar (n = 56)	Affective bipolar (n = 30)	
Sex			
Male	46.4%	33.3%	$P = 0.241^a$
Female	53.6%	66.7%	
Age at onset (years)			
Arithmetic mean	29.0	31.1	$P = 0.379^b$
Median	26.5	28.5	
Standard deviation	10.2	10.6	$P = 0.376^c$
Minimum value	16	15	
Maximum value	52	56	
Length of observation time (years)			
Arithmetic mean	24.3	24.7	$P = 0.848^b$
Median	24.0	23.5	
Standard deviation	11.1	11.3	$P = 0.878^c$
Minimum value	10	10	
Maximum value	61	56	

<sup>a</sup> Chi-square test; <sup>b</sup> *t*-test; <sup>c</sup> Mann-Whitney U-test

28.6 years) than bipolar patients with depressive symptoms; but 77% of the bipolars in this study did have depressive symptomatology; that means they had a factor elevating the average age at onset.

2. Specific types of bipolar episodes, namely the mixed manic-depressive and schizomanic-depressive, were found to be correlated with a higher age at onset than other kinds of episodes. The majority of the bipolars of our sample (57%) did in fact have such mixed episodes; in 26% the course began with such an episode. This is also a factor elevating the average age at onset of the bipolar group.

3. In the majority of the bipolar schizoaffectives of this sample (69%) the course began with episodes other than manic or schizomanic, which are the episodes with the lower age at onset. This is also a factor elevating the average age at onset of the bipolar group.

4. In the vast majority of the unipolar patients of this sample (76%) the course began with a schizodepressive episode, and as many as 95% had schizodepressive episodes during the course of the illness. Schizodepressive episodes as initial episodes were found to be correlated with lower age at onset than other types of episodes with depressive symptomatology; this is a factor decreasing the average age at onset in the unipolars of this sample.

5. Both unipolar and bipolar schizoaffective patients of this sample had a very strongly "schizoaffective focused" course, whereas an affective or schizophrenic bias was rare in both groups (Marneros et al. 1989b). Perhaps the extremely rare presence of affect-dominant and schizo-dominant cases in both groups and their strong similarity regarding "schizoaffective dominance" could have a relation to the similar average age at onset in both groups.

The *educational level* was evaluated using four global categories (Marneros et al. 1989a, Table 3): (a) *lowest education level* (uncompleted elementary education or special education for children with learning problems); (b) *low educational level* (completed elementary school or uncompleted intermediate school); (c) *middle educational level* (completed intermediate/vocational school or high school, not completed); (d) *high educational level* (completed high school or university study).

The distribution of the four educational categories did not differ significantly between the two bipolar groups; neither did the *occupation at onset* of the illness (Table 3). Between bipolar affective and schizoaffective patients no significant differences were found regarding *social class*, i.e. original (parental) social class, social class at onset and highest achieved social class (Table 4). Social class was judged according to the criteria of Kleining and Moore (Kleining 1975a, b; Kleining and Moore 1968; Moore and Kleining 1960) and then transferred to the categorization of Hollingshead and Redlich (1958). According to German sociological investigations, there are no relevant differences in social structure among Western industrial countries, especially between the United States of America and the Federal Republic of Germany (Kleining 1975a, b; Kleining and Moore 1968; Moore and Kleining 1960), so the two classifications are compatible.

**Table 3.** Premorbid and sociodemographic data

	Schizo-affective bipolar (n = 56)	Affective bipolar (n = 30)	
Educational level			P = 0.456 <sup>a</sup>
Lowest level	3.6%	0.0%	
Low level	42.9%	50.0%	
Middle level	19.6%	10.0%	
High level	33.9%	40.0%	
Occupation at onset of illness			P = 0.471 <sup>a</sup>
Unemployed	1.8%	3.3%	
Housewife	19.6%	23.3%	
Unskilled worker	10.7%	10.0%	
Skilled worker	14.3%	3.3%	
White collar worker	17.9%	33.3%	
Top white collar worker	14.3%	6.7%	
In training	21.4%	20.0%	
Stable heterosexual partnership before onset (> 6 months)			
Total	64.3%	66.7%	P = 0.825 <sup>a</sup>
Patients older than 25 years	93.8%	76.2%	P = 0.152 <sup>a</sup>
Female patients > 25 years	87.5%	78.6%	P = 0.870 <sup>a</sup>
Male patients > 25 years	100.0%	71.4%	P = 0.152 <sup>a</sup>
Married at onset			
Total	53.6%	56.7%	P = 0.783 <sup>a</sup>
Patients older than 25 years	81.3%	61.9%	P = 0.118 <sup>a</sup>
Female patients > 25 years	75.0%	57.1%	P = 0.301 <sup>a</sup>
Male patients > 25 years	87.5%	71.4%	P = 0.349 <sup>a</sup>
Premorbid personality (global categories)			P = 0.089 <sup>a</sup>
Obsessoid (typus melancholicus)	15.1%	26.7%	
Asthenic/low self-confidence	47.2%	23.3%	
Sthenic/high self-confidence	37.7%	50.0%	
Premorbid social interactions			P = 0.093 <sup>a</sup>
Tendency to isolation	26.8%	44.8%	
No tendency to isolation	73.2%	55.2%	
Mental illness in the family	66.1%	63.3%	P = 0.800 <sup>a</sup>
Broken home situation	39.3%	26.7%	P = 0.242 <sup>a</sup>
Life events			
Before first episode	50.0%	46.7%	P = 0.786 <sup>a</sup>
At least once during course	85.7%	80.0%	P = 0.706 <sup>a</sup>
Episodes with life events	28.8%	33.5%	P = 0.246 <sup>a</sup>
Season of birth			P = 0.770 <sup>a</sup>
Spring (March to May)	21.4%	30.0%	
Summer (June to August)	21.4%	23.3%	
Autumn (September to November)	21.4%	20.0%	
Winter (December to February)	35.7%	26.7%	

<sup>a</sup> Chi-square test

**Table 4.** Social classes

	Schizo-affective bipolar (n = 56)	Affective bipolar (n = 30)	
Parents' social class			$P = 0.473^a$
I	8.9%	10.0%	
II	26.8%	16.7%	
III	30.4%	20.0%	
IV	28.6%	43.3%	
V	5.4%	10.0%	
Patient's social class at onset			$P = 0.947^a$
I	10.7%	6.7%	
II	30.4%	26.7%	
III	23.2%	23.3%	
IV	30.4%	36.7%	
V	5.4%	6.7%	
Patient's highest achieved social class			$P = 0.872^a$
I	14.3%	13.3%	
II	30.4%	20.0%	
III	23.2%	26.7%	
IV	26.8%	33.3%	
V	5.4%	6.7%	

I, Upper classes, upper middle class; II, middle middle class; III, lower middle class; IV, upper lower class; V, low lower class

<sup>a</sup> Chi-square test

No significant differences were found either between the two groups with regard to *premorbid personality* and *premorbid social interactions* (Table 3). However, it has to be pointed out that because of the mainly retrospective estimation of premorbid personality structure (usually using a reconstruction based on patients and patients' family information as well as case record information) it is possible that a shortcoming arose because of lack of information or incomplete information. But most important is possible "contamination" of "premorbid" and "postmorbid" features. However, this danger of contamination is not as extensive in affective and schizo-affective disorders as in schizophrenia. Because of the reasons mentioned we did not use standardized instruments to estimate the premorbid personality, relying instead on the interviewer's opinion and case records. The three global categories of premorbid personality were (for definitions see Marneros et al. 1989a): (a) *obsessoid personality* ("Typus melancholicus" of Tellenbach 1976, see also Akiskal et al. 1983, showing similarities to "obsessive-compulsive personality" of DSM-III), (b) *asthenic/low-self-confident personality* (oriented on "dependent personality" of DSM-III) and (c) *sthenic/high-self-confident personality* (which is the opposite of the former type).

No significant differences between affective and schizo-affective bipolar patients were found regarding *stable heterosexual relationship* before onset (duration of partnership at least 6 months, Table 3). This finding proved

to be true regardless of age and sex. There were also no differences found in the distribution of the various types of social status in the two groups (Table 3).

The frequency of patients having at least one *relative with mental illness* was not found to differ between the two groups (Table 3). *Broken home situation* (i.e. mainly loss of one or both parents before the patient reached the age of 16) and presence of so-called life events also did not differentiate the two bipolar groups; neither did the *season of birth* (all patients were born in Europe, Table 3). This means that no significant differences were found between bipolar affective and bipolar schizo-affective disorders concerning any of the sociodemographic and general data compared (Tables 2–4).

### Long-Term Course

As already pointed out we confirmed the findings of Angst (Angst 1980; Angst and Weis 1967; Angst et al. 1973) that for some variables of the course of affective disorders there is a log-normal distribution. We found this to be valid also for the same variables of the course of schizo-affective disorders (Marneros et al. 1988a, 1989b). For the variables considered here – annual frequency of episodes, annual frequency of cycles, average length of cycles and episodes – logarithmic transformations were carried out.

*Polyphasic Course.* The course of affective and schizo-affective disorders was broken down into three categories based on the number of episodes during the follow-up period (a) monophasic: only 1 episode; (b) oligophasic: 2 or 3 episodes; and (c) polyphasic: 4 and more episodes (Marneros et al. 1986b). The majority of patients in both groups suffered a polyphasic course, showing no significant difference between bipolar affectives and bipolar schizo-affectives (Table 5).

*Prodromal Symptoms.* Investigating the presence of prolonged prodromal symptoms, i.e. changes of behaviour and/or mood or a feeling of illness for at least 6 months before hospitalization (not fulfilling the full criteria of mental disorders) we found nearly equal numbers in both groups, bipolar affective and schizo-affective disorders (Table 5). This showed that a so-called chronic onset of illness was not very frequent in either group.

*Annual Frequency of Episodes.* To standardize the different follow-up periods of the patients investigated we used the annual frequency of episodes (AFE), that is the number of episodes divided by the duration of the illness in years (Marneros et al. 1988a). The AFE was calculated for each individual case. No significant differences regarding AFE were found between bipolar affective and schizo-affective disorders (Table 5).

*Number of Cycles.* Only one patient of the affective bipolar group and only four patients of the schizo-affective bipolar group had a monophasic (or monoepisodic) course. All other patients suffered more than one episode of illness, so that the number of cycles and the length of cycles could be calculated.

**Table 5.** Parameters of course

	Schizo-affective bipolar (n = 56)	Affective bipolar (n = 30)	
Polyphasic course	75.0%	66.7%	$P = 0.411^a$
Prodromal symptoms (> 6 months)	14.3%	13.3%	$P = 0.838^a$
Annual frequency of episodes			
Geometric mean	0.26	0.23	$P = 0.451^d$
Median	0.30	0.21	$P = 0.214^c$
Standard deviation	0.24	0.16	
Minimum value	0.03	0.10	
Maximum value	1.40	0.70	
Number of cycles			
Number of patients	52	29	
Geometric mean	5.2	3.8	$P = 0.056^d$
Median	6.0	4.0	$P = 0.062^c$
Standard deviation	4.3	3.6	
Minimum value	1	1	
Maximum value	18	15	
Annual frequency of cycles			
Number of patients	52	29	
Geometric mean	0.40	0.41	$P = 0.948^d$
Median	0.47	0.38	$P = 0.965^c$
Standard deviation	0.30	0.48	
Minimum value	0.07	0.10	
Maximum value	1.33	1.54	
Average length of episode (months)			
Geometric mean	1.5	1.9	$P = 0.106^d$
Median	2.0	2.1	$P = 0.121^c$
Standard deviation	1.2	1.6	
Minimum value	0.38	0.62	
Maximum value	7.3	8.4	
Average cycle length (months)			
Number of patients	52	29	
Geometric mean	21.3	19.3	$P = 0.563^d$
Median	26.6	31.8	$P = 0.890^c$
Standard deviation	33.6	34.1	
Minimum value	8.3	7.8	
Maximum value	164.3	119.8	
Activity of illness (years)			
Arithmetic mean	15.7	15.3	$P = 0.784^b$
Median	14.5	14.0	$P = 0.784^c$
Standard deviation	10.9	11.7	
Minimum value	0.0	1.0	
Maximum value	43.0	47.0	
Inactivity of illness (years)			
Number of patients	39	19	
Arithmetic mean	11.7	12.3	$P = 0.775^b$
Median	10.0	10.0	$P = 0.485^c$
Standard deviation	7.9	6.4	

<sup>a</sup> Chi-square test; <sup>b</sup> *t*-test; <sup>c</sup> Mann-Whitney U-test; <sup>d</sup> *t*-test (log-values)

A cycle was defined as the period of time between the beginning of one episode and the beginning of the next (Angst 1986). As Table 5 shows, again there was no significant difference found between the two groups.

**Annual Frequency of Cycles.** The annual frequency of cycles (AFC) was estimated by dividing the number of cycles by the duration of activity of illness in years (activity of illness: time between beginning of first episode and end of last episode; Marneros et al. 1988a, c). The AFC was calculated for each individual case. As we have shown elsewhere (Marneros et al. 1988a), the AFC is an important parameter of course in affective and schizo-affective disorders because it is relatively independent of beginning and end of episodes, which are not accurately definable. It is also not linked to the inactivity period of the disorders or to the rare monophasic (monoepisodic) cases (Marneros 1988a). Again, there were no significant differences regarding AFC between affective and schizo-affective bipolar patients (Table 5).

**Length of Episodes and Cycles.** As we have already pointed out, for the purposes of statistical analysis, the *length of an episode* was considered to be the time between the beginning and end of inpatient or inpatient-like treatment. [Inpatient-like treatment (a) need for intensive medical care, i.e. treatment with psychotropic drugs, and frequent consultation of a psychiatrist and (b) interruption of usual occupation or duties; Marneros et al. 1988a]. The *cycle length* was defined as the period between the beginning of an episode and the beginning of the next one. As Table 5 shows, there were also no differences found between the two groups regarding the length of episodes and cycles.

**Activity and Inactivity of the Illness.** *Activity of the illness* was defined as the period of time between the beginning of the first episode of illness and the end of the last one. *Inactivity of the illness* was defined as a period of at least 3 years since the end of the last episode, regardless of the presence or absence of residual symptoms. This 3-year period is to some extent arbitrary and only a compromise, but it is, nevertheless, based on empirical data (Marneros et al. 1988b, c). As shown in Table 5, no significant differences were found between the two groups.

#### Long-Term Outcome

**Level of Functioning according to GAS.** The level of functioning was evaluated using the GAS. Although the average score in the GAS is lower in schizo-affective bipolars than in affective bipolars, the difference has no statistical significance (arithmetic mean, Table 6). The percentage of affective bipolars in the category "no difficulties" (score 91–100) is higher than that of schizo-affective bipolars but the distribution of the two groups in the five GAS categories does not differ significantly.

**Disability according to WHO/DAS.** The global evaluation of social adjustment according to the WHO/DAS, on a scale of 0–5, showed that significantly more affective

**Table 6.** Long-term outcome and social consequences of the illness

	Schizo-affective bipolar (n = 56)	Affective bipolar (n = 30)	
Global Assessment Scale			$P = 0.391^a$
No difficulties (score 91–100)	46.4%	66.7%	
Slight difficulties (score 71–90)	14.3%	10.0%	
Moderate difficulties (score 51–70)	19.6%	13.3%	
Severe difficulties (score 31–50)	14.3%	10.0%	
Very severe difficulties (score 0–30)	5.4%	0.0%	
Arithmetic mean	75.2	85.1	$P = 0.069^b$
Median	82.5	95.0	$P = 0.128^c$
Standard deviation	25.4	20.5	
Disability Assessment Schedule			$P = 0.008^a$
Excellent adjustment (score 0)	48.2%	66.7%	
Very good adjustment (score 1)	14.3%	13.3%	
Good adjustment (score 2)	30.4%	3.3%	
Fair adjustment (score 3)	0.0%	10.0%	
Poor adjustment (score 4)	7.1%	6.7%	
Very poor adjustment (score 5)	0.0%	0.0%	
Living situation at end of observation time	(n = 50)	(n = 26)	$P = 0.053^a$
Mental illness without impact on autarky	72.0%	88.5%	
Mental illness with impact on autarky	28.0%	7.7%	
Permanently hospitalized	0.0%	3.8%	
Downward occupational drift (without housewives)	(n = 38) 52.6%	(n = 24) 29.2%	$P = 0.070^a$
Downward social drift (without housewives)	(n = 38) 26.3%	(n = 21) 28.6%	$P = 0.852^a$
Premature retirement (because of mental illness)	(n = 38) 31.6%	(n = 24) 25.0%	$P = 0.578^a$
Achievement of the expected social development	(n = 56) 64.3%	(n = 30) 76.7%	$P = 0.238^a$

<sup>a</sup> Chi-square test; <sup>b</sup> *t*-test; <sup>c</sup> Mann-Whitney U-test

tive bipolar than schizoaffective bipolar patients were excellently adjusted (score 0) and that more schizoaffective bipolars than affective bipolars showed only good or fair adjustment (scores 2 and 3,  $P = 0.008$ , Table 6).

**Social Consequences of the Illness.** Several variables indicating the social consequences of the illness were compared, showing no significant differences overall between the two groups of bipolar disorders (Table 6). Regarding the *living situation at the end of the observation time*, the majority of patients in both groups were able to live autark,

i.e. they were able to take care of themselves. None of the bipolar schizoaffectives and only one of the bipolar affective patients had to be hospitalized permanently because of the mental illness.

**Downward occupational drift** is defined as the difference in occupational status between the onset of illness and the time of the follow-up investigation or, for retired patients, the time of retirement. We considered only those patients for whom downward occupational drift was possible, i.e. those classified as housewives or retired at onset were excluded. Downward occupational drift was more frequent in schizoaffective bipolars than in affective bipolar patients, but without any statistical significance (Table 6).

**Downward social drift** was estimated by comparing the patient's original social class (parents' social class) with the patient's social class at the end of the observation time. The social class was estimated according to the criteria of Kleining and Moore (1968) and transferred to the classification of Hollingshead and Redlich (1958). For the purposes of statistical evaluation we excluded all the patients for whom downward drift was impossible because their original social class was already the lowest one. Less than 30% of the patients suffered a downward social drift in both groups (Table 6).

Excluding patients without paid occupation before onset (housewives and retired people), we defined the remaining population as "working". Slightly more schizoaffective bipolar patients *retired prematurely* because of the mental illness, but again no statistically significant difference was found.

The last variable showing social consequences of the illness is the *achievement of the expected social development*, reflecting the opinion of the expert (interviewer) as to whether the patient is fulfilling his or her expected social role and whether he or she has achieved the social status which would be expected on the basis of the status of the family, education, possibilities of upward social drift and so on (Marneros et al. 1989e). About one-third of the schizoaffective bipolar patients and about a quarter of the affective bipolar patients did not achieve this expected social development (statistically not significantly different, Table 6).

## Conclusions and Discussion

Since the dichotomy of affective disorders into bipolar and unipolar forms has been accepted, relevant differences between unipolar and bipolar affective disorders have been repeatedly confirmed (Angst 1978; Dunner 1980; Perris 1982; Winokur 1982; Winokur et al. 1986, 1990). Similarly relevant differences have been found between bipolar and unipolar schizoaffective disorders (Angst 1986a, b, 1989; Marneros et al. 1989a–c; Rohde et al. 1990; Winokur et al. 1990). This leads to the conclusion that the comparison of a global and voluminous group of patients with affective disorders with a global and voluminous group of patients with schizoaffective

disorders is not always meaningful: the results depend on the proportion of unipolar and bipolar patients in both groups. More reliable is the distinct comparison (a) of bipolar affective and bipolar schizoaffective disorders and (b) of unipolar affective and unipolar schizoaffective disorders.

Comparison of bipolar affective and schizoaffective disorders in this part of the study showed no significant differences in such important variables as sex distribution, social capacities and occupational skills, social pre-morbid interaction and frequency and type of mental illness in the family. The finding that the differences in age at onset between the two groups are not significant is unexpected and, as we found, sample-dependent. There were also no differences in the relevant patterns of long-term course.

The only significant difference found was that affective bipolars had a better long-term outcome regarding some aspects of social disability. Of course, there is another difference *per definitionem*: that is the difference in psychopathology or in symptomatology. Schizoaffective disorders have *per definitionem* a schizophrenic component in addition to the affective symptomatology. That means that the main non-psychopathological difference between bipolar affective and bipolar schizoaffective patients is the more favourable outcome of bipolar affective disorders.

As we have shown elsewhere (Marneros et al. 1989e; Steinmeyer et al. 1989), symptomatological factors are the main predictor of the somewhat more unfavourable outcome of schizoaffective disorders, especially the presence of schizophrenia-typical symptoms such as incoherence, hallucinations, or first-rank symptoms at least once during course. This may explain the difference in outcome between affective and schizoaffective bipolars.

The similarities between affective and schizoaffective bipolar disorders are so strong that it could be assumed that the psychopathological differences between the two groups can be explained only as phenomenological variations of one and the same disorder, which influence differently the frequency of psychological and social alterations during a long-term course. This assumption may be valid as long as we do not have any certain biological correlates to the different phenomenology.

Considering the strong similarities between the two bipolar disorders, an alternative to the distinct classification of them into affective and schizoaffective disorders might be their common categorization as "bipolar diseases". But despite the strong similarities between affective bipolar and schizoaffective bipolar disorders, combining both groups under the common term "bipolar disorders" has the disadvantage that it can cause a stronger inhomogeneity of this group, with the well-known negative consequences for basic research (see also Part III). However, because the inhomogeneity in a global "affective" or "schizoaffective" group is much stronger than in a global "bipolar" group, perhaps it is more meaningful to reverse the terms: instead of "affective disorder, bipolar subtype" or "schizoaffective disorder, bipolar subtype" we should use the terms "bipolar disease, affective subtype" and "bipolar disease, schizoaffective subtype".

**Acknowledgement.** Supported by the German Research Association (Deutsche Forschungsgemeinschaft) by grants no. Ma 915-1/1, Ma 915-1/2, and Ma 915-4/1.

## References

- Akiskal HS, Hirschfeld RMA, Yerevanian BI (1983) The relationship of personality to affective disorders. A critical review. *Arch Gen Psychiatry* 40:801–810
- American Psychiatric Association (1980) Diagnostic and statistical manual of mental disorders, 3rd edn. APA, Washington, D.C.
- Angst J (1966) Zur Aetiologie und Nosologie endogener depressiver Psychosen. Eine genetische, soziologische und klinische Studie. Springer, Berlin Heidelberg New York (Monographien aus dem Gesamtgebiet der Neurologie und Psychiatrie, Heft 112)
- Angst J (1978) The course of affective disorders. II. Typology of bipolar manic-depressive illness. *Arch Psychiatr Nervenkr* 226:65–73
- Angst J (1980a) Verlauf unipolar depressiver, bipolar manisch-depressiver und schizoaffectiver Erkrankungen und Psychosen. *Fortschr Neurol Psychiatr* 48:3–30
- Angst J (1980b) Clinical typology of bipolar illness. In: Belmaker RH, Praag HM van (eds) *Mania. An evolving concept*. Spectrum, Jamaica, NY, pp 61–76
- Angst J (1986a) The course of affective disorders. *Psychopathology* 19 [Suppl 2]:47–52
- Angst J (1986b) The course of major depression, atypical bipolar disorder, and bipolar disorder. In: Hippus H, Klerman GL, Matussek N (eds) *New results in depression research*. Springer, Berlin Heidelberg New York, pp 26–35
- Angst J (1986c) The course of schizoaffective disorders. In: Marneros A, Tsuang MT (eds) *Schizoaffective psychoses*. Springer, Berlin Heidelberg New York, pp 63–93
- Angst J (1989) Der Verlauf schizoaffectiver Psychosen. In: Marneros A (eds) *Schizoaffective Psychosen. Diagnose, Therapie und Prophylaxe*. Springer, Berlin Heidelberg New York, pp 47–54
- Angst J, Clayton PJ (1986) Premorbid personality of depressive, bipolar, and schizophrenic patients with special reference to suicidal issues. *Compr Psychiatry* 27:511–532
- Angst J, Weis P (1967) Periodicity of depressive psychoses. In: Brill H, Cole JO, Deniker P, Hippus H, Bradley BP (eds) *Neuro-psychopharmacology. Proceedings of the Fifth International Congress of the Colloquium Internationale Neuro-Psychopharmacologicum*, Washington, D.C., 1966. Excerpta Medica, Amsterdam, pp 703–710
- Angst J, Baastrup P, Grof P, Hippus H, Pöldinger W, Weis P (1973) The course of monopolar depression and bipolar psychoses. *Psychiatr Neurol Neurochir* 76:489–500
- Angst J, Felder W, Lohmeyer R (1980) Course of schizoaffective psychoses: results of a follow-up study. *Schizophr Bull* 6:579–585
- Biehl H, Maurer K, Schubart C, Krumm B, Jung E (1986) Prediction of outcome and utilization of medical services in a prospective study of first onset schizophrenics – results of a prospective 5-year follow-up study. *Eur Arch Psychiatry Neurol Sci* 236:139–147
- Biehl H, Maurer K, Jablensky A, Cooper JE, Tomov T (1989) The WHO Psychological Impairments Rating Schedule (WHO/PIRS) I. Introducing a new instrument for rating observed behaviour and the rationale of the psychological impairment concept. *Br J Psychiatry* 155 [Suppl 7]:68–70
- Dunner DL (1980) Unipolar and bipolar depression: recent findings from clinical and biologic studies. In: Mendels J, Amsterdam JD (eds) *The psychobiology of affective disorders*. Karger, Basel, pp 11–24
- Endicott J, Spitzer RL, Fleiss JL, Cohen J (1976) The Global Assessment Scale. A procedure for measuring overall severity of psychiatric disturbance. *Arch Gen Psychiatry* 33:766–771

- Hollingshead AB, Redlich FC (1958) Social class and mental illness. Wiley, New York
- Kleining G (1975a) Soziale Mobilität in der Bundesrepublik Deutschland. I. Klassenmobilität. *Kölner Z Soziol Sozialpsychol* 27:97–121
- Kleining G (1975b) Soziale Mobilität in der Bundesrepublik Deutschland. II. Status- oder Prestige-Mobilität. *Kölner Z Soziol Sozialpsychol* 27:273–292
- Kleining G, Moore H (1968) Soziale Selbsteinstufung (SSE) – Ein Instrument zur Messung sozialer Schichten. *Kölner Z Soziol Sozialpsychol* 20:502–552
- Marneros A, Deister A, Rohde A (1986a) The Cologne study on schizoaffective disorders and schizophrenia suspecta. In: Marneros A, Tsuang MT (eds) *Schizoaffective psychoses*. Springer, Berlin Heidelberg New York, pp 123–142
- Marneros A, Rohde A, Deister A, Risse A (1986b) Features of schizoaffective disorders. In: Marneros A, Tsuang MT (eds) *Schizoaffective psychoses*. Springer, Berlin Heidelberg New York, pp 143–154
- Marneros A, Rohde A, Deister A, Risse A (1986c) Schizoaffective disorders: the prognostic value of the affective component. In: Marneros A, Tsuang MT (eds) *Schizoaffective psychoses*. Springer, Berlin Heidelberg New York, pp 155–163
- Marneros A, Deister A, Rohde A, Jünemann H, Fimmers R (1988a) Long-term course of schizoaffective disorders. I. Definitions, methods, frequency of episodes and cycles. *Eur Arch Psychiatry Neurol Sci* 237:264–275
- Marneros A, Rohde A, Deister A, Jünemann H, Fimmers R (1988b) Long-term course of schizoaffective disorders. II. Length of cycles, episodes, and intervals. *Eur Arch Psychiatry Neurol Sci* 237:276–282
- Marneros A, Rohde A, Deister A, Fimmers R, Jünemann H (1988c) Long-term course of schizoaffective disorders. III. Onset, type of episodes and syndrome shift, precipitating factors, suicidality, seasonality, inactivity of illness, and outcome. *Eur Arch Psychiatry Neurol Sci* 237:283–290
- Marneros A, Deister A, Rohde A (1989a) Unipolar and bipolar schizoaffective disorders: a comparative study. I. Premorbid and sociodemographic features. *Eur Arch Psychiatry Neurol Sci* 239:158–163
- Marneros A, Rohde A, Deister A (1989b) Unipolar and bipolar schizoaffective disorders: a comparative study. II. Long-term course. *Eur Arch Psychiatry Neurol Sci* 239:164–170
- Marneros A, Deister A, Rohde A, Jünemann H (1989c) Unipolar and bipolar schizoaffective disorders: a comparative study. III. Long-term outcome. *Eur Arch Psychiatry Neurol Sci* 239:171–176
- Marneros A, Deister A, Rohde A, Steinmeyer EM, Jünemann H (1989d) Long-term outcome of schizoaffective and schizophrenic disorders: a comparative study. I. Definitions, methods, psychopathological and social outcome. *Eur Arch Psychiatry Neurol Sci* 238:118–125
- Marneros A, Deister A, Rohde A, Steinmeyer EM, Jünemann H (1989e) Long-term outcome of schizoaffective and schizophrenic disorders: a comparative study. III. Social consequences. *Eur Arch Psychiatry Neurol Sci* 238:135–139
- Moore H, Kleining G (1960) Das soziale Selbstbild der Gesellschaftsschichten in Deutschland. *Kölner Z Soziol Sozialpsychol* 12:86–119
- Perris C (1966) A study of bipolar (manic-depressive) and unipolar recurrent depressive psychoses. *Acta Psychiatr Scand [Suppl]* 194:1–189
- Perris C (1969) The separation of bipolar (manic-depressive) from unipolar recurrent depressive psychoses. *Behav Neuropsychiatry* 1:17–24
- Perris C (1982) The distinction between bipolar and unipolar affective disorders. In: Paykel ES (ed) *Handbook of affective disorders*. Churchill Livingstone, Edinburgh, pp 45–58
- Rohde A, Marneros A, Deister A, Jünemann H, Staab B (1990) Course of affective and schizoaffective disorders. In: Marneros A, Tsuang MT (eds) *Affective and schizoaffective disorders. Similarities and differences*. Springer, Berlin Heidelberg New York, pp 146–156
- Schubart C, Schwarz R, Krumm B, Biehl H (1986a) Schizophrenie und soziale Anpassung. Springer, Berlin Heidelberg New York
- Schubart C, Krumm B, Biehl H, Schwarz R (1986b) Measurement of social disability in a schizophrenic patient group. *Soc Psychiatry* 21:1–9
- Spitzer RL, Gibbon M, Endicott J (1976) The global assessment scale. *Arch Gen Psychiatry* 33:768
- Steinmeyer EM, Marneros A, Deister A, Rohde A, Jünemann H (1989) Long-term outcome of schizoaffective and schizophrenic disorders: a comparative study. II. Causal-analytical investigations. *Eur Arch Psychiatry Neurol Sci* 238:126–134
- Tellenbach H (1976) *Melancholie*. Springer, Berlin Heidelberg New York
- Wing JK, Cooper JE, Sartorius N (1974) *Measurement and classification of psychiatric symptoms*. Cambridge University Press, Cambridge
- Wing JK, Cooper JE, Sartorius N (1982) *Die Erfassung und Klassifikation psychiatrischer Symptome: Beschreibung und Glossar des PSE (present state examination)*. Beltz, Weinheim
- Winokur G (1982) The development of validity of familial subtypes in primary unipolar depression. *Pharmacopsychiatry* 15:142–146
- Winokur G, Clayton PJ (1967) Family history studies. I. Two types of affective disorders separated according to genetic and clinical factors. In: Wortis J (ed) *Recent advances in biological psychiatry*, vol 9. Plenum Press, New York
- Winokur G, Kadmas A, Crowe R (1986) Schizoaffective mania: family history and clinical characteristics. In: Marneros A, Tsuang MT (eds) *Schizoaffective psychoses*. Springer, Berlin Heidelberg New York, pp 115–122
- Winokur G, Black DW, Nasrallah A (1990) The schizoaffective continuum: non-psychotic, mood congruent, and mood incongruent. In: Marneros A, Tsuang MT (eds) *Affective and schizoaffective disorders. Similarities and differences*. Springer, Berlin Heidelberg New York, pp 23–32
- World Health Organisation (WHO) (1979) *Schizophrenia. An international follow-up study*. Wiley, Chichester
- World Health Organisation (WHO) (1988) *WHO Psychiatric Disability Assessment Schedule (WHO/DAS)*. WHO, Geneva