Reprinted from the German Journal of Psychiatry · http:/www.gwdg.de/~bbandel · ISSN 1433-1055

Association of Cross-Cultural Differences in Psychiatric Morbidity With Cultural Values: A Secondary Data Analysis

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Abstract

Background: Associations were analyzed between cultural values/attitudes and psychiatric morbidity/health complaints in different cultures, drawing on data from two independent cross-cultural studies. It was assumed that cross-cultural differences in psychiatric disorders and health complaints could be related to differences in cultural values. Specifically, it was assumed that more traditional values are related to lower prevalences of psychiatric morbidity.
Methods: Data from (1) a multi-center study on cultural values (Schwartz, 1994) and (2) the World Health Organization (WHO) Collaborative Study on Psychological Problems in General Health Care (Üstün & Sartorius, 1995) were jointly analyzed. Six cultural values (autonomy, conservatism, preference for hierarchy, self-mastery, egalitarian commitment, and harmony with nature) were related to regionally corresponding data on psychiatric morbidity (ICD-10 diagnoses) and types of symptoms presented (Üstün & Sartorius, 1995). Data of eleven countries constitute the unit of analysis.
Results: By and large, values representative of traditional societies (conservatism, hierarchy, and self-mastery) were negatively correlated with psychiatric diagnoses and symptoms, whereas values typical of modern/postmodern societies (autonomy and egalitarian commitment) were positively correlated with psychiatric diagnoses and symptoms. Ordinal regression analysis explained moderate to high levels of cross-cultural variance by cultural values.
Conclusions: The explorative study indicates that psychiatric morbidity and cultural values may be closely intertwined. Possible theoretical explanations and implications as well as limitations of the current analyses are discussed (German J Psychiatry 2001; 4:17-23) .

Key words: cultural values, cultural attitudes, cross-cultural psychiatry, psychiatric disorders

Received: 27.8.01
Published: 27.9.01

Introduction

Within the last decade, cross-cultural psychiatry has developed a methodologically sound basis for the comparison of data on the epidemiology of various mental disorders across different cultures or nations. Similar methods have been used in population-based epidemiological studies carried out in different cultures (e.g., Cross-National Collaborative Group, 1992; WHO Collaborative Study on Psychological Problems in General Health Care, Üstün & Sartorius, 1995). These studies have revealed remarkable variations in rates of psychiatric morbidity and health complaints across cultures. For example, the lifetime prevalence of major depression varies between 1.5 per 100 adults in Taiwan to 19.0 per 100 adults in Lebanon (Weissman et al., 1996). For panic disorder, lifetime prevalence ranges from 0.4 per 100 in Taiwan to 1.4 per 100 in Canada and 2.9 per 100 in Italy (Weissman et al., 1997).

However, the reasons behind these differences remain largely unclear.

The WHO Collaborative Study on Psychological Problems in General Health Care (Üstün & Sartorius, 1995) was designed to examine the frequency, recognition, and outcomes of psychological disorders encountered in general health-care settings in a cross-cultural, comparative epidemiological investigation. Differences in the prevalence rates of ICD-10 defined disorders were found across several countries (Table1).

The WHO Collaborative Study also discussed theoretically some predictors of variation in prevalence rates, e.g. differences in health beliefs and care-seeking behavior as well as cross-cultural differences in response patterns to diagnostic questions. In addition, researchers speculated that the variability in both disorders' prevalence rates and symptoms clusters presented might be caused by cultural factors that affect the way in which the symptoms are expressed. However, no assessment methods for the investigation of cultural factors were employed in the study. As yet, there has been no systematic cross-cultural investigation of the relationship between cultural values and psychiatric morbidity.

The empirical investigation of cultural values is a main topic of research in cross-cultural psychology (Hofstede, 1983; Schwartz, 1994; Regeser Lopez & Guarnaccia, 2000; Segall, Lonner, & Berry, 1998). According to cross-cultural psychological theory, it is possible to arrange diverse cultures along interpretable value dimensions. Hofstede (1980) introduced one of the most prominent conceptions; the dimension of „collectivism vs. individualism". This has subsequently gained wide acceptance and been used in many studies (cf. Kim & Triandis, 1994). In this approach, collectivism is defined as giving priority to in-group goals over personal goals. It has been shown that collectivism is prevalent in more traditional societies, whereas individualism is more common in contemporary Western societies. Other cultural value dimensions proposed included power distance, uncertainty avoidance, and degree of masculinity/femininity (Hofstede, 1990).

Schwartz (1990) proposed a different value conception, which was derived empirically by multidimensional scaling of value attributes (see also Schmitt et al., 1993; Schwartz & Bilsky, 1987, 1990). This cross-cultural value conception includes the dimensions self-mastery, harmony with nature, intellectual and affective autonomy, conservatism, preference for hierarchy, and societal or egalitarian commitment. Analyses have shown that the three dimensions conservatism, preference for hierarchy, and self-mastery are more prominent in more traditional societies (Schwartz, 1990; Schwartz & Bilsky, 1990). For example, self-mastery (comprising the features: independent, ambitious, daring, capable) was given the highest evaluation in China, followed by Zimbabwe, Greece, and Malaysia. The lowest values on this scale were given in France, Estonia, and Finland. For conservatism (features: obedient, devout, honoring elderly), the highest ratings were given in by the Israeli Druze and Malaysians. The two countries with the lowest estimation of this value were Spain and Switzerland. On the other hand, the values of autonomy, egalitarian commitment, and harmony with nature are more prevalent in modern/postmodern societies. For example, highest autonomy ratings were found in Switzerland and France with lowest rates in rural Estonia and Singapore. Top ratings of the value dimension harmony with nature was reached in Italy and Spain whereas lowest ratings were given by Zimbabweans and Israeli Arabs and orthodox Jews. Regarding the methodological advances of Schwartz's conception, Kim and Triandis (1994) concluded that it is one of the most highly elaborated systems currently available for cross-cultural research.

The present study assumes systematic relationships between cultural attitudes/cultural values and psychiatric morbidity in different cultures. The data allow to partly overcome shortcomings in previous research, in which very often only two different cultures were contrasted. This study examines data on a range of cultural values and psychiatric variables in a number of different cultures of four continents.

The following questions were addressed:

1. Are there systematic relationships between different rates of psychiatric disorders and health complaints presented in primary health-care facilities and cultural values?
2. Are the more traditional values (conservatism, preference for hierarchy, self-mastery) related to lower prevalence rates of psychiatric morbidity? Complementary, show cultures which are high in modern/postmodern values (e.g., autonomy) elevated rates of psychiatric morbidity?
3. Can the various psychological disorders and health complaints presented in primary care largely be explained by cultural values?

Table 1. Prevalences of Mental Disorders and Presenting Health Complaints in the WHO General Practioner Study (From Üstün & Sartorius, 1995, Tables on pp. 324, 326, 352)

Center	Prevalence of most common ICD-10 diagnoses				Presenting complaints of patients attending health care facilities		
	Any ICD-10 Mental Disorder (%)	Current Depression (%)	Generalized Anxiety (%)	Alcohol Dependence (%)	Psychological (%)	Fatigue/ Sleep (%)	Pain (%)
Rio de Janeiro	35.5	15.8	22.6	4.1	7.6	5.1	42.1
Paris	26.3	13.7	11.9	4.3	11.0	8.4	25.3
Groningen	23.9	15.9	6.4	3.4	12.8	5.7	28.2
Athens	19.2	6.4	14.9	1.0	2.2	5.1	21.9
Berlin	18.3	6.1	9.0	5.3	3.7	5.2	32.3
Ankara	16.4	11.6	0.9	1.0	2.6	5.6	40.5
Seattle	11.9	6.3	2.1	1.5	2.6	1.6	17.0
Verona	9.8	4.7	3.7	0.5	6.4	3.7	25.9
Ibadan	9.5	4.2	2.9	0.4	2.3	9.0	51.4
Nagasaki	9.4	2.6	5.0	3.7	1.3	9.5	21.3
Shanghai	7.3	4.0	1.9	1.1	0.2	13.3	26.2

Methods

Procedure

The two independent studies (Üstün & Sartorius, 1995, from now on cited as „General Practitioner Study" and Schwartz, 1994, cited as „Cultural Values Study") were examined for corresponding center locations. That is, wherever possible, the city sites in the General Practitioner Study were paired up with the appropriate country in the Cultural Values Study. The following 11 pairs are listed in Table 2.

Table 2. Matched National Sites of the Two Studies

Sites of the WHO General Practioner Study	National Sites of the Cultural Values Study
Rio de Janeiro	Brazil
Seattle	USA
Groningen	Netherlands
Paris	France
Berlin	Germany
Verona	Italy
Athens	Greece
Ankara	Turkey
Nagasaki	Japan
Shanghai	China (Shanghai)
Ibadan	Zimbabwe

The two African sites – Ibadan in Nigeria (General Practitioner Study) and Zimbabwe (Cultural Values Study) – were also paired despite the fact that they are located in different parts of sub-Saharan Africa. To control for the contribution of this somewhat arbitrary pair, correlational analyses were additionally conducted under exclusion of this site.

Samples

The General Practitioner Study samples consisted of between 900 and 2,800 participants per site (v. Korff & Üstün, 1995, p. 36). Each site had access to a general health care setting 'prototypically representative' of the primary health care services in their country. Patients were not pre-selected for psychological problems. Data from N = 19,114 participants were included in the present analyses. On average, the samples were predominantly female (1.6:1) and of middle age or over (40% over 45) (v. Korff & Üstün, 1995, p. 35). Educational levels reflected those in the populations from which the samples were drawn.

The Cultural Value Study samples consisted of between 150 and 300 respondents per site (Schwartz, 1994, p. 98). Approximately N = 2,475 were included in the present analyses. For the majority of the sites, data were gathered from two subsamples: school teachers and university students. Where gender is concerned, Schwartz points out that „gender ratios in the samples reflected those in the populations from which they were drawn ... gender effects on values were very small compared with national differences" (Schwartz, 1994, p. 99).

Cultural Values Study

Scores were gathered for the following six values: conservatism, autonomy, hierarchy, mastery, egalitarian commitment, and harmony with nature. The values can be described as follows (Schwartz, 1994, pp. 101-106):

- Conservatism: Predominant in societies based on close-knit, harmonious relations, in which the interests of the person are not viewed as distinct from those of the group.
- Autonomy: The person as an independent entity entitled to pursue his or her individual interests and desires. The score represents two related aspects: a more intel-

lectual emphasis on self-direction and a more affective emphasis on stimulation and hedonism.
- Hierarchy: The preference for hierarchy emphasizes the legitimacy of orders and resource allocation (sample item: humble).
- Self-Mastery: Active mastery of the social environment through self-assertion. Mastery value promotes active efforts to modify one's surroundings and get ahead of others.
- Egalitarian commitment: Transcendence of selfish interests and voluntary commitment to promoting the welfare of others (sample items: responsible, social justice).
- Harmony with nature: Represented by the value items: world of beauty, protecting environment, and unity with nature.

The six value scores were obtained from a multidimensional scaling analysis of the basic total sample (see Schwartz, 1994, p. 99-100, for further details of applied methodology). All subjects were asked to rate a list of 56 specific value items (e.g., humble, responsible, world of beauty) which were than processed into the six value dimensions. Respondents rated the values on their significance as „a guiding principle in my life" using a 9-point Likert scale from -1 ("opposed to my values") to 7 ("of supreme importance"). A short explanatory phrase followed in parentheses, further specifying the meaning of each value item. The survey was administered in the respondents' native language. The resulting value dimensions represent types of values that are statistically distinguishable. In result, for every country there is one row score for each of the six value scales. Table 3 presents the distribution parameters of the cultural values scores.

Table 3. Distribution of Cultural Values Scores of 11 Countries Included in the Previous Analysis (Data From Schwartz, 1994, pp. 112-115)

Value Dimensions	Mean (SD)	Range
Conservatism	3.84 (0.30)	3.35-4.27
Hierarchy	2.55 (0.55)	1.69-3.36
Self-mastery	4.22 (0.27)	3.89-4.62
Autonomy	7.95 (0.64)	7.30-9.50
Commitment	5.09 (0.38)	4.48-5.57
Harmony with nature	4.09 (0.40)	3.42-4.80

General Practitioner Study

Two kinds of assessments were gathered from this study:

- Psychiatric diagnoses: CIDI-Primary Care Version (v. Korff & Üstün, 1995) — a modified version of the Composite International Diagnostic Interview (Division of Mental Health, 1990) — was used to make ICD-10 diagnoses. The changes made included assessment of current point prevalences (last month). The CIDI-PHC was available in the native language of all participants. Extensive training sessions were held in all centers. Inter-rater reliability was found to be sufficient in each of the participating centers (for more details, see v. Korff & Üstün, 1995). The total prevalence of current ICD-10 disorders was used in the present analyses together with three most prevalent psychiatric disorders: current depression, generalized anxiety, and alcohol dependence.
- Presenting health complaints: One question of the CIDI-PCV provided information on "the problems that caused to attend doctor/clinic". The clinical rater coded these problems in a list of 25 categories. Üstün and v. Korff (1995, p. 352) subsequently categorized these problems into four broader: psychological, fatigue/sleep, pain, and other somatic problems. The category "Psychological problems" includes depression; anxiety-related, or other neurotic symptoms; alcohol and drug-related problems; interpersonal problems; and psychotic symptoms. „Fatigue/sleep problems" included weakness, lethargy, and sleep disturbances. The pain category included headache, abdominal, and back/chest pain. The category of "other somatic complaints" (e.g., loss of weight, shortness of breath, and dizziness) was not included into the following analyses because of its non-psychological nature.

Statistical analyses

In a first step, simple correlations were calculated. Due to the non-normally distributed prevalence data, Spearman's rank correlation coefficients were used. In a second step, data were entered into ordinal regression analysis with the disorders or complaints prevalences as dependent variables. SPSS 10.0 provides the Polytomous Logit Universal Models procedure (PLUM) as recently developed approach for ordinal regressions. It provides estimations for different levels (thresholds) of the dependent variable as well as for predictors. Chi-square statistics on the basis of logits are supplemented with pseudo R-squares which provide raw equivalents to General Linear Model R-squares. The two conventional pseudo R-square estimates are the more liberal Cox-Snell-R^2 (Cox & Snell, 1989) and the more restrictive McFadden-R^2 (McFadden, 1974). For all error probabilities, the confidence interval elevated to $p = .10$ due to the small number of measurement points.

Results

Table 4 presents the correlation coefficients for the eleven pairs of sites. Of the correlations which reached significance 7 were between traditional values and disorders or complaints whereas 2 were between modern/postmodern values and disorders or complaints.

Table 4: Spearman's Rank Correlation Coefficients Between Value Dimensions and Prevalence Rates of Psychiatric Disorders and Health Complaints in Eleven Countries

Value Dimensions	Prevalence Rates				Health Complaints		
	Any ICD-10 Diagnosis	Current Depression	Generalized Anxiety	Alcohol Dependency	Psychological Problems	Sleep/ Fatigue	Pain
Conservatism	-.48	-.27	-.66	-.56†	-.47	.17	.42
Hierarchy	-.49	-.35	-.59*	-.11	-.54†	.57*	.38
Self-Mastery	-.58*	-.61*	-.19	-.49	-.74**	.13	-.49
Autonomy	.31	.08	.51	.53†	.23	.03	-.42
Commitment	.51	.49	.33	.21	.70*	-.46	-.23
Harmony with nature	.32	.13	.40	.20	.28	-.43	-.21

** p < .01
* p < .05
† p < .10

The stability of results was controlled by excluding the somewhat artificial site "sub-Saharan Africa", and recalculating the correlations. Of the six significant correlations, five remained substantial (p < .10), with only one exception ($rho_{Alcohol\ Dependency\text{-}Conservativism}$ = .44, p = .19). This justified the further inclusion of this site in the analyses described below.

To explore the total variance in psychiatric disorders and health complaints explained by cultural values, ordinal regressions were conducted (Table 5).

Plus/minus signs of parameter estimates indicate positive or negative direction of association in the regression model. Four models reached conventional significance level at p < .05 (current depression, GAS, alcohol dependency, psychological problem complaints). In addition, the model for fatigue/sleep complaints reached p < .10 error probability.

Discussion

The present study aims to show systematic relationships between cultural values and psychiatric morbidity in different

Table 5. Ordinal Regressions (Polytomous Logit Universal Models) of Psychiatric Diagnosis and Health Complaints by Cultural Values.

	Any ICD-10 Diagnosis		Current Depression		Generalized Anxiety Disorder		Alcohol Dependency		Psychological Complaints		Fatigue/ Sleep Complaints		Pain Complaints	
Parameter estimates of model	Estim.	W	Estim.	W	Estim.	W	Estim.	W	Estim.	W	Estim.	W	Estim.	W
Thresholds of dependent. variables														
1	10.4	0.0	0.1	0.0	-190.3†	3.0	-552.2*	5.7	-205.6*	4.1	-6.8	0.0	-36.9	0.4
2	11.5	0.0	1.6	0.0	-185.2†	3.0	-550.7*	5.7	-203.9*	4.1	-5.3	0.0	-36.1	0.4
3	12.6	0.0	2.9	0.0	-183.8†	2.9	-547.6*	5.7	-202.9*	4.0	-2.9	0.0	-35.6	0.4
4	13.5	0.1	4.0	0.0	-182.9†	2.9	-545.6*	5.7	-200.2*	4.0	-2.2	0.0	-35.0	0.4
5	14.1	0.1	4.7	0.0	-182.0†	2.9	-540.9*	5.7	-195.8*	3.9	-1.7	0.0	-34.4	0.4
6	14.6	0.1	5.3	0.0	-181.3†	2.9	-536.4*	5.7	-194.8*	3.9	-1.2	0.0	-33.9	0.3
7	15.2	0.1	5.8	0.0	-180.7†	2.9	-535.4*	5.7	-193.8*	3.9	-0.4	0.0	-33.4	0.3
8	15.9	0.1	6.6	0.0	-180.1†	2.8	-533.5*	5.7	-191.8†	3.8	0.6	0.0	-32.8	0.3
9	16.9	0.1	7.4	0.0	-179.5†	2.8	-530.3*	5.6	-188.0†	3.8	1.9	0.0	-32.2	0.3
10	17.9	0.1	9.1	0.0	-178.7†	2.8	[-1]		[-1]		[-1]		-31.4	0.3
Predictor variables														
Conservativism	1.6	0.1	0.6	0.0	-15.2†	2.6	-56.7**	6.9	-1.8	0.1	-7.2	1.4	-2.9	0.2
Hierarchy	-0.8	0.1	0.3	0.0	-8.3†	2.8	3.5	1.3	-8.6*	5.3	6.2*	4.2	1.7	0.5
Self-mastery	-2.9	0.7	-4.6	1.4	-1.9	0.3	-27.3*	5.2	-25.0**	6.7	2.2	0.4	-2.9	0.7
Autonomy	1.1	0.3	-1.0	0.2	-2.4	1.0	-9.9	4.7	-2.4	0.7	0.4	0.0	-1.7	0.7
Commitment	5.4	1.2	13.1*	4.6	-14.3†	2.9	-28.0*	4.5	3.1	0.3	-1.9	0.2	-0.5	0.0
Harmony with nature	-3.3	1,6	-9.1*	6.2	-0.8	0.1	0.8	0.1	-14.5*	6.0	1.7	0.4	0.2	0.0
Model estimates														
Chi^2 of model fit (df=6)	7.7		13.2*		13.0*		26.4***		23.5***		11.3†		3.08	
Cox & Snell pseudo R^2	.50		.70		.69		.91		.88		.64		.24	
Mc Fadden pseudo R^2	.15		.25		.25		.53		.47		.23		.06	

W = Wald. Note: [-1] : reduced number of variable levels due to 2 identical prevalence values
Significance levels for parameter estimates are also valid for Wald estimates.

countries. It is a non-trivial finding that cross-cultural differences in psychiatric disorders and health complaints are substantially correlated with cultural values.

It was clearly shown that the two most frequent psychological disorders encountered in primary health care services, i.e., current depression and generalized anxiety disorder, were negatively related with traditional values. Thus, current depressions were less frequent in countries in which personal strain and daring (self-mastery value) are held in high esteem. The prevalence of generalized anxiety is negatively associated with conservatism—defined as relying on social control by the peer group—and preference for hierarchy—defined as appreciation of privileged other persons. These findings are in line with the negative relation of the prevalence of all ICD-10-diagnoses and the psychological complaints with the traditional value of self-mastery.

The general findings are also in line with the results of Compton et al. (1991), who showed that in more traditionally oriented rural regions (vs. urban population), the prevalence rates for anxiety disorders are lower.

In general, the pattern of appreciation of traditional values as related to lower rates of psychiatric morbidity has already been expected by social theorists. Fromm (1946) and Foucault (1961) developed theories of the "costs of individual freedom", which imply that a loss of traditional values may be related with an increase of individual psychological irritation. These relations have not been investigated systematically. Psychological theories, like the learned helplessness theory on the development of depression (Seligman, 1975) provide similar conclusions, but they base on explanations for individual behavior and do not contain assumptions on the level of a culture or society.

However, the correlations which were presented in this study do not allow causal interpretations according to these theories. The relations between traditional values and higher prevalences can also be interpreted in the opposite direction: The loss of traditional values – and emergence of modern living conditions - would be related to an enhanced tendency to consult a general practitioner and to admit psychological problems (Kleinman, 1987).

The only exception of this pattern is that a (traditional) societal preference for hierarchy is positively related to fatigue/sleep complaints. One explanation could be that this tendency towards submission to those in authority may have its "costs" in frequent tiredness or exhaustion. In occupational health psychology (e.g., Cooper & Payne, 1994), the claim has often been made that exhaustion and fatigue are regularly related to (dysfunctional) organizational dependency on the authorities. Further investigation of this occupational health axiom in the context of cross-cultural comparisons may well be productive.

The assumption, that modern or postmodern values may be related with larger prevalences could only be confirmed for egalitarian commitment and the presented psychological problems as well as–to a lesser degree–for individual autonomy and alcohol dependence. The inverse relations of the traditional values with psychiatric morbidity are more substantial than the relations with modern or postmodern values.

In a second step the multivariate relations were investigated. The cultural values shared substantial amounts of common variance with GAS, current depression, alcohol dependency, as well as psychological complaints. For example, alcohol dependency was predicted by a pattern of two low traditional values (conservatism, self-mastery) plus a low degree of egalitarian commitment. The pattern of relations is in line with the results of Walsh (1992), who found a higher grade of social control and in-group value orientation related to lower prevalences of alcohol dependency. Psychological complaints could be explained with a pattern of two low scores on traditional values and a low score on a modern/postmodern value (harmony with nature).

Interestingly, the most important significant relations were found for the psychological complaints compared to a low prediction for fatigue/sleep complaints and a missing prediction for pain complaints. These differences in the prediction reflects the difference between complaints concerning primarily psychological symptoms and complaints concerning primarily physiological symptoms. The importance of psychological symptoms in complaints seems to be proportional to the possibility to predict them with cultural values.

To sum up, the analyses suggest that particular value patterns are specific to psychological complaints or disorders. A more general assumption is that although the overall rate of psychological morbidity is constant (because the genotypes are basically the same), cultural factors determine different phenotypic rates of morbidity (cf. Kleinman, 1995). Note that these high levels of shared variance have to be seen against the background that cross-cultural differences rather than cross-individual differences are considered in this study. Thus, highlighting the importance of psychological values for mental disorders does not contradict findings from genetic mental health research which is concerned with cross-individual differences.

Various limitations of the present analyses should be emphasized. First, the correlated data stem from two independent samples of general practioners' patients (WHO study: Üstün & Sartorius, 1995) and school teachers or university students (Cultural values study: Schwartz, 1994). School teachers and university students constitute only a minor and well educated part of the population. Second, the very small data set means that the use of elaborated statistical methods is limited. However, due to the complexities of cross-cultural research, it is unlikely that studies with more sites will be conducted. Third, it should not be overlooked that the disorders under consideration are not DSM-IV, but ICD-10 diagnoses (e.g., with a broader definition of generalized anxiety disorder). Fourth, confounding variables like age-distributions, different educa-

tional levels, different unemployment rates, languages, cultural differences in presenting symptom patterns, or differences in the degree of stigmatization of psychiatric disorders were not under consideration and could have influenced the results. In the case of alcohol dependency, racial differences of alcohol dehydrogenate (ADH) – in Asia, people have much lower ADH values – may serve as confounding variable which contributes to the substantial relations found in this study. Further investigations could use the variables employed in this study as a motivation for systematic studies of the outlined associations on the person level and include a range of relevant confounding variables.

Acknowledgement

I wish to thank Drs. Üstün, Sartorius, and Schwartz for their support and willingness to share information on their studies as well as helpful comments to previous drafts. I am especially grateful to Dr. André Beauducel for collegial discussion and support in preparing the manuscript.

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The German Journal of Psychiatry · ISSN 1433-1055 · http:/www.gwdg.de/~bbandel
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