Türk Psikiyatri Dergisi 2008; 19(2)
Turkish Journal of Psychiatry

The Factor Analytic Symptom Structure of the Manic Episode and its Relationship to Affective Temperament

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Abstract

Objective: *The aim of this study was to establish the factor analytic dimensions of the manic episode, and to investigate the relationship between the established factors and underlying affective temperament.*

Methods: *The study included 100 patients diagnosed with bipolar disorder, manic episode (DSM-IV) that were hospitalized in the psychiatric clinics of Bakırköy Prof. Mazhar Osman Training and Research Hospital for Psychiatry and Neurology. The patients were administered the Young Mania Rating Scale (YMRS), Montgomery-Asberg Depression Rating Scale (MADRS), and Positive and Negative Syndrome Scale (positive syndrome sub-scale) (PANSS). Then, factor analysis was conducted. The relationships between factor scores and underlying affective temperaments were investigated in 72 fully-remitted patients that were re-assessed using the Turkish version of the Temperament Evaluation of Memphis, Pisa, Paris, and San Diego Autoquestionnaire (TEMPS-A).*

Results: *A model with 7 factors emerged from principal component factor analysis, which accounted for 67.48% of the total variance. These 7 factors were dysphoria, psychomotor acceleration, psychosis, irritability, insight, grandiosity, and sexual interest. There was a positive correlation between hyperthymic temperament and psychomotor acceleration ($r = 0.255$, $P < 0.05$), and a positive correlation between depressive temperament and sexual interest ($r = –0.248$, $P < 0.05$).*

Conclusions: *Our results show that the clinical phenomenology of mania involves the independent dimensions of dysphoria, irritability, and psychosis, and that there is a relationship between hyperthymic temperament and psychomotor acceleration, which is accepted as a core characteristic of mania.*

Key Words: *Mania, factor analysis, temperament*

INTRODUCTION

Manic episodes usually emerge as a complex clinical picture in the sense that they do not only involve classical symptoms, such as euphoria, grandiosity, and psychomotor agitation, but also depression, psychosis, and irritability symptom clusters. Kraepelin (1921) was one of the first authers to describe the clinical subtypes (bipolar disorder, manic, depressive, and mixed types) and directed attention towards the depressive and labile features of mania.

The first systematic studies of the main symptom structure of mania were conducted with only a few cases (Beigel and Murphy, 1971; Murphy and Beigel, 1974) and with scales that did not include different symptom clusters (Double, 1990). Nevertheless, these studies were instrumental in demonstrating the usefulness of factor analytical methods. In a study that included 30 cases researchers found that the manic phase is composed of 2 main factors, manic grandiosity and paranoid-destructiveness, which are related to the depressive features of mania (Murphy and Beigel, 1974). In line with these findings, in another study with 81 patients that were administered the Young Mania Rating Scale (YMRS), researchers reported that there were 3 main factors of mania: speech and psychomotor problems, aggression, and abnormally elevated mood (Double, 1990).

Cassidy et al. (1998) found 5 orthogonal factors (that is, factors that are independent of each other), which explained the manic symptom structure of 237 patients with bipolar disorder. The first and most powerful factor was the dysphoric factor. Other factors were psychomotor acceleration, psychosis, increased engage-

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ment in pleasurable activities, and irritability/aggression. In another study, in which 105 patients with bipolar disorder, manic episode were scanned for 30 psychiatric symptoms, 4 independent factors (depression, sleep disorders, mania, and irritability-psychosis) were identified in the manic episode (Dilsaver et al., 1999). Seretti et al. (1999) investigated the lifetime prevalence of 17 manic symptoms in 509 patients with bipolar disorder (without evaluating the presence of depressive symptoms) and identified psychic and motor acceleration, psychosis, and irritability factors in their factor analysis.

The identification of the phenomenological (behavioral/dimensional) sub-types of mania is very important, as it will enhance our understanding of the physiopathology, (Swann et al. 1992), appropriate treatment model (Swann et al., 2002), and course of mania (Sato et al., 2002). Studying affective temperaments can contribute to the efforts to identify the dimensions of mood disorders. Akiskal and Mallya (1987) argued that there was a relationship between bipolar mood disorder and affective temperament, in which affective temperament is a vulnerability factor in manic or depressive episodes. Akdeniz et al. (2004) compared patients that had one depressive episode and recurrent depressive disorder to a normal control group, in terms of affective temperament, based on the results of the Turkish version of the Temperament Evaluation of Memphis, Pisa, Paris, and San Diego Autoquestionnaire (TEMPS-A). The researchers reported that depressive temperament was significantly more prevalent in the 2 depressive groups than in the control group, hyperthymic temperament was more prevalent in the bipolar patients, and there were no differences in the prevalence of cyclothymic temperament between the groups.

Kesebir et al. (2005) reported that patients with bipolar disorder have cyclothymic, hyperthymic, and irritable temperaments in similar levels, and suggested that their affective temperament might influence the phenomenology of the illness. Researchers have suggested that there are depression- and mania-specific temperament qualities: bipolar disorder is related to cyclothymic and, especially, hyperthymic temperament, whereas mixed episodes are related to underlying depressive temperament (Perugi et al., 2001; Akiskal et al., 2003).

In the current study we aimed to investigate the factor structures of the manic, depressive, and psychotic symptom dimensions in bipolar disorder patients in the manic phase. Moreover, based on factor scores, we aimed to examine the relationships between the identified factor dimensions and affective temperaments.

METHOD

Participants

Our sample consisted of 100 consecutive patients diagnosed with bipolar disorder, manic phase based on DSM-IV diagnostic criteria (American Psychiatry Association, 1994) that were hospitalized in the psychiatric clinics of Bakirkoy Prof. Mazhar Osman Training and Research Hospital for Psychiatry and Neurology within a six-month study period. Patients and their relatives were informed about the study and provided their verbal consent to participate. Mean age of the patients was 34.37 ± 10.48 years, and 54 were female and 46 were male±. According to DSM-IV criteria, 55% of the patients had psychosis.

PROCEDURE

We initially conducted the Structured Clinical Interview for DSM-IV Axis-I Disorders (SCID-I) (First et al., 1997; Çorapçıoğlu et al., 1999) in order to confirm the patients' diagnoses. In the first phase of the study patients were assessed with our own sociodemographic information form, the YMRS (Young et al., 1978; Karadağ et al., 2002), Montgomery-Asberg Depression Rating Scale (MADRS) (Montgomery and Asberg, 1979; Davidson et al., 1986; Hawley et al., 2002; Özer et al., 2001), Positive and Negative Syndrome Scale (positive syndrome sub-scale) (PANSS) (Kay et al., 1987; Kostakoğlu et al., 1999), and Clinical Global Impression (CGI) scale (Guy, 1976). We examined the past records of the patients with previous hospitalizations and interviewed at least one family member of each patient. Two psychiatry assistants that were educated and supervised by one of the authors conducted the assessments. Patients that: 1) had a bipolar disorder, manic episode diagnosis according to DSM-IV diagnostic criteria, 2) did not have mental retardation, 3) did not have a mood disorder related to a general medical condition, or substance use. Patients were treated with mood stabilizators (lithium, valproic acid, and/or carbamazepine), antipsychotics (typical or atypical), and benzodiazepines (clonazepam and diazepam) during their hospital stay. In the second phase of the study, we assessed 75 recovered patients (67.5%) with TEMPS-A (Akiskal 1996; Vahip et al., 2005) 2 months after discharge from the hospital in order to minimize the influence of illness symptoms on the measurement of temperament.

INSTRUMENTS

Sociodemographic Information Form: The authors

Table I. Comparison of fully-remitted and unremitted patients, based on sociodemographic and clinical characteristics.

	Fully-remitted patient group (n = 72)		Unremitted patient group (n = 28)			
	Mean	SD	Mean	SD	U*	P
Age	34.19	10.72	34.82	10.03	.267	.790
Age at illness onset	24.72	8.04	21.71	3.35	–1.911	.059
Duration of illness	9.24	8.68	12.54	8.77	1.701	.092
Number of manic episodes	4.82	7.03	5.54	4.58	–2.193*	.028
Number of mixed episodes	0.14	0.42	0.11	0.57	–1.114*	.265
Number of depressive episodes	0.99	1.45	0.82	1.25	-.648*	.517
Total number of hospitalizations	4.24	5.67	5.04	4.37	–1.899*	.058
YMRS score	29.39	8.19	32.32	7.43	1.648	.103
MADRS score	9.5	4.17	8.29	4.18	–1.307	.194
PANN positive syndrome score	21.89	6.8	25.43	7.45	2.275	0.025
	n	%	N	%	χ^2	P
Gender					.250	.617
Female	40	55.6	14	50		
Male	32	44.4	14	50		
Marital status					3.251	.197
Single	22	30.6	9	32.1		
Married	33	45.8	8	28.6		
Divorced	17	23.6	11	39.3		
Education level					2.086	.352
Primary school	46	63.9	22	78.6		
High school	15	20.8	3	10.7		
University/college	11	15.3	3	10.7		

*Mann Whitney U test

of the present study developed a sociodemographic form in order to collect sociodemographic data (age, sex, marital status, education status) and clinical characteristics data (age at illness onset, duration of illness, number and type of mood episodes, type of the first mood episode, number of hospitalizations) of the patients.

Structured Clinical Interview for DSM-IV Axis-I Disorders (SCID-I): The Structured Clinical Interview for DSM-IV Axis-I Disorders (SCID-I) is a clinical measure designed and structured to make standard diagnoses in accordance with DSM-IV Axis-I diagnostic criteria (First et al. 1997). SCID-I was developed in order to increase the reliability and validity of diagnoses

Table II. Factor analysis of the 24 items and percentages of factor variances.

	Component Factors						
Scale item	Dysphoria (23.4%)	Psychomotor acceleration (12.2%)	Psychosis (8.06%)	Irritability (6.7%)	Insight (6.2%)	Grandiosity (6.0%2)	Sexual interest (4.9%)
Expressed depression	0.923						
Pessimistic thoughts	0.802						
Observed depression	0.792						
Suicidal thoughts	0.742						
Exhaustion/fatigue	0.726						
Speed and quantity of speech		0.780					
Impairments in thought structure		0.773					
Increased levels of activity and energy		0.633					
Mania		0.625					
Elevated mood		0.577					
Suspicious/paranoid thinking			0.805				
Delusions			0.730				
Hallucinations			0.673				
Sleep			0.545				
Loss of appetite			0.448				
Irritability				0.786			
Destructive/aggressive behaviors				0.680			
Inner tension				0.589			
Hostile attitude				0.520			
Physical appearance					0.804		
Insight					0.643		
Grandiose feelings						0.745	
Thought content						0.574	
Sexual interest							0.854

and to help researchers in the systematic investigation of symptoms. Çorapcıoğlu et al. (1999) translated SCID-I into Turkish and conducted reliability studies of the Turkish form.

Young Mania Rating Scale (YMRS): The Young Mania Rating Scale is composed of 11 items, each of which measures 5 severity levels (from mild to serious symptoms) of the core symptoms in the manic phase of bipolar disorder (Young et al. 1978). Scale rating is based on an interview with the patient and the clinician's observations during the interview. The linear correlation coefficient between the ratings of 2 independent raters was 0.93 and for each scale item ranged from 0.66 to 0.92. The internal consistency coefficient was found to

Table III. Spearman's correlational analysis and Kolmogorov Smirnov test results between factor scores and TEMPS-A subscale scores.

		Total Depression subscale score	Total Cyclothymia subscale score	Total Hyperthymia subscale score	Total Irritability subscale score	Total Anxiety subscale score	Kolmogorov-Smirnov test
Factor 1	r	–0.086	0.185	–0.029	–0.202	–0.105	K-S Z = 2.718
Dysphoria	P	0.471	0.119	0.811	0.089	0.380	P = 0.001
Factor 2	r	–0.185	0.194	0.255*	–0.064	–0.107	k-s Z = 0.658
Psychomotor acceleration	P	0.119	0.103	0.031	0.594	0.369	P = 0.779
Factor 3	r	0.196	–0.061	0.104	–0.039	0.079	K-S Z = 0.572
Psychosis	P	0.098	0.611	0.384	0.743	0.509	P = 0.899
Factor 4	r	–0.008	0.011	0.144	0.168	0.210	K-S Z = 0.662
Irritability	P	0.947	0.924	0.228	0.158	0.077	P = 0.774
Factor 5	r	–0.046	0.122	0.232	0.064	0.127	K-S Z = 0.499
Grandiosity	P	0.699	0.307	0.50	0.594	0.287	P = 0.964
Factor 6	r	0.079	0.115	0.068	-0.014	0.133	K-S Z = 0.778
Insight	P	0.510	0.336	0.572	0.905	0.264	P = 581
Factor 7	r	–0.248*	–0.192	–0.164	–0.036	–0.145	K-S Z = 0.807
Sexual interest	P	0.036	0.107	0.168	0.764	0.225	P=0.532

be 0.79 in the Turkish reliability and validity study of the scale (Karadağ et al., 2002). The consensus level of the researchers on the scale's items ranged between 63.3% and 95.5%, with kappa values of 0.114-0.849.

Positive and Negative Syndrome Scale (PANSS): The Positive and Negative Syndrome Scale measures the presence/absence, and severity level of positive and negative symptoms, as well as general psychopathology in schizophrenia and other psychotic disorders. The scale consists of 30 items, each of which is rated for severity on a 7-point Likert-type scale. Seven of the items measure positive syndromes, 7 measure negative items, and 16 measure general psychopathology (Kay et al., 1987). Kostakoğlu et al. (1999) conducted reliability and validity studies of the Turkish version of the scale. Scores ranged between 7 and 34 for the positive syndrome subscale, between 7 and 41 for the negative syndrome subscale, and between 16 and 67 for the global psychopathology subscale.

Montgomery-Asberg Depression Rating Scale (MADRS): The Montgomery-Asberg Depression Rating Scale measures the level and severity of the core symptoms of depression (Montgomery and Asberg, 1979; Davidson et al., 1986). It consists of 10 items. Scores for each item range between 0 and 6. Researchers recommend targeting scores below 10 for treatment planning (Hawley et al., 2002). The Turkish reliability and validity study of the scale was conducted by Özer et al. (2001).

Temperament Evaluation of Memphis, Pisa, Paris and San Diego Autoquestionnaire (TEMPS-A): TEMPS-A was developed by Akiskal (1996) in order to determine the dominant affective temperament. It is composed of 99 items designed to measure depressive, hyperthymic, irritable, cyclothymic, and anxious temperaments. Respondents are required to rate each item as yes or no in terms of their entire life. The cut-off scores of depressive temperament (18 items), cyclothymic temperament (19

items), hyperthymic temperament (20 items), irritable temperament (18 items), and anxious temperament (24 items) are 13, 18, 20, 13, and 18, respectively. Vahip et al. (2005) conducted the reliability and validity study of the Turkish version of the scale. The test-retest reliability and Cronbach's alpha coefficient of each temperament sub-test of the Turkish form are 0.73-0.93 and 0.77-0.85, respectively.

Statistical analysis

We transferred the data into a database using the SPSS v.7.5 for Windows statistical program package. Factor analysis was conducted on scores obtained from YMRS, MADRS, and the PANSS positive syndrome subscale. Similar items on the 3 tests were excluded from analysis in order to diminish the number of variables and to avoid overrepresentation of items. The following 24 clinical symptoms were included in the analysis: elevated mood, increased motor activity and energy, sexual interest, sleep, irritability, speed and quantity of speech, impairments in thought structure, thought content, destructive/aggressive behavior, physical appearance, insight, observed depression, expressed depression, inner tension, loss of appetite, fatigue/exhaustion, pessimistic thoughts and suicidal thoughts, delusions, hallucinations, mania, grandiosity, suspiciousness/paranoid thinking, and hostile attitude. Descriptive analysis was conducted with frequency estimations. Categorical variables were compared with the chi-square test, while Student's t and Mann Whitney U tests were utilized for continuous variables.

Factor Analysis: Factor analysis was conducted with the principal components method and Varimax rotation. Factors that had an Eigen value score > 1 were controlled with the scree plot test and their level of prediction of total variance was calculated. Items that were loaded in factors and those that had factor loads > 0.40 are presented in Table. The Kolmogorov-Smirnov test was used to control whether factor scores and other continuous variables had normal distribution. We conducted Spearmen's correlational analysis to determine the direction and strength of the relationships between variables. The significance level was accepted as $\alpha = 0.05$ for all statistical analysis.

RESULTS

Remitted patients (n = 72) had a significantly lower number of lifetime manic episodes and lower PANSS positive syndrome score than the unremitted patient group (n = 28). Groups were similar in terms of other demographic and clinical characteristics (Table I).

Factor Structure: We conducted principal components analysis with Varimax rotation with the aforementioned items and found 7 factor structures with Eigen values >1 (Table II). These factor structures explained 67.48% of the total variance. The first factor was dysphoria, which explained 23.4% of the total variance. Expressed depression, negative thinking, observed depression, suicidal thoughts, and exhaustion/fatigue items were included in this factor. The second factor, psychomotor acceleration, explained 12.2% of the total variance and was composed of speed and quantity of speech, impairments in thought structure, increased activity and energy level, mania, and elevated mood. The third factor, psychosis, explained 8.06% of the total variance. Items associated with this factor were suspiciousness/paranoid thinking, delusions, hallucinations, decreased sleep, and loss of appetite. The fourth factor was irritability, which explained 6.7% of the total variance. It included irritability, destructive/aggressive behaviors, inner tension, and hostile attitude. The fifth factor, insight, explained 6.2% of the total variance, and consisted of physical appearance and insight. The sixth factor, grandiosity, accounted for 6.02% of the total variance and included grandiose feelings, and thought content. The seventh factor was sexual interest, which explained 4.9% of the total variance.

The Kolmogorov-Smirnov test was conducted on the 7 factors' scores. We found that all the factors had normal distribution, except the first (dysphoria) (Table III). Spearman's correlational analysis was conducted on the cyclothymia, depression, hyperthymia, irritability, and anxious TEMPS-A sub-scores, and factor scores. Results indicated that there was a statistically weak linear correlation between psychomotor acceleration and hyperthymic temperament scores ($r = 0.255$, $P < 0.05$). Moreover, there was a statistically weak inverse correlation between the sexual interest factor and depressive temperament ($r = -0.248$, $P < 0.05$) (Table III).

DISCUSSION

Factor Analysis

The current study aimed to investigate the symptom dimensions of the manic phase of bipolar disorder. We conducted factor analysis on the YMRS, PANSS (positive symptom sub-scale), and MADRS scores of bipolar disorder, manic episode patients. We found 7 related factors: dysphoria, psychomotor acceleration, psychosis, irritability, grandiosity, insight, and sexual interest. Al-

though the factor structure in our study was based on the scores of different scales, our findings suggest that dysphoria, irritability and psychosis are independent dimensions, which is similar to previous factor analytical studies (Cassidy et al., 1998; Dilsaver et al., 1999; Perugi et al., 2001). Thus, our findings contradicted the findings of Double (1990), who utilized YMRS, but did not evaluate depressive symptoms, and those of Serettti et al. (1999) who investigated the lifetime occurence of 17 manic symptoms.

Although our sample consisted of patients that were in the manic episode of bipolar disorder, our first factor, dysphoria, was consistent with the literature. Studies that included (Sato et al., 2002) or did not include (Cassidy et al., 1998, Rossi et al., 2001) patients with mixed episode reported that depressive symptoms were commonly seen among manic patients. In a study by Cassidy et al. (1998), which included 237 bipolar patients, the factor structure did not change significantly, even after the exclusion of 33 patients with mixed episode. Similarly to that study, Rossi et al. (2001) conducted a study in which the Bech-Rafealsen Mania and Melancholia Scale was administered to 124 manic and 22 mixed episode patients that were hospitalized. They found that even after the exclusion of patients with mixed episodes the depressive dimension in mania still existed. They suggested that the depression dimension is not specific to patients that have mixed episodes. Additionally, depressive symptoms in mania were found to be related to paranoid-destructive factors (Beigel and Murphy, 1971; Murphy and Beigel 1974). Researchers found another independent factor, depressive inhibition, which was identified by Kraepelin (Sato et al.2002). In contrast, our findings are in line with previous studies that found that depressive symptoms are independent of irritability and psychosis factors (Cassidy et al., 1998; Dilsaver et al., 1999).

Due to the necessity that both mania and major depression diagnostic criteria must be met to diagnose a mixed episode, patients that exhibit depressive symptoms, but do not meet the major depression diagnostic criteria are difficult to classify according to DSM-IV and ICD-10. Regarding this problem, our study is comparable to other studies that emphasized the importance of depressive symptoms in manic phase patients (Gonzales-Pinto et al., 2004).

Since suicidal thinking was included in the dysphoria (first) factor in our study, the suicidal risk of patients with pure mania should be monitored as in patients with mixed episodes (Strakowski et al., 1996). Future studies should investigate this issue.

Furthermore, in previous studies researchers described 3 sub-clusters (classical euphoric, depressive, and dysphoric) in the cluster analysis of factor scores (Dilsaver et al., 1999). The dDysphoric mania features in the present study (which included less depressive items and was different than mixed episode as defined in DSM-IV) were comparable to their dysphoric cluster analysis.

Psychomotor acceleration, the second factor in our analysis, included elevated mood and mania, which is in agreement with the psychomotor acceleration factor reported by Cassidy et al. (1998) and the manic activation factor reported by Dilsaver et al. (1999). Some researchers reported that psychomotor acceleration is the core dimension, only with elevations in mood (Seretti et al., 1999; Gonzales-Pinto et al., 2004). Perugi et al. identified 2 factors, euphoric-grandiose and acceleration-restlessness, among 153 manic patients; however, in the present study, grandiose and thought content formed a different factor. This finding indicates that grandiosity in mania might be independent of euphoria.

It was shown that psychosis in mania is very common (50%) and that psychotic symptoms (psychotic dimensions) improve with treatment of manic phases (Swann et al., 2004). As previously published, we found that the psychosis factor was independent of the depression and irritability factors (Cassidy et al., 1998; Sato et al., 2002; Gonzales-Pinto et al., 2004). Vegetative symptom-related items, such as loss of appetite and restlessness formed the psychosis factor in our study, which is in agreement with the view that psychotic symptoms could intensely accompany the manic phase (Swann et al., 2004). The irritability factor included destructive/aggressive behaviors and hostile attitude items in our study, and was independent of the psychosis and dysphoria factors (Sato et al., 2002). Parallel to the study of Akiskal et al. (2003) who investigated 104 manic patients with the Manic State Rating Scale (MSRS), we identified sexual interest as an independent factor, which supports the view that increased sexual interest is independent of euphoria.

In the present study, both the insight and physical appearance factors were independent of the psychosis factor, which is in agreement with Akiskal et al. (2003). Moreover, this finding is similar to previous studies (Ghaemi et al., 1995; Peralta and Cuesta, 1998) that

reported patients with bipolar disorder show a lack of insight, to some extent, which might be specific to bipolar disorder itself and independent of the psychotic characteristics of patients.

Researchers argued that the clinical symptom dimensions of the manic episode are important in predicting treatment response (Swann et al., 2001, 2002). Valproate was reported to be more effective in the impulsivity, hostility, and irritability dimensions, and that both lithium and valproate were more effective than placebo in the hyperactivity dimension. Researchers suggest that there might be natural sub-types of manic phases based on the level of response to treatment.

The Relation between Factor Scores and Temperament

Previous studies showed that hyperthymic, cyclothymic, and irritable temperaments were significantly more prevalent in bipolar patients (Kesebir et al., 2005), while depressive temperament was more frequent in patients with depression (Akdeniz et al., 2004). In addition to these findings, researchers reported that underlying affective temperament is related to manic phenomenolgy, and that depressive and cyclothymic temperaments are seen more frequently in mixed manic episode patients (Akiskal et al., 1998; Hantouche et al., 2001; Brieger et al., 2003). Furthermore, an underlying hyperthymic temperament leads to increments in the severity of manic episode symptoms, while a depressive temperament adds a dysphoric quality to mania, that is, silents mania (Akiskal et al., 2003). Although it has been shown that a hyperthymic temperament is related to manic acceleration and a depressive temperament is related to depressive-manic phenomenology (Perugi et al., 2001), one should consider that in the present study temperament assessments were conducted during the manic episode. Our findings on this topic did not have strong or clear correlational results. There was a weak linear correlation reported between the psychomotor acceleration factor (core symptom dimension in mania) and hyperthymic temperament (Perugi et al., 2001), whereas, we found a weak and inverse correlation between the sexual interest factor score and depressive temperament. On the other hand, we did not find a significant relation between the dysphoria factor and depressive and/or cyclothymic temperaments. Although previous studies indicated that mixed and depressive manias are rooted in depressive temperament, they showed that the depressive symptoms, which are necessary for the diagnosis of mixed episode, are not stable between subsequent episodes (Bauer et al., 1994). A high number of and more rapid shifts of manic episodes within mixed episodes were explained by the sensitization phenomenon (Swann et al., 2001). Moreover, in some studies researchers found that depressive and anxious temperaments were more prevalent, but hyperthymic temperament was less prevalent in fully-remitted bipolar patients that had mixed episodes (Brieger et al., 2003). Our sample consisted of patients with manic episodes and this factor might explain the weak correlations between the dysphoric factor score, and depressive and/or cyclothymic temperaments. We recommend future studies to investigate the similarities between sub-type qualities and all symptomatic phases, and the presence of any different characteristics between manic and depressive episodes in terms of homogeneity and stability.

Limitations of the Present Study

While evaluating our results one should consider that our resultant scale was not standardized. The results of our factor analysis were limited to the symptom dimensions of the scales we administered, which is why we aimed to cover the classical manic symptoms, as well as depressive and psychotic symptom clusters. Since the reliability and validity analyses of the Turkish versions of YMRS, MADRS, and PANSS (positive syndrome sub-scale) were conducted, this limitation diminished, which enabled the assessment of different symptomatic clusters. Considering the different phases of the manic episode and the possible confounding effects of the treatment of manic phenomena, we assessed patients within 3 days of hospitalization. We only assessed the temperament of remitted patients; unremitted patients had disease onset at an earlier age and had more severe psychotic symptomatology, all of which might lead to biased interpretation of our findings. Nevertheless, we considered the cautions that affective temperament assessments should be performed in fully-remitted patients.

CONCLUSION

The findings of the present study support the view, based on factor analysis, that the clinical phenomenology of manic patients are independently composed of dysphoria, irritability, and psychosis factors. Furthermore, we think that underlying hyperthymic temperament is related to the core symptomatic dimension of mania, which is psychomotor acceleration.

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