Extreme Appraisals of Internal States and Duration of Remission in Remitted Bipolar Patients

Remisyon Dönemindeki Bipolar Hastalarda İçsel Durumlara Yönelik Aşırı Değerlendirmeler ve Remisyon Süresi

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ABSTRACT

Introduction: To identify dysfunctional attitudes seen in bipolar disorder (BPD) is important for the cognitive theories of BPD and corresponding psychosocial interventions. Cognitions are seen as vulnerability factors in the development and maintenance of BPD. The present study aims to contribute to the cognitive literature on BPD by examining depressive and hypomanic attitudes and their contribution to the prediction of BPD diagnosis as well as by exploring the relationship between dysfunctional cognitions and clinical features (types of episodes experienced, duration of illness, and duration of remission).

Methods: One hundred and eighteen remitted bipolar patients and 103 healthy controls completed the Mood Disorder Questionnaire (MDQ), Turkish Brief-Hypomanic Interpretations and Positive Predictions Inventory (HAPPI), and Dysfunctional Attitudes Scale.

Results: The bipolar group had significantly higher depressive and hypomanic attitudes than the control group. No significant differences were found regarding the types of episodes experienced and duration of illness. However, both types of attitudes decreased as the duration of remission increased. They were also found to contribute to the prediction of bipolar diagnosis together with the screening of the MDQ.

Conclusion: The results pointed out that dysfunctional cognitions may be utilized as possible indicators for the risk of relapse in clinical groups and vulnerability for BPD among other populations.

Keywords: Bipolar, remission, hypomanic attitudes, dysfunctional cognitions

ÖZET

Amaç: İşlevsel olmayan tutumlar bipolar bozukluğun (BB) gelişimi ve idamesinde yatkınlık faktörleri olarak görülmektedir. Bu tutumların belirlenmesi BB ile ilgili bilişsel teoriler ve psikososyal müdahaleler açısından önemlidir. Bu araştırma ile depresif ve hipomanik tutumlar ve bunların bipolar bozukluk tanısının yordanmasındaki rolleri incelenerek, ayrıca işlevsel olmayan bilişler ile klinik özellikler (deneyimlenen epizodların türleri, hastalığın süresi ve remisyon süresi) arasındaki ilişki ele alınarak bu alandaki literatüre katkı sağlamak amaçlanmıştır.

Yöntem: Remisyon döneminde olan 118 BB tanılı hasta ile 103 sağlıklı kontrol katılımcısına Duygudurum Bozuklukları Ölçeği (DBÖ), Kısa Hipomanik Tutumlar ve Pozitif Yordamalar Ölçeği (Kısa-HİTPOY) ve Fonksiyonel Olmayan Tutumlar Ölçeği (FOTÖ) uygulanmıştır.

Bulgular: Bipolar gruptaki depresif ve hipomanik tutumlar kontrol grubuna kıyasla anlamlı derecede fazladır. Remisyon süresi bipolar grupta işlevsel olmayan bilişlerle ilişkili olan tek klinik özelliktir: Remisyon süresi uzadıkça, işlevsel olmayan hipomanik tutumlar azalmaktadır. DBÖ'ye göre pozitif olmak (yani bipolar bozukluk riski taşımak) ve işlevsel olmayan tutumlar %71,8 başarı oranıyla tanı grubunu (bipolar grup x kontrol grubu) anlamlı ölçüde yordayabilmiştir. Kontrol grubunda ise hipomanik tutumların düzeyi duygudurum bozukluğu semptomatolojisinin tek yordayıcısıdır.

Sonuç: Bulgular işlevsel olmayan bilişlerin klinik gruplarda nüks riskinin ve diğer örneklemlerde bipolar bozukluğa yatkınlığın olası göstergelerinden olabileceğini işaret etmektedir.

Anahtar kelimeler: Bipolar, remisyon, hipomanik tutumlar, işlevsel olmayan bilişler

INTRODUCTION

In recent years, psychosocial approaches (e.g., cognitive-behavioral therapy, family therapy, and interpersonal and social rhythm therapies) have gained importance in understanding the course of the bipolar disorder (BPD) and psychosocial treatments are considered as important adjuncts to biological treatment for achieving functional recovery and decreasing the relapse risk of bipolar patients (1). These treatments may help patients to recognize their cycling-affective states and to develop skills to manage psychosocial difficulties associated with the illness (2).

Cognitive approach is one of these psychological approaches that deal with identifying vulnerability factors for BPD. In earlier cognitive theories, mania was seen as the mirror image of depression involving a positive cognitive triad: excessive positive evaluations about self,

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world, and future (3-6). In recent theories, several researchers elaborated the cognitive approach. Different cognitive styles and biases in information processing were identified as important factors in understanding the development and continuance of BPD (5,7-11). Reilly-Harrington et al. (12) stated that negative cognitive styles (attributing global and stable causes to negative events and making negative inferences from a current negative event as well as making negative self-implications such as unworthiness and deficient because of a negative event) together with negative life events predicted manic symptoms. Colom and Vieta (7) developed a positive cognitive triad (positively biased assumptions of themselves, their personal world, and their future) in their cognitive model of hypomania. In hypomanic periods, people with BPD are more inclined to make over-optimistic assumptions that lead to over-positive feelings. These elevations result in insomnia and hyperactivity, thereby causing disruption in their biological rhythm.

It has been suggested that negative cognitions seen in depressive episodes of BPD were similar to unipolar depression (13), and dysfunctional cognitions seen in depressed patients were found to be significantly higher in bipolar patients than in healthy controls (14). However, the level of dysfunctional cognitions, which are measured by the Dysfunctional Attitudes Scale (DAS), may depend on the types of the bipolar episodes that the patients experience (15). For instance, Reilly-Harrington et al. (12) showed that dysfunctional cognitions seen in mixed bipolar episodes were significantly higher than those seen in manic/hypomanic episodes.

In an attempt to identify distinctive features of the cognitive styles of manic/hypomanic patients, Mansell et al. (16) introduced the "Integrative Cognitive Model," which suggests that extreme, conflicting, and personalized appraisals related to changes in internal states have a significant role in mood swings. During the ascent into hypomania, an individual's behavior (ascent and descent behaviors) is guided by alternating activating appraisals (self-success and social approval) and deactivating appraisals (self-critical, other negative, catastrophic) because of which responses from the social environment are ignored. These activating or deactivating appraisals are trait-like, originating from the experience of early life, but they may also change through later-life events. Some of them may be caused as a result of behavioral responses as well. As a result, Mansell et al. (16) discuss the different underlying beliefs and the environmental contribution to the formation of bipolar symptoms in a complex manner.

To assess these cognitions, the Hypomanic Interpretations and Positive Predictions Inventory (HAPPI) was developed by Mansell (17). HAPPI comprises extreme positive and negative beliefs concerning internal states (cognitions, feelings, behaviors, and physiological symptoms), which may lead to mood swings and symptoms associated with the bipolar spectrum. Psychometric properties of the HAPPI have been studied with alternative versions of the scale (18-22), but in general, the findings so far revealed that it is a useful tool to distinguish bipolar patients from unipolar depressed individuals and healthy controls (21,23). HAPPI was also found to predict hypomania-related symptoms and functioning in a bipolar sample and to predict analog bipolar symptoms together with other psychological factors such as hypomanic personality and behavioral activation in a sample comprising college students (24).

Dysfunctional and hypomanic attitudes that are seen in BPD are suggested to be used as a tool for psychosocial interventions (17,23,25). It may be discussed that if these cognitions are important parts of the bipolar experience, they may also contribute to its screening in normal samples and in other psychiatric populations. Mood Disorder Questionnaire (MDQ), which assesses the lifetime history of hypomanic symptoms, is the most

commonly used screening tool for BPD (26). It has been translated into many languages, and many studies examined the sensitivity and specificity of the MDQ in detecting BPD (27,28). However, recently it is discussed that the positive predictive value of the MDQ is low, preventing it from being used as a case-finding tool (29). Further exploration is needed to improve the prediction of bipolar symptoms, and cognitive approach may also contribute to this area of research.

The first aim of the present study is to examine hypomanic and dysfunctional/depressive cognitions and compare them between the remitted bipolar and control groups in an attempt to examine the abovementioned findings of Mansell et al. (21,23) in a sample comprising of Turkish individuals. The second aim is to explore the relationship of dysfunctional cognitions with clinical features (i.e., the types of the episodes experienced, duration of illness, and duration of remission) in the bipolar group. Finally, a model in which hypomanic and dysfunctional cognitions are hypothesized to contribute to the prediction of bipolar diagnosis was tested.

METHODS

Participants

One hundred and eighteen bipolar outpatients (42 males; 76 females) and 103 healthy controls (28 males; 75 females) participated in the study. The bipolar patients were recruited from the Mood Disorders Clinic of Erenkoy Mental Health and Neurology Training and Research Hospital in Istanbul, Psychiatry Unit of Ulus Public Hospital in Ankara, and from the Mood Disorders Clinic of Psychiatry Department at the Uludag University in Bursa. The clinical sample comprised individuals (1) with a clinician-reported diagnosis of bipolar I or II (2), and they were identified by their clinicians as being in remission for at least 8 weeks (3) reported to be on maintenance treatment. Patients who were experiencing an acute episode and those who were under the age of 18 were excluded. The mean age of the bipolar group was 39.36 (±11.58) years. Clinical features of this sample are shown in Table 1.

The control group was recruited from various sources in the community reached by personal contact. It comprised volunteers who were comparable with the clinical group in terms of certain demographic properties and those who stated that they had no psychological problems. The mean age of the control group was 34.26 (±7.94) years.

Measurements

Brief-Hypomanic Attitudes and Positive Predictions Inventory-Turkish Version (Brief-HAPPI-TR)

Mansell developed the Brief-HAPPI to examine distinctive cognitions that lead to mood swings in BPD. Higher scores indicated more apparent hy-

Table 1. Clinical features of the sample

Clinical features	n	M (SD)
Duration of illness (in months)	110	155.33 (105.57)
Duration of remission (in months)	94	13.96 (20.95)
Past episodes		
Manic episodes	92	6.11 (11.20)
Depressive episodes	75	7.28 (13.67)
Hypomanic episodes	27	3.48 (4.25)
Mixed episodes	10	10.50 (14.07)
SD: standard deviation		

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pomanic attitudes (17). There are alternative versions of the scale with varying number of items (18,20,21,23). The Turkish adaptation study was conducted by Mackali (30) using the Brief-HAPPI (23). In this study, when the filler and reverse items were excluded, a 15-item version provided a better internal consistency (α=.84) and showed good convergent validity and test-retest reliability. Brief-HAPPI-TR comprising 15 items was used in the present study.

Mood Disorder Questionnaire (MDQ)

The MDQ was developed to assess the lifetime history of hypomanic and manic symptoms and to screen for bipolar spectrum disorders (26). It is a self-report inventory that includes three separate questions with yes–no answers. In the first part, there are 13 statements that examine the life-time history of hypomanic symptoms. The second part of the questions examines the synchronicity of the symptoms that are answered as "yes" in the first part. The last part of the questionnaire evaluates the impairment in functioning on a 4-point scale. Hirschfeld et al. (26) reported that in a general population, an MDQ score of 7 or more provided .73 sensitivity and .90 specificity. The Turkish adaptation of the MDQ was carried out by Konuk et al. (31). Similarly, the cut-off score was identified as 7, and this yielded .77 specificity and .64 sensitivity.

Dysfunctional Attitudes Scale (DAS)

DAS (14) comprises 40 items that measure underlying beliefs, assumptions, and dysfunctional attitudes related to depression. The higher the total score, the more frequent the dysfunctional attitudes. The Turkish adaptation of the DAS was carried out by Savaşır and Şahin (32) in a sample comprising college students. Cronbach's alpha of the whole scale was found as .79, and the factor analysis of the scale yielded the following four subscales: perfectionist attitude, need for approval, independent attitude, and ambivalent attitude. In the adaptation study, the Cronbach's alpha values of these factors ranged between .10–.81 (32). Therefore, only the total score was used in the present study.

Procedure

The procedure was approved by the Ethics Committee of the Izmir University, and necessary permissions were obtained from the hospitals from which the bipolar patients were recruited. Data were collected within 6 months. In this period, patients who were on maintenance treatment for BPD were identified when they came for their control appointments. Volunteers among them were given the Brief-HAPPI-TR, MDQ, and DAS in a random order after having obtained their informed consent. Demographical and clinical information were gathered via patient files. Data collection from the healthy controls was carried out contemporaneously.

RESULTS

Two data sets with extreme values and data from two subjects with un-defined diagnoses were excluded. Further analyses were conducted with the data of 114 bipolar patients and 103 healthy controls.

Descriptive Statistics

An independent samples t-test revealed a significant difference in terms of age between the clinical and control groups [t (215)=3.53; p<.01]. The mean age of the bipolar group (M=38.96±11.52 years; 65% females) was higher than that of the control group (M=34.17±7.95 years; 73% female). However, because both age levels belong to the same developmental stage, and age was not correlated with any of the variables in the study (p>.05 for all), it was not controlled in further analyses.

Chi-square analyses yielded no significant difference between these groups in terms of gender and marital status; however, a significant difference was

found according to the educational levels (χ^2(6)=29.68, p<.001). The level of education was higher in the control group than in the bipolar group. In the bipolar group, 27% of the participants had a bachelor's degree and 4% had a postgraduate degree, whereas in the control group 38% of the participants had a bachelor's degree and 20% had a postgraduate degree.

To examine if the educational difference between the bipolar and control groups influences the results of the further analyses, 60 subjects of the clinical group were individually matched with 60 subjects from the control group in terms of age (±3), gender, and educational level. Comparisons of these matched groups for the measures used in the study yielded similar results with the complete data. Therefore, the complete data are presented in the Results section. Clinical features of the bipolar group are shown in Table 1.

Psychometric Properties of the Measures

The Cronbach's alpha coefficient of the DAS was found to be .87 for the bipolar group and .88 for the control group; the alpha coefficient of the HAPPI was .83 for the bipolar group and .86 for the control group. Kolmogorov–Smirnov tests showed that the DAS and HAPPI were normally distributed in both the bipolar and control groups (all p>.05). Table 2 shows the means and standard deviations of the measures.

Sensitivity and specificity were calculated for each possible threshold cut-off score of the MDQ. Figure 1 shows the receiver operating characteristics (ROC) curves for the sensitivity and specificity of each possible MDQ score. Sensitivity indicates the proportion of the bipolar group participants who were correctly identified by the MDQ as having the disorder, whereas specificity indicates the proportion of the control group participants who were correctly identified as not having the disorder. The cut-off score 7 was determined as the optimal threshold that provided a sensitivity of .68 and a specificity of .67.
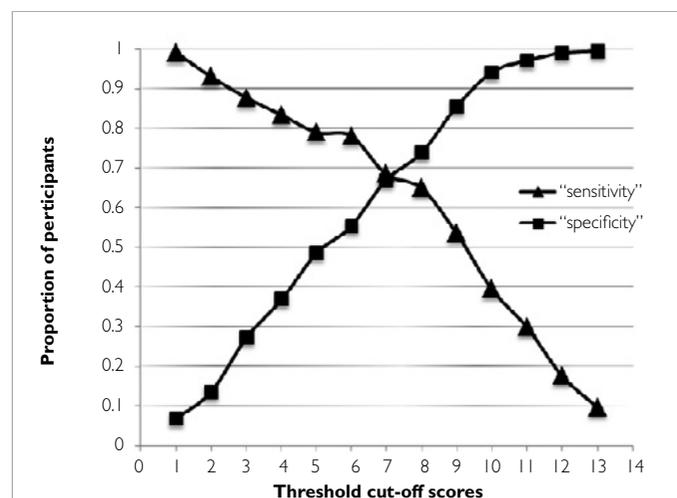

Figure 1. The ROC curve of the MDQ

ROC: receiver operating characteristics; MDQ: Mood Disorder Questionnaire

Table 2. The means and standard deviations of the measures

Measures	Bipolar (n=118)	Control (n=103)
MDQ	10.38 (.42)	5.92 (.36)
DAS	146.27 (3.17)	121.69 (2.64)
Brief-HAPPI-TR	77.78 (2.67)	70.22 (2.65)
MDQ: Mood Disorder Questionnaire; DAS: Dysfunctional Attitudes Scale; Brief-HAPPI-TR: Brief-Hypomanic Attitudes and Positive Predictions Inventory-Turkish Version		

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Dysfunctional and Hypomanic Attitudes in Bipolar Patients Versus Controls

Independent samples t-tests revealed that the remitted bipolar group (M=77.78±28.52) had significantly higher HAPPI scores than the control group [M=69.44± 25.83; t(214)=2.243; p<.05]. DAS score was also significantly different between the bipolar (146.27; SD=33.86) and control groups [M=121.58± 26.92; t(214)=5.886; p<.001].

In the bipolar group, independent samples t-tests showed no significant differences in the HAPPI and DAS scores between the patients who had a history of depressive/mixed episodes (n=75) and patients who had only hypomania/mania episodes (n=39). While there was no significant relationship between the duration of illness (in months) with the HAPPI and DAS scores, the duration of remission (in months) was significantly correlated with the HAPPI (r=−.24; p<.05) and DAS (r=−.21; p<.05), demonstrating that as the duration of remission increases, dysfunctional and hypomanic attitudes of the individuals diagnosed with BPD decrease.

Cognitions as Predictors of BPD Diagnosis

A logistic regression analysis was conducted to test a model in predicting the diagnosis of BPD. In the first step, the lifetime history of hypomanic symptoms (screening positive or negative according to the cut-off score 7 on the MDQ) was entered as the predictor. As shown in Table 3, screening positive on the MDQ significantly predicted the group membership [remitted bipolar vs. healthy control; $\chi^2(1)=27.101$; p<.001]. The model identified 68.4% of the bipolar group and 66.7% of the control group with an overall success rate of 67.6%.

In the second step, hypomanic attitudes measured by the Brief-HAPPI-TR and depressive attitudes measured by the DAS were entered into the model. The entire model significantly differentiated between the remitted bipolar and healthy control groups [$\chi^2(3)=54.227$; p<.001]. With the full model, the success rate increased to 78.1% for the bipolar group. The overall success rate was 71.8%.

For further exploration, a hierarchical regression analysis was conducted to examine the predictive values of hypomanic and depressive attitudes for the reported history of bipolar symptoms in the healthy control group. HAPPI and DAS values were entered into the equation using a stepwise method. Tolerance and VIF values indicated no signs of collinearity. As shown in Table 4 explaining 25% of the variance, Brief-HAPPI-TR was the

only significant predictor of the MDQ score in the healthy control group [F(1,100)=33.343; p<.001].

DISCUSSION

Parallel with other studies conducted with bipolar patients in acute phases (13,14,33), remitted bipolar patients and healthy controls differed in terms of dysfunctional/depressive attitudes in the present study. In some other studies, no significant difference was found between the clinical and control groups (19,34). This controversy may be attributed to the existence of subclinical symptoms in the remission period (35). The current mood was not controlled in the study; therefore, the possibility of the existence of depressive mood in the bipolar group cannot be ruled out. In future studies, the exploration of the residual symptom profile in remission seems to be important for a deeper understanding.

Furthermore, in line with previous studies (23,21), the remitted bipolar and control groups differed according to their levels of hypomanic attitudes. Although there were no differences in hypomanic attitudes among the bipolar patients based on the types of episodes experienced, the duration of remission was related to dysfunctional cognitions. As the duration of remission increases, both hypomanic and dysfunctional/depressive attitudes decrease. This finding is in line with Mansell et al.'s (16) discussion that extreme appraisals of internal states, which can be measured by the HAPPI, may be a vulnerability factor for relapse as well as with Dodd et al.'s (24) finding that hypomanic attitudes could predict prospective hypomanic symptoms over a 4-week period.

In addition to being a possible indicator of relapse/recovery, dysfunctional cognitions were found to contribute to the prediction of bipolar diagnosis. It was shown that screening positive on the MDQ and higher levels of hypomania as well as depressive attitudes were risk factors for BPD diagnosis. Besides, hypomanic attitudes significantly predicted the self-reported history of bipolar symptoms in the normal sample. In future studies, longitudinal designs may be used to examine the relationship of hypomanic attitudes with both relapse in remitted patients and possible diagnosis of BPD among other populations.

While evaluating these results, some reservations regarding the screening power of the MDQ should be discussed. Parallel with the original study of the MDQ (26) and the Turkish adaptation study (31), a cut-off score of 7 provided the most optimal sensitivity and specificity results for the present data. However, according to this criterion, 32% of the bipolar patients

Table 3. Results of the logistic regression analysis

Model	Predictors	B	SE	Wald	e^B	Nagelkerke's R²
1	Positive MDQ[a]	1.47	.291	25.381**	4.333	.15
2	Positive MDQ	1.39	.323	19.560**	4.179	
	Brief-HAPPI-TR[b]	.02	.007	3.906*	1.014	
	DAS[c]	.03	.006	22.047*	.970	.30

[a]Screening positive on the Mood Disorder Questionnaire (cut-off score=7); [b]Brief-Hypomanic Attitudes and Positive Predictions Inventory-Turkish Version; [c]Dysfunctional Attitudes Scale; [e]B: exponentiated B.
*p<.05, **p<.001.

Table 4. Result of the hierarchical regression analysis for the control group

Model	Predictor	β	t	F change	Std. Error of the Estimate	Model R²
1	Brief-HAPPI-TR	.060	5.774	33.343*	2.673	.25

Brief-HAPPI-TR: bBrief-Hypomanic Attitudes and Positive Predictions Inventory-Turkish Version;
*p<.001

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were screened negative on the MDQ. Scott et al. (13) showed that the autobiographical memory of the individuals with BPD was over general as compared with that of the controls. In addition, Miller et al. (36) discussed that among the bipolar patients, lower insight may lead to false-negative results on the MDQ. These kinds of cognitive vulnerabilities may decrease the sensitivity of the MDQ in identifying bipolar cases.

Furthermore, approximately one third of the control group screened positive on the MDQ based on the cut-off score 7. This may indicate out a non-clinical hypomanic group, which was also examined in another study (37).They showed that a high level of awareness for the self and others may be a protective factor that may prevent a group of people who reported that they experienced hypomanic symptoms from developing a diagnosable BPD. Mansell et al. (21) identified a similar subclinical group who had higher hypomanic attitudes than a control group but had lower hypomanic attitudes than a relapsed bipolar group.

Another reason that may explain positive screening among the normal sample may be the existence of other psychological symptoms. Parker et al. (38) examined the profiles of false positives identified by the Mood Swings Questionnaire (MSQ) and MDQ and showed that false positives according to bipolar screening tests mainly comprised patients with anxiety disorders. Similarly, Zimmerman discussed that other diagnoses such as Borderline Personality Disorder may also result in a false-positive screening on the MDQ (29).

In addition to the general discussions regarding the screening power of the MDQ, there were some other limitations in the present study. First, the diagnostic criteria for BPD were assessed by clinicians, and no standardized diagnostic interview was used. The validity of these diagnoses may be questioned. Second, the control group comprised individuals from the community who reported that they had no psychiatric symptoms. A screening test for psychiatric symptoms may have helped to check the validity of these self-reports. Finally, current hypomanic and depressive symptoms as well as other symptoms, such as anxiety, were not controlled. These variables may influence the interpretation of the results; therefore, they may be examined in future studies.

Despite these limitations, the results of the study may have some important clinical implications. First, high sample size provided an opportunity to explore the relationships between clinical features related with the illness and dysfunctional cognitions. Second, the findings from this study involving Turkish sample were in line with those of the study by Mansell et al.'s (18,21,23), supporting the universality of the relationship between attitudes regarding internal states and bipolar symptoms. Finally, it may be discussed that hypomanic attitudes are used in identifying the risk of relapse in remission as well as in identifying individuals at a risk of developing BPD. In future studies, the residual symptom profile and the current mood may be controlled to have a better understanding of the cognitions related to bipolar symptoms.

REFERENCES

1. Emilien G, Septien L, Brisard C, Corruble E, Bourin M. Bipolar disorder: How far are we from a rigorous definition and effective management? Prog Neuro-Psychoph 2007; 31:975-996. **[CrossRef]**
2. Schwartz HA, Levenson JC, Frank E. Psychotherapy for Bipolar II Disorder: The role of interpersonal and social rhythm therapy. Prof Psychol-Res Pr 2012; 43:145-153. **[CrossRef]**
3. Beck AT, Rush AJ, Shaw BF, Emery G. Cognitive therapy for depression. New York: The Guildford Press; 1979.
4. Scott J. Cognitive therapy as an adjunct to medication. Brit J Psychiatry 2001; 178:164-168. **[CrossRef]**
5. Newman CF, Leahy RL, Beck AT, Reilly-Harrington NA, Gyulai L. Bipolar Disorder: A cognitive therapy approach. Washington DC: American Psychological Association; 2002. pp. 40-43. **[CrossRef]**
6. Schwannauer M. Cognitive behavioral therapy for bipolar affective disorder. M Power, Editor. Mood Disorders: a handbook of science and practice. England: J. Wiley; 2004. pp. 259-273.
7. Colom F, Vieta E. Sudden glory revisited: Cognitive content of hypomania. Psychother Psychosom 2007; 76:278-288. **[CrossRef]**
8. Alloy BL, Abramson LY, Walshaw PD, Neeren A. Cognitive vulnerability to unipolar and bipolar mood disorders. J Soc Clin Psychol 2006; 25:726-755. **[CrossRef]**
9. Thomas J, Bentall RP. Hypomanic traits and response styles to depression. Brit J Clin Psychol 2002; 41:309-313. **[CrossRef]**
10. Basco RM. Cognitive-behavior therapy for bipolar I disorder. Journal of Cognitive Psychotherapy: An International Quarterly 2000; 14:287-303.
11. Lam DH, Jones SH, Hayward P, Bright JA. Cognitive therapy for bipolar disorder: A therapist's guide to concepts, methods and practice. Chichester: John Wiley and Sons, Ltd; 1999. pp. 52-55.
12. Reilly-Harrington NA, Miklowitz DJ, Otto MW, Frank E, Wisniewski SR, Thase ME, Sachs GS. Dysfunctional attitudes, attributional styles, and phase of illness in bipolar disorder. Cog Ther Res 2010; 34:24-34. **[CrossRef]**
13. Scott J, Stanton B, Garland A, Ferrier IN. Cognitive vulnerability in patients with bipolar disorder. Psycholog Med 2000; 30:467-472. **[CrossRef]**
14. Goldberg JF, Gerstein RK, Wenze SJ, Welker TM, Beck AT. Dysfunctional attitudes and cognitive schemas in bipolar manic and unipolar depressed outpatients. Implications for cognitively based psychotherapeutics. J Nerv Ment Dis 2008; 196:207-210. **[CrossRef]**
15. Weissman AN, Beck AT. Development and validation of the Dysfunctional AttitudesScale: A preliminary investigation. In: Paper Presented at the The Annual Meeting of the American Educational Research Association Toronto; 1978.
16. Mansell W, Morrison AP, Reid G, Lowens I, Tai S. The interpretations of. and responses to. changes in internal states: An integrative cognitive model of mood swings and bipolar disoders. Beh Cogn Ther 2007; 35:515-539. **[CrossRef]**
17. Mansell W. The Hypomanic Attitudes and Positive Predictions Inventory (HAPPI).A pilot study to select cognitions that are elevated in individuals with bipolar disordercompared to non-clinical controls. Behav Cogn Psychother 2006; 34:467-476. **[CrossRef]**
18. Mansell W, Rigby Z, Tai S, Lowe C. Do current beliefs predict hypomanic symptoms beyond personality style? Factor analysis of the hypomanic attitudes and positive predictions inventory (HAPPI) and its association with hypomanic symptoms in a student population. J Clin Psychol 2008; 64:450-465. **[CrossRef]**
19. Alatiq Y, Crane C, Williams JMG, Goodwin GM. Dysfunctional beliefs in bipolar disorder: Hypomanic vs. depressive attitudes. J Affect Disord 2010; 122:294-300. **[CrossRef]**
20. Dodd AL, Mansell W, Sadhnani V, Morrison AP, Tai S. Principal components analysis of the hypomanic attitudes and positive predictions inventory and associations with measures of personality. cognitive style and analogue symptoms in a student sample. Beh Cog Psychother 2010; 38:15-33. **[CrossRef]**
21. Mansell W, Paszek G, Seal K, Pedley R, Jones SA, Thomas N, Mannion H,

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Saatsi S, Dodd A. Extreme appraisals of internal states in bipolar I disorder: A multiple control group study. Cogn Ther Res 2011; 35:87-97. **[CrossRef]**

22. Kelly RE, Mansell W, Wood AM, Alatiq Y, Dodd A, Searson R. Extreme positive and negative appraisals of activated states interact to discriminate bipolar disorder from unipolar depression and non-clinical controls. J Affect Disord 2011; 134:438-443. **[CrossRef]**

23. Mansell W, Jones SH. The Brief-HAPPI: A questionnaire to assess cognitions that distinguish between individuals with a diagnosis of bipolar disorder and non-clinical controls. J Affect Disord 2006; 93:29-34. **[CrossRef]**

24. Dodd AL, Mansell W, Morrison AP, Tai S. Factor structure of the Hypomanic Attitudes and Positive Predictions Inventory and associations with analogue bipolar symptoms in a student sample. Pers Indiv Differ 2011; 50:349-354. **[CrossRef]**

25. Mansell W. An integrative formulation-based cognitive treatment of bipolar disorders: Application and illustration. J Clin Psychol 2007; 63:447-461. **[CrossRef]**

26. Hirschfeld RM, Williams JBW, Spitzer RL, Calabrese JR, Flynn L, Keck PR Jr, Lewis L, McElroy SL, Post RM, Rapport DJ, Russell JM, Sachs GS, Zajecka J. Development and validation of a screening instrument for bipolar spectrum disorder: The Mood Disorder Questionnaire. Am J Psychiatry 2000; 157:1873-1875. **[CrossRef]**

27. Hirschfeld RM. The Mood Disorder Questionnaire: its impact on the field. Depress Anxiety 2010; 27:627-630. **[CrossRef]**

28. Zimmerman M, Galione JN. Screening for bipolar disorder with the Mood Disorder Questionnaire: a review. Harv Rev Psychiatry 2011; 19:219-228. **[CrossRef]**

29. Zimmerman M. Misuse of the Mood Disorder Questionnaire as a case-finding measure and a critique of the concept of using a screening scale for bipolar disorder in psychiatric practice. Bipolar Disord 2012; 14:127-134. **[CrossRef]**

30. Mackali Z. The Turkish adaptation, reliability and validity of "Brief-Hypomanic Attitudes and Positive Predictions Inventory". Unpublished master's thesis. Istanbul, Okan University; 2012.

31. Konuk N, Kiran S, Tamam L, Karaahmet E, Aydin H, Atik L. Validation of the Turkish version of the mood disorder questionnaire for screening bipolar disorders. Turk Psikiyatri Derg 2007; 18:147-154.

32. Savaşır I, Şahin NH, Eds. Bilişsel-davranışçı terapilerde değerlendirme: Sık kullanılan ölçekler. Ankara: Türk Psikologlar Derneği Yayınları 1997. s. 46-54.

33. Jones L, Scott J, Haque S, Gordon-Smith K, Heron J, Caesar S, Cooper C, Forty L, Hyde S, Lyon L, Greening J, Sham P, Farmer A, McGuffin P, Jones I, Craddock N. Cognitive style in bipolar disorder. Br J Psychiatry 2005; 187:431-437. **[CrossRef]**

34. Lex C, Meyer TD, Marquart B, Thau K. No strong evidence for abnormal levels of dysfunctional attitudes, automatic thoughts, and emotional information-processing biases in remitted bipolar I affective disorder. Psychol Psychother 2008; 81:1-13. **[CrossRef]**

35. Alloy LB, Abramson LY, Whitehouse WG, Hogan ME, Tashman NA, Steinberg DL, Rose DT, Donovan P. Depressogenic cognitive styles: Predictive validity, information processing and personality characteristics, and developmental origins. Behav Res Ther 1999; 37:503-531. **[CrossRef]**

36. Miller CJ, Klugman J, Berv DA, Rosenquist KJ, Ghaemi SN. Sensitivity and specificity of the Mood Disorder Questionaire for detecting bipolar disorder. J Affect Disord 2004; 81:167-171. **[CrossRef]**

37. Seal K, Mansell W, Mannion H. What lies between hypomania and bipolar disorder? A qualitative analysis of 12 non-treatment–seeking people with a history of hypomanic experiences and no history of major depression. Psychol Psychother 2008; 81:33-53. **[CrossRef]**

38. Parker G, Graham R, Hadzi-Pavlovic D, Fletcher K, Hong M, Futeran S. Further examination of the utility and comparative properties of the MSQ and MDQ bipolar screening measures. J Affect Disord 2012; 138:104-109. **[CrossRef]**