

Early Maladaptive Schemas: A Comparison Between Bipolar Disorder and Major Depressive Disorder

Kristine Kahr Nilsson,^{1*} Krista Nielsen Straarup² and Marianne Halvorsen^{3,4}

¹Center for Developmental and Applied Psychological Science (CeDAPS), the Department of Communication and Psychology, Aalborg University, Denmark

²Mood Disorders Clinic, Aarhus University Hospital, Risskov, Denmark

³Department of Psychology, University of Tromsø, Faculty of Health Science, Norway

⁴Department of Pediatric Rehabilitation, University Hospital of North Norway, Norway

Background: It is still unclear how bipolar disorder (BD) differentiates from major depressive disorder (MDD) outside major mood episodes. To further elucidate this area, the present study compared the two mood disorders in terms of early maladaptive schemas (EMSs) during remission.

Method: The sample consisted of 49 participants with BD and 30 participants with MDD who were currently in remission. The participants completed the Young Schema Questionnaire.

Results: The BD group scored significantly higher than the MDD group on seven EMSs: abandonment, failure to achieve, insufficient self-control, subjugation, unrelenting standards, enmeshment and entitlement.

Conclusion: By suggesting that EMSs are more severe in BD compared with MDD, the findings highlight potential vulnerabilities in BD, which merit further examination in terms of their underlying causes and potential treatment implications. Copyright © 2014 John Wiley & Sons, Ltd.

Key Practitioner Message:

- Early maladaptive schemas are relevant psychological dimensions to consider in remitted phases of major mood disorders.
- Findings from the current study suggest that early maladaptive schemas are more prevalent in adults with bipolar disorder compared to adults with major depressive disorder when measured during remission.
- Interventions targeting early maladaptive schemas may be valuable in treatment of bipolar disorder.

Keywords: Bipolar Disorder, Major Depressive Disorder, Remission, Early Maladaptive Schemas

INTRODUCTION

Since the earliest nosological proposals within modern psychiatry (Krapelin, 1921; Leonhard, 1957), it has been widely debated whether unipolar and bipolar mood disorders represent distinct disease entities or different subtypes within a mood disorder spectrum. A vast amount of research point to essential differences between the two mood disorders, now termed bipolar disorder (BD) and major depressive disorder (MDD), including different ages of onset, depressive symptomatology and medication responses (Goodwin & Jameson, 2007). However, evidence pointing to genetic co-heritability between the two disorders (Kendler *et al.*, 2013) and one-third of MDD patients converting into BD patients (Dudek *et al.*, 2013) indicate nebulous boundaries and an area in need of further elucidation.

A hallmark of mood disorders is abnormal self-evaluation as manifested by inflated and deflated perceptions of self during mania and depression, respectively. Abnormalities in self-evaluation are, however, not confined to mood episodes but also manifest during remitted illness phases of MDD and BD as evinced by lower self-esteem (Nilsson *et al.*, 2010b) and higher self-compartmentalization (Alatiq, Crane, Williams, & Goodwin, 2010; Taylor, Morley, & Barton, 2007). Yet, little is known about the specific themes and patterns of self-conception in mood disorders during remission. The schema theory developed by Young, Klosko and Weishaar (2003), which contains an operationalized model of self-conceptual themes associated with psychopathology and dysfunction, provides a heuristic framework for examining differences between MDD and BD in this domain. The key concept within this theory is the early maladaptive schema (EMS) defined as *a broad, pervasive theme or pattern comprised of memories, emotions, cognitions and bodily sensations regarding oneself and one's relationship with others developed during childhood or adolescence elaborated throughout one's lifetime and dysfunctional to a significant degree* (Young *et al.*, 2003, p. 7). In cognitive models of psychopathology, schemas are considered the deepest level of

*Correspondence to: Kristine Kahr Nilsson, Center for Developmental and Applied Psychological Science (CeDAPS), the Department of Communication and Psychology, Aalborg University, Denmark.
E-mail: kkn@hum.aau.dk

cognition, which consists of templates for information processing that guide thinking and behaviours (Wright, 2006). EMSs refer to schemas with early developmental origins which are highly self-perpetuating and maladaptive hence causing considerable distress and dysfunction.

In earlier cognitive theories of mood disorders, negative self-schemas were conceptualized as latent cognitive structures which needed to be primed by mood or triggered by particular life events in order to be activated (Ingram, Miranda, & Segal, 1998; Kovacs & Beck, 1978). In the schema theory, on the other hand, EMSs are conceptualized as pervasive, ego-syntonic and highly accessible (Rafaeli, Bernstein, & Young, 2011; Young *et al.*, 2003) and therefore do not require stress-activation or priming in order to be accessed and measured. Due to these characteristics, EMSs appear relevant to consider as persistent patterns influencing the remitted illness phases of BD and MDD.

Thus far, research into EMSs in mood disorders is limited. The few studies on the topic indicate that EMSs overall are more severe in mood disorder patients compared with controls (Ak *et al.*, 2012; Halvorsen, Wang, Eisemann, & Waterloo, 2010; Hawke & Provencher, 2012; Nilsson *et al.*, 2010a). In the only study comparing BD and MDD in terms of EMSs, Hawke and Provencher (2012) found that, compared with MDD patients, BD patients had significantly higher scores on two EMSs: entitlement and approval seeking. This study points EMS differences between the two mood disorders. However, since remission was not an inclusion criterion, the findings

do not extrapolate to remitted illness phases of the two mood disorders. Since mood symptoms can influence measurement, it is important to account for the effects of mood such as by using a remission design in which remission is an inclusion criterion. Thus, to elucidate this topic, the present study employed a remission design that compared BD and MDD in terms of EMSs during remission.

METHODS

Sample

The sample consisted of two mood disorder cohorts which have been used for other research purposes in previously published studies (Halvorsen *et al.*, 2009; Halvorsen *et al.*, 2010; Nilsson, 2012; Nilsson *et al.*, 2010a). The inclusion criteria were a diagnosis of either MDD or BD and current remission defined as the absence of major affective episodes established by clinical interviews. The procedures and measures are described in earlier publications (Halvorsen *et al.*, 2009; Halvorsen *et al.*, 2010; Nilsson, 2012; Nilsson *et al.*, 2010a). The participants with MDD were furthermore required to have at least two past depressive episodes in order to match the minimum number of affective episodes required for a diagnosis of BD according to the diagnostic criteria of ICD-10 (WHO, 1993).

The data were collected in two sites in Scandinavia: The University Clinic at the University of Tromsø, Norway,

Table 1. Brief descriptions of the measured early maladaptive schemas

EMS	Content
Emotional deprivation	The belief that one's desire for emotional support and guidance will not be met by others.
Abandonment	The belief that others will be unpredictable and eventually leave.
Mistrust	The belief that others will be abusive, deliberately hurtful and take advantage of one.
Social isolation	The belief that one is detached from the rest of the world and not part of any group or community.
Defectiveness	The belief that one is defective, unlovable and inferior to others.
Failure to achieve	The belief that one is determined to be an underachiever and that one has failed and will inevitably fail.
Dependence	The belief that one is dependent upon others to manage everyday responsibilities.
Vulnerability to harm	The belief that unpreventable catastrophes or harm may strike at any time.
Enmeshment	The perception of being smothered by or fused with others at the cost of individual identity and development.
Subjugation	The belief that one's feelings and opinions are not important and that one must obey others' wishes in order to avoid anger or rejection.
Self-sacrifice	The belief that one must meet the needs of others at all times even if it is at the expense of one's own needs.
Emotional inhibition	An excessive focus on inhibiting emotional expression in order to avoid humiliation and disapproval by others.
Unrelenting standards	The belief that one must meet high internalized standards of performance in order to avoid criticism.
Entitlement	The belief that one is superior to others and hence should be entitled to special rights.
Insufficient self-control	The belief that one is unable to control oneself and unable to tolerate discomfort for the sake of achieving long-term goals.

and the Mood Disorders Clinic at Aarhus University Hospital, Denmark. The merged sample consisted of 30 participants with MDD and 49 participants with BD.

Measure

The short version of the Young Schema Questionnaire (YSQ-S2; Young, 1998) was used to measure 15 different EMSs outlined in Table 1. The YSQ-S2 is a self-report questionnaire which requests the respondents to rate 75 statements on a Likert Scale ranging from 1 = 'completely untrue of me' to 6 = 'describes me perfectly'. The psychometric properties of the YSQ-S2 have been supported in prior research in terms of internal consistency, factor structure and convergent validity (e.g., Calvete, Estévez, López de Arroyabe, & Ruiz, 2005; Hoffart *et al.*, 2005; Welburn *et al.*, 2002). The schema domains, which describe categories of EMSs defined by their developmental origins (Young *et al.*, 2003), were not analysed as higher order dimensions due to inconsistent support of their factorial validity (Calvete *et al.*, 2005; Hoffart *et al.*, 2005; Levente *et al.*, 2012).

Data Analysis

Statistical analyses were performed using the Statistical Package for the Social Sciences—Version 19.0 (SPSS, Inc., Chicago, USA). To examine between-group differences, *t*-tests were used for continuous variables and chi-square analyses for categorical variables. Estimates of the subscales' internal consistencies were assessed through Cronbach's alpha coefficients.

RESULTS

Descriptive and inferential statistics are presented in Table 2. The percentage of women was significantly higher in the MDD group compared with the BD group. However, the only EMS in which a sex difference emerged was entitlement with men scoring significantly higher than women ($t = 2.87$, $p = 0.005$). The use of psychopharmacological treatments was significantly more prevalent in the BD

Table 3. Comparisons between BD and MDD in terms of early maladaptive schemas

EMS	α	BD	MDD	<i>P</i>
		Mean (SD)	Mean (SD)	
Emotional deprivation	0.79	1.69 (.75)	1.96 (1.00)	0.185
Abandonment	0.88	2.52 (1.20)	1.97 (1.08)	0.044
Mistrust	0.80	2.02 (.89)	1.65 (.78)	0.061
Social isolation	0.84	2.34 (1.09)	1.95 (.81)	0.077
Defectiveness	0.79	1.72 (.73)	1.72 (.73)	0.988
Failure to achieve	0.86	2.06(.97)	1.55 (.73)	0.011
Dependence	0.85	1.67 (.70)	1.36(.77)	0.072
Vulnerability to harm	0.63	1.76(.75)	1.56(.63)	0.226
Enmeshment	0.67	1.92(.79)	1.34 (.51)	0.000
Subjugation	0.83	2.32 (.92)	1.78 (.88)	0.012
Self-sacrifice	0.76	3.03 (1.00)	2.64 (1.01)	0.106
Emotional inhibition	0.74	1.94 (.68)	1.94 (.92)	0.991
Unrelenting standards	0.75	3.23(1.04)	2.68 (1.09)	0.028
Entitlement	0.70	2.47(.82)	1.56 (.74)	0.000
Insufficient self-control	0.79	2.60 (.92)	2.10 (1.07)	0.030

EMS = early maladaptive schemas. BD = bipolar disorder. MDD = major depressive disorder. α = Cronbach's alpha coefficient.

group compared with the MDD group. Within the MDD group, there were no significant differences in EMS scores between participants who received psychopharmacological treatments and participants who did not. Similar comparisons could not be made within the BD group since only one participant was not on medication. There was no significant age difference between the BD group and the MDD group. The Cronbach's alpha coefficients indicated that most of the EMS subscales had adequate internal consistencies (Table 3). However, vulnerability to harm and illness and enmeshment had coefficients slightly below 0.70 and should therefore be interpreted with caution. The *t*-tests (Table 3) revealed that the BD group scored significantly higher than the MDD group on seven EMSs: abandonment, failure to achieve, and insufficient self-control, subjugation, unrelenting standards, enmeshment and entitlement. The differences on entitlement remained significant when controlling for the identified sex difference ($t = 4.45$, $p = 0.000$). An additional three EMSs were elevated in BD compared with MDD at a near-significant level: mistrust, social isolation and dependence (Table 3).

Table 2. Age, sex and psychopharmacological treatments

	BD	MDD	Significance test and <i>p</i> -value
N	49	30	
Age (M/SD)	35.43/9.26	37.93/9.22	$t = -1.168$, $p = 0.246$,
Sex (f/m)	32/17	26/4	$X^2(1)$ 4.35, $p = 0.037$
Psychopharmacological treatment	48	4	$X^2(1)$ 59.24, $p = 0.000$

BD = bipolar disorder. MDD = major depressive disorder.

DISCUSSION

The present study compared EMSs between BD and MDD during remission. The results revealed that the BD group scored higher than the MDD group on most of the EMS scales, and for seven EMSs, the differences were statistically significant: abandonment, failure to achieve, insufficient self-control, subjugation, unrelenting standards, enmeshment and entitlement. These findings extend previous findings by Hawke and Provencher (2012) by suggesting that EMSs also tend to be more severe in BD compared with MDD during remission.

The findings may be interpreted through a schema theory lens. According to Young *et al.* (2003), temperamental dispositions interact with need-thwarting or traumatic early life experiences in the formation of EMSs. Studies suggest that BD, compared with MDD, is associated with more childhood traumas (Hyun, Friedman, & Dunner, 2000) and temperamental dysregulation (Matsumoto *et al.*, 2005; Nowakowska *et al.*, 2005; Savitz, van der Merwe, & Ramesar, 2008). Thus, a higher prevalence of the proposed origins of EMSs in BD may explain the greater EMS severity in this disorder compared with MDD. Moreover, since EMSs purportedly continue their formations in adulthood (Young *et al.*, 2003), the illness course of mood disorder may be assumed to play a role in their formation. Compared with MDD, BD is characterized by more frequent depressive episodes (Forty *et al.*, 2008), more comorbid anxiety disorders and personality disorders (Moreno *et al.*, 2012) and an earlier illness onset (Tondo, Lepri, Cruz, & Baldessarini, 2010; Weissman *et al.*, 1996). A more pervasive illness course in BD may be conceived as having detrimental effects that contribute to the higher EMS severity in this group compared with MDD.

The findings may be considered in terms of their clinical implications. Schema therapy (ST; Young *et al.*, 2003), a psychotherapeutic treatment which specifically targets EMSs, has been found to have comparable efficacy with cognitive behaviour therapy in the treatment of MDD (Carter *et al.*, 2013). Considering the higher EMS severity in BD compared with MDD, as indicated by the present study, it is pertinent to contemplate whether ST would have additional treatment effects if applied to BD. Hawke, Provencher, and Parikh (2013) have proposed a modified version of ST for BD which emphasizes mood stabilization and prevention of affective relapses and recurrences. Thus, the effects of ST tailored to the symptomatology of BD seem relevant to investigate in future treatments studies.

A number of methodological drawbacks need to be considered when interpreting the findings. First, as described elsewhere (Halvorsen *et al.*, 2009; Halvorsen *et al.*, 2010; Nilsson, 2012; Nilsson *et al.*, 2010a), the assessment procedures used at two data-collection sites differed with regard to specific symptom measures and initial recruitment

strategies. The present findings should therefore be considered provisional and in need of further replication. Second, due to the cross-sectional design, the present study did not provide any insights into causal mechanisms underlying EMSs in the two mood disorders. The development of EMSs in mood disorders therefore remains to be elucidated by longitudinal research.

In conclusion, by suggesting that EMSs overall are more severe in BD compared with MDD during remission, the findings elaborate the understanding of differences between the two mood disorders. Moreover, the findings highlight potential vulnerabilities in BD, which merit further investigation in terms of their underlying causes and potential treatment implications.

CONFLICT OF INTEREST

The authors do not have any commercial association which might pose a conflict of interest in connection with the manuscript.

ACKNOWLEDGEMENT

This study was partially made possible through funding granted to the first author from Aarhus University, Denmark. Another part of this study was supported by the National Program of Integrated Clinical Specialists and PhD training for Psychologist in Norway and the Psychiatric Research Centre of Northern Norway. We would like to thank the participants for taking part in the study and Professor Carsten René Jørgensen for commenting on drafts to the manuscript.

REFERENCES

- Ak, M., Lapsekili, N., Haciomeroglu, B., Sutçigil, L., & Turkcapar, H. (2012). Early maladaptive schemas in bipolar disorder. *Psychology and Psychotherapy: Theory, Research and Practice*, 85(3), 260–267.
- Alatiq, Y., Crane, C., Williams, J. M. G., & Goodwin, G. M. (2010). Self-organization in bipolar disorder: Replication of compartmentalization and self-complexity. *Cognitive Therapy and Research*, 34(5), 479–486.
- Calvete, E., Estévez, A., López de Arroyabe, E., & Ruiz, P. (2005). The schema questionnaire—short form: Structure and relationship with automatic thoughts and symptoms of affective disorders. *European Journal of Psychological Assessment*, 21(2), 90–99.
- Carter, J. D., McIntosh, V. V., Jordan, J., Porter, R. J., Frampton, C. M., & Joyce, P. R. (2013). Psychotherapy for depression: A randomized clinical trial comparing schema therapy and cognitive behavior therapy. *Journal of Affective Disorders*, 151(2), 500–505.
- Dudek, D., Siwek, M., Zielińska, D., Jaeschke, R., & Rybakowski, J. (2013). Diagnostic conversions from major depressive disorder

- into bipolar disorder in an outpatient setting: Results of a retrospective chart review. *Journal of Affective Disorder*, 10, 144(1–2), 112–115.
- Forty, L., Smith, D., Jones, L., Jones, I., Caesar, S., Cooper, C., Fraser, C., Gordon-Smith, K., Hyde, S., Farmer, A., McGuffin, P., & Craddock, N. (2008). Clinical differences between bipolar and unipolar depression. *British Journal of Psychiatry*, 192(5): 388–389.
- Goodwin, F. K., Jameson, K. R. (2007). *Manic-Depressive Illness: Bipolar Disorders and Recurrent Depression* (2nd ed.). Oxford: Oxford University Press
- Halvorsen, M., Wang, C. E., Eisemann, M., & Waterloo, K. (2010). Dysfunctional attitudes and early maladaptive schemas as predictors of depression: A 9-year follow-up study. *Cognitive Therapy and Research*, 34(4), 368–379.
- Halvorsen, M., Wang, C., Richter, J., Myrland, I., Pedersen, S., Eisemann, M., & Waterloo, K. (2009). Early maladaptive schemas, temperament and character traits in clinically depressed and previously depressed outpatients. *Clinical Psychology and Psychotherapy*, 16, 394–407.
- Hawke, L. D., & Provencher, M. D. (2012). Early maladaptive schemas among patients diagnosed with bipolar disorder. *Journal of Affective Disorders*, 136(3), 803–811.
- Hawke, L., Provencher, M. D., & Parikh, S. D. (2013). Schema therapy for bipolar disorder: A conceptual model and future directions. *Journal of Affective Disorders*, 148(1), 118–122.
- Hoffart, A., Sexton, H., Hedley, L. M., Wang, C. E., Holthe, H., Haugum, J. A., Nordahl, H. M., Hovland, O. J., & Holte, A. (2005). The structure of maladaptive schemas: A confirmatory factor analysis and a psychometric evaluation of factor-derived scales. *Cognitive Therapy and Research*, 29(6), 627–644.
- Hyun, M., Friedman, S. D., & Dunner, D. L. (2000). Relationship of childhood physical and sexual abuse to adult bipolar disorder. *Bipolar Disorders*, 2, 131–135.
- Ingram, R. E., Miranda, J., & Segal, Z. V. (1998). *Cognitive Vulnerability to Depression*. New York: Guilford Press.
- Kendler K. S. et al., Cross-Disorder Group of the Psychiatric Genomics Consortium. (2013). Genetic relationship between five psychiatric disorders estimated from genome-wide SNPs. *Nature Genetics*, 54(9), 984–995.
- Kovacs, M., & Beck, A. T. (1978). Maladaptive cognitive structures in depression. *American Journal of Psychiatry*, 135, 525–533.
- Kraepelin, E. (1899/1921). *Manic-Depressive Insanity and Paranoia*. Edinburgh: E.S. Livingstone.
- Leonhard, K. (1957). Pathogenesis of manic-depressive disease. *Nervenarzt*, 28, 271–272.
- Levente, K., Schäfer, J., von Wolff, A., Härter, M., & Hölzel, L. P. (2012). The latent factor structure of Young's early maladaptive schemas: Are schemas organized into domains? *Journal of Clinical Psychology*, 68(6), 684–698.
- Matsumoto, S., Akiyama, T., Tsuda, H., Miyake, Y., Kawamura, Y., Noda, T., Akiskal, K. K., & Akiskal, H. S. (2005). Reliability and validity of TEMPS-a in a Japanese non-clinical population: Application to unipolar and bipolar depressives. *Journal of Affective Disorders*, 85(1), 85–92.
- Moreno, C., Hasin, D. S., Arango, C., Oquendo, M. A., Vieta, E., Liu, S., Grant, B. F., & Blanco, C. (2012). Depression in bipolar disorder versus major depressive disorder: Results from the National Epidemiological Survey on Alcohol and Related conditions. *Bipolar Disorders*, 14(3), 271–282.
- Nilsson, K. K. (2012). Early maladaptive schemas and functional impairment in remitted bipolar disorder patients. *Journal of Behavior Therapy and Experimental Psychiatry*, 43, 1104–1108.
- Nilsson, K. K., Jørgensen, C. R., Craig, T. K. J., Straarup, K. N., & Licht, R. W. (2010b). Self-esteem in remitted bipolar disorder patients: A meta-analysis. *Bipolar Disorders*, 12 (6), 585–592.
- Nilsson, K. K., Jørgensen, C. R., Straarup, K. N., & Licht, R. W. (2010a). Severity of affective temperaments and maladaptive self-schemas differentiate borderline patients, bipolar patients and controls. *Comprehensive Psychiatry*, 51(5), 486–491.
- Nowakowska, C., Strong, C. M., Santosa, C. M., Wang, P. W., & Ketter, T. A. (2005). Temperamental commonalities and differences in euthymic mood disorder patients, creative controls, and healthy controls. *Journal of Affective Disorders*, 85(1–2), 207–215.
- Rafaeli, E., Bernstein, D. P., & Young, J. (2011). *Schema Therapy: The CBT Distinctive Features Series*. London: Routledge.
- Savitz, J., van der Merwe, L., & Ramesar, R. (2008). Hypomanic, cyclothymic and hostile personality traits in bipolar spectrum illness: A family-based study. *Journal of Psychiatric Research*, 42(11), 920–929.
- Taylor, J. L., Morley, S., & Barton, S. B. (2007). Self-organization in bipolar disorder: Compartmentalization and self-complexity. *Cognitive Therapy and Research*, 31(1), 83–96.
- Tondo, L., Lepri, B., Cruz, N., & Baldessarini, R. J. (2010). Age at onset in 3014 Sardinian bipolar and major depressive disorder patients. *Acta Psychiatrica Scandinavica*, 121(6), 446–452.
- Weissman, M. M., Bland, R. C., Canino, G. J., Faravelli, C., Greenwald, S., Hwu, H. G., Joyce, P. R., Karam, E. G., Lee, C. K., Lellouch, J., Lépine, J. P., Newman, S. C., Rubio-Stipec, M., Wells, J. E., Wickramaratne, P. J., Wittchen, H., & Yeh, E. K. (1996). Cross-national epidemiology of major depression and bipolar disorder. *JAMA*, 24–31; 276(4), 293–299.
- Welburn, K., Coristine, M., Dagg, P., Pontefract, A., & Jordan, S. (2002). The schema questionnaire-short form: Factor analysis and relationship between schemas and symptoms. *Cognitive Therapy and Research*, 26, 519–530.
- World Health Organization Collaborating Centres for Classification of Diseases. (1992–94). *ICD-10: International Statistical Classification of Diseases and Related Health Problems* (10. revision ed.). Geneva: WHO.
- Wright, J. H. (2006). Cognitive behavior therapy: Basic principles and recent advances. *FOCUS*, 4, 173–178.
- Young, J. E. (1998). *Young Schema Questionnaire—Short Version (YSQ-S2)*. New York: Cognitive Therapy Center of New York.
- Young, J. E., Klosko, J. S., & Weishaar, M. E. (2003). *Schema Therapy: A practitioner's Guide*. New York, NY, US: Guilford Press.