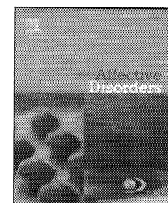




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Review

Positive aspects of mental illness: A review in bipolar disorder

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ABSTRACT

Introduction: There is growing interest to understand the role of positive psychological features on the outcomes of medical illnesses. Unfortunately this topic is less studied in relation to mental health, and almost completely neglected in relation to one of the most common severe psychiatric illnesses, bipolar disorder. Certain specific psychological characteristics, that are generally viewed as valuable and beneficial morally or socially, may grow out of the experience of having this affective disorder.

Objective: We describe the sources, research and impact of these positive psychological traits in the lives of persons with bipolar disorder based on the few published literature available to date. These include, but are not limited to: spirituality, empathy, creativity, realism, and resilience.

Methods: After an extensive search in the literature, we found 81 articles that involve descriptions of positive psychological characteristics of bipolar disorder.

Results: We found evidence for enhancement of the five above positive psychological traits in persons with bipolar disorder.

Conclusions: Bipolar disorder is associated with the positive psychological traits of spirituality, empathy, creativity, realism, and resilience. Clinical and research attention to preserving and enhancing these traits may improve outcomes in bipolar disorder.

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1. Introduction

There is growing interest in clinical research to understand the role of positive psychological traits on the outcomes of medical illnesses. However, most of this research has been conducted in non-clinical samples (i.e., normal populations such as adolescents and university students) (Larson, 2000; Seligman and Csikszentmihalyi, 2000; Taylor and Brown, 1994), in non-psychiatric samples (i.e., medical illnesses such as cardiovascular disease, stroke and cancer) (Folkman et al., 1986; Kass et al., 1991; Majumdar et al., 2002; Penninx et al., 2000), and in some epidemiological surveys (Fredrickson et al., 2003; Levin, 1996; Wills, 1986). While it is widely accepted that the influence of positive psychological traits on health is important, this topic is less studied in relation to mental health (Adler et al., 1998; Folkman, 1997; Taylor and Brown, 1988), and almost completely neglected in relation to one of the most common of severe psychiatric illnesses, bipolar disorder (Lee Duckworth et al., 2005). These include, but are not limited to: spirituality, empathy, creativity, realism, and resilience (see Table 1).

Mental illnesses, like bipolar disorder, are generally viewed as harmful, and associated with notable stigma (Hayward et al., 2002; Proudfoot et al., 2009). This is unfortunate because mental illness is common, and bipolar disorder is one of the most common severe mental illnesses (Centorrino et al., 2009; Perron et al., 2009). Bipolar disorder is potentially disabling and life-threatening (with a lifetime suicide rate of about 10%), but also highly treatable (Yatham et al., 2009). What is infrequently recognized, by the public as well as professionals, is that mental illnesses can have some positive aspects. Research has shown a correlation between bipolar disorder and increased positive emotional responses (Meyer et al., 2001). Patients with bipolar disorder have reported an elevated positive affect compared to controls in multiple aspects of daily life (Lovejoy and Steuerwald, 1995), and an increase in the achievement of ambitious goals (Johnson, 2005). In addition, certain specific psychological characteristics, that are generally viewed as valuable and beneficial morally or socially, may grow out of the experience of having this illness. These include, but are not limited to: spirituality, empathy, creativity, realism, and resilience. In this review, we describe and analyze the prevalence, sources, and impact of these psychological characteristics in the lives of persons with bipolar disorder based on the few published literature available to date.

Table 1
Positive psychological features present in bipolar disorder.

Spirituality
Creativity
Empathy
Realism
Resilience

1.1. Spirituality

Spirituality represents a powerful source of comfort, hope, and meaning for more than 90% of the world's population (Koenig, 2009). This psychological characteristic has also been associated with psychiatric disorders, making it very difficult to determine whether spirituality is an asset or a liability for long-term treatments and prognosis in mental health. Research in bipolar disorder has not addressed this issue thoroughly. One study found that patients' spirituality and strength of their beliefs was a better predictor of good outcomes in bipolar disorder than any other psychiatric comorbidity associated in the General Health Questionnaire (GHQ) (King et al., 1994). Other descriptive data show that about 20%–66% of patients with bipolar disorder rely on spiritual belief and practice their faith without negative impact on their affective illness (Gallemore et al., 1969; Mitchell and Romans, 2003). Females with bipolar disorder tend to evaluate their spiritual beliefs as a more important positive feature in their lives and the course of their disease when compared to men. Previous observational research has found other demographic variables such as age to be related to the strength of patients' beliefs and spiritual practices (Braam et al., 1997). Patients report influential relationship between their spirituality and the course of bipolar disorder in 14–37% of the cases (King et al., 1994; Mitchell and Romans, 2003). Those who seek spiritual healing seem to have better outcomes (course of illness, mood swings or episodes) than those who do not seek spiritual healing (69% vs. 42%). Limitations of these studies include cross-sectional designs, modest sample sizes, potential confounding bias, and in most instances no comparison populations (Gallemore et al., 1969; Mitchell and Romans, 2003).

1.2. Empathy

There is little research on empathy concerning mood disorders. In the few studies available, empathy appears to be increased in depressed patients (Burns and Nolen-Hoeksema, 1992; Moran and Diamond, 2008). Why this is so is still unclear and what impact this enhanced empathy produces in the lives of depressed patients is unknown.

In bipolar disorders, very few studies examine empathy (Kerr et al., 2003; Malhi et al., 2008; Olley et al., 2005; Shamay-Tsoory et al., 2009). One study found cognitive inflexibility associated with impairments of frontal neuro-cognitive tasks (Borkowska and Rybakowski, 2001). Functional neuroimaging suggests involvement of limbic structures (such as the amygdala, the inferior frontal gyrus, the medial orbitofrontal cortex, left anterior cingulate, medial rostral cortex, and the precuneus/cuneus areas bilaterally) as possible substrates of empathy in bipolarity (Malhi et al., 2008; Vollm et al., 2006). Patients with bipolar disorder have been shown to report lower compassion rates, a relative of

sympathy, compared to a non-clinical control group. Compassion predicted decreased mania severity at 6 month follow-up, suggesting it may serve as a protective factor in bipolar disorder (Gruber et al., 2009). No studies to date relate empathy in bipolar disorder to the number of episodes or illness characteristics.

1.3. Creativity

Descriptive research has focused on creativity in understanding bipolar disorder (Akiskal et al., 1998a; Akiskal et al., 1998b; Jamison et al., 1980; Schou, 1979; Ludwig, 1995). Although having bipolar disorder carries negative social, financial and interpersonal outcomes, a high percentage of patients seem to describe positive experiences and contributions in their lives related to mental illness in terms of sensitivity, alertness, productivity, social relationships, sexuality and creativity (Jamison et al., 1980). Most early studies supporting this claim of a connection between bipolar illness, creativity and well-being have some limitations involving sampling size, potential confounding factors, and reliance on anecdotal evidence based on the lives and bibliographic recollections of eminent artists and writers (Rothenberg, 2001). Recent efforts have shown that although samples of creative artists, scientists, architects, and businessmen may have an overrepresentation of affective psychopathology, cases of full blown manic-depressive illness are uncommon (Akiskal et al., 2005; Jamison, 1989; Richards et al., 1988). Creativity has been associated with samples of non-eminent bipolar patients where cyclothymic and hyperthymic temperaments seem to be more prevalent than in the general population (Akiskal and Akiskal, 2007). Others argue for a possible transmission in families with genetic susceptibility, showing that children with and at risk for bipolar disorder have higher creativity than healthy controls (Simeonova et al., 2005).

The creative process initially attributed to bipolar disorder involves a combination of different elements consisting of melancholia, bipolar spectrum temperaments, and speed of thought (Nowakowska et al., 2005; Stanghellini and Raballo, 2007). Recent publications have also looked at thought acceleration as a positive feature of mania (Pronin et al., 2008; Pronin and Wegner, 2006). Results suggest that effects of thought speed on mood are partially rooted in the subjective experience itself. There seems to be a link between “racing thoughts” and euphoria in cases of clinical mania, and potential implications for creativity and other positive characteristics, such as feelings of power, inflated self-esteem, and sense of heightened energy. Clinicians who treat creative individuals with mood disorders confront a variety of challenges, including fear that treatment diminishes creativity (Andreasen, 2008).

A few controlled studies to date have measured creativity comparing samples of euthymic bipolar patients with unipolar depressed patients, creative controls, and healthy subjects (Santosa et al., 2007; Strong et al., 2007; Srivastava et al., 2010). Results showed that patients with bipolar disorder and creative controls, but not major depressive disorder patients, had similarly enhanced creativity on the Baron & Welsch Art Scale (BWAS), driven by an increase on the BWAS-Dislike compared to healthy controls. The studies also

indicated that the psychological trait of openness to experience was most associated with creativity.

1.4. Realism

It has been repeatedly shown that depressed people are more realistic than the non-depressed in several experiments that measure one's sense of control (Chaemi, 2007). Patients with high self-reported depression scores correctly attribute errors to themselves in studies where errors are sometimes experimentally introduced. In contrast, normal subjects report more control over experimental tasks than they really possessed (Alloy and Abramson, 1988).

Realism may partly reflect the increased insight of depression (Amador and David, 2004), and its converse may be decreased insight in mania (Ghaemi et al., 1995). Approximately 50% of patients with bipolar disorder do not recall or deny their manic episodes, even after controlling for the presence or not of psychotic symptoms. This may explain why bipolar disorder patients tend to describe depressive symptoms rather than manic, which may produce an over-diagnosis of major depressive disorder (Ghaemi et al., 2000; Gonzalez-Pinto et al., 1998; Hirschfeld et al., 2003a; Hirschfeld et al., 2003b; Perlis, 2005). Including family members during assessments and follow-up visits should help reduce this problem.

Depressive realism may also be reflected in existential despair (Havens and Ghaemi, 2005). Existential states of despair can be difficult to differentiate from depressive episodes, even though they differ greatly from true bipolar depressive episodes.

1.5. Resilience

Resilience is a subject of interest mainly limited in the past to the field of Post-Traumatic Stress Disorder (PTSD). It has long been noticed that in selected populations exposed to a severe or prolonged trauma (such as war), only some people will eventually develop PTSD (Breslau, 2009; McFarlane and Van Hooff, 2009). Those persons who do not do so are postulated as having resilience factors, some of which have been suggested to be certain personality traits and their combinations (low anxiety and neuroticism, high extraversion and openness to experience) (Agaibi and Wilson, 2005; Elder and Clipp, 1989). Other authors have described post-traumatic growth or the experience of enhanced psychological well-being after traumatic experiences (Barskova and Oesterreich, 2009; Wiechman Askay and Magyar-Russell, 2009).

If mood episodes in bipolar disorder can be conceptualized as discrete traumata then each recovery from a mood episode can be seen as an opportunity for post-traumatic growth. One study reports that patients with bipolar disorder who were previously diagnosed with PTSD and exposed to a new traumatic experience had a lower prevalence of new PTSD symptoms compared to patients without a history of PTSD (Pollack et al., 2006). How individuals respond to mood episodes, whether by psychological PTSD-like worsening or by resilient psychological growth from the traumatic experience of a mood episode itself, has not been studied. Available research in bipolar disorders and PTSD has

examined the relationships between exposure to trauma, bipolar spectrum disorder and PTSD, focusing mainly on negative clinical correlates focusing mainly on negative clinical correlates (Maguire et al., 2008; Neria et al., 2008). Outcomes commonly explored include traumatic assaults, sexual abuse, comorbid alcohol dependence, manic episodes, psychotic symptoms, development of PTSD, poor social adjustment and response to treatment. Measurements for positive outcomes after traumatic exposures in samples of patients with bipolar disorder are excluded. It is possible that some resilient persons may actually benefit in the long term from multiple mood episodes by being able to better cope with other important life stresses.

2. Discussion

These positive psychological aspects of bipolar disorder are of importance to the public and the scientific community partly because of the relationship to social stigma and quality of life in patients suffering from major psychiatric disorders. Regarding stigma, people with bipolar disorders have to cope not only with their illness, but also with negative attitudes about them (Ritsher and Phelan, 2004; Wahl, 1999). Many people assume that these individuals are at least partially responsible for their condition (Crisp et al., 2000; Jorm et al., 2005). These pejorative convictions are accompanied by negative emotional reactions that are transmitted to patients with bipolar disorder, leading to social withdrawal and even drifting into poverty or homelessness (Link et al., 2008). Individuals with mental illness, compared to those with physical illness, are confronted more frequently with feelings of anger, often seen as dangerous (Highet et al., 2004), and much less frequently given pity or sympathy (Weiner et al., 1988). Social stigma is likely to affect well-being, quality of life and reintegration either directly or indirectly (Hayward et al., 2002; Markowitz, 1998; Rosenfield, 1997). For these reasons many affected individuals tend to keep the illness a secret or to avoid contact with people who could react by rejecting them (Angermeyer, 2003). Furthermore, a psychiatric 'label' can have negative impacts on the work status and income of patients, as well as on their willingness to seek help and comply to the treatment prescribed (Link, 1982; Sirey et al., 2001). One way to combat stigma would be to appreciate positive aspects of mental illness.

Regarding quality of life, numerous studies demonstrate an impairment in bipolar disorder, even despite symptom improvement with medications (Dean et al., 2004; Michalak et al., 2006). Why is there a disconnection between symptomatic improvement and quality of life? One possibility is that clinicians and researchers have not paid much attention to protecting and even enhancing the positive aspects of mental illness (including the five psychological traits discussed above). By focusing on treating the symptoms of bipolar disorder, clinicians may inadvertently dull the positive aspects of the illness, resulting in less benefit for patients.

3. Conclusions

Positive psychological traits are underappreciated as a potential benefit of mental illness. Their impact on the course

and treatment of bipolar disorder is unknown. Paying attention to positive psychological issues may be an innovative strategy to obtain better clinical outcomes in this illness.

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There was no study sponsor involved in the research or writing of this review article.

Conflict of Interest

In the past 12 months, Dr Ghaemi has received a research grant from Pfizer. Neither he nor his family holds equity positions in pharmaceutical corporations.

In the last 12 months, Dr. Juan Francisco Galvez has been a lecturer for the speaker's bureau at GlaxoSmithKline Columbia, Eli Lilly Interamerica, Pfizer, and Wyeth. He has also been a consultant for both Pfizer and Wyeth and worked on the advisory board of GlaxoSmithKline. He also has served on the advocacy board of Astra Zeneca and is a member of the ISBD Board Colombian Chapter.

Sairah Thommi has no relevant financial relationships to disclose.

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References

- Adler, N.E., Horowitz, M., Garcia, A., Moyer, A., 1998. Additional validation of a scale to assess positive states of mind. *Psychosom. Med.* 60, 26.
- Agaibi, C.E., Wilson, J.P., 2005. Trauma, PTSD, and resilience: a review of the literature. *Trauma Violence Abuse* 6, 195–216.
- Akiskal, H.S., Akiskal, K.K., 2007. In search of Aristotle: temperament, human nature, melancholia, creativity and eminence. *J. Affect. Disord.* 100, 1–6.
- Akiskal, H.S., Hantouche, E.G., Bourgeois, M.L., Azorin, J.M., Sechter, D., Allilaire, J.F., Lancrenon, S., Fraud, J.P., Châtenet-Duchêne, L., 1998a. Gender, temperament, and the clinical picture in dysphoric mixed mania: findings from a French national study (EPIMAN). *J. Affect. Disord.* 50, 175–186.
- Akiskal, H.S., Placidi, G.F., Maremmani, I., Signoretta, S., Liguori, A., Gervasi, R., Mallya, G., Puzantian, V.R., 1998b. TEMPS-I: delineating the most discriminant traits of the cyclothymic, depressive, hyperthymic and irritable temperaments in a nonpatient population. *J. Affect. Disord.* 51, 7–19.
- Akiskal, K.K., Savino, M., Akiskal, H.S., 2005. Temperament profiles in physicians, lawyers, managers, industrialists, architects, journalists, and artists: a study in psychiatric outpatients. *J. Affect. Disord.* 85, 201–206.
- Alloy, L.B., Abramson, L.Y., 1988. Depressive realism: four theoretical perspectives. *Cogn. Process. Depress.* 223, 265.
- Amador, X.F., David, A.S., 2004. *Insight and psychosis*. Oxford University Press, USA.
- Andreasen, N.C., 2008. The relationship between creativity and mood disorders. *Dialogues Clin. Neurosci.* 10, 251–255.
- Angermeyer, M.C., 2003. The stigma of mental illness from the patient's view—an overview. *Psychiatr. Prax.* 30, 358–366.
- Barskova, T., Oesterreich, R., 2009. Post-traumatic growth in people living with a serious medical condition and its relations to physical and mental health: a systematic review. *Disabil. Rehabil.* 31, 1709–1733.
- Borkowska, A., Rybakowski, J.K., 2001. Neuropsychological frontal lobe tests indicate that bipolar depressed patients are more impaired than unipolar. *Bipolar Disord.* 3, 88–94.
- Braam, A.W., Beekman, A.T.F., Tilburg, T.G., Deeg, D.J.H., Tilburg, W., 1997. Religious involvement and depression in older Dutch citizens. *Soc. Psychiatry Psychiatr. Epidemiol.* 32, 284–291.
- Breslau, N., 2009. The epidemiology of trauma, PTSD, and other posttrauma disorders. *Trauma Violence Abuse* 10, 198–210.
- Burns, D.D., Nolen-Hoeksema, S., 1992. Therapeutic empathy and recovery from depression in cognitive-behavioral therapy: a structural equation model. *J. Consult. Clin. Psychol.* 60, 441–449.
- Centorrino, F., Mark, T.L., Talamo, A., Oh, K., Chang, J., 2009. Health and economic burden of metabolic comorbidity among individuals with bipolar disorder. *J. Clin. Psychopharmacol.* 29, 595.
- Crisp, A.H., Gelder, M.G., Rix, S., Meltzer, H.I., Rowlands, O.J., 2000. Stigmatisation of people with mental illnesses. *Br. J. Psychiatry* 177, 4–7.

- Dean, B.B., Gerner, D., Gerner, R.H., 2004. A systematic review evaluating health-related quality of life, work impairment, and healthcare costs and utilization in bipolar disorder. *Curr. Med. Res. Opin.* 20, 139–154.
- Elder Jr., G.H., Clipp, E.C., 1989. Combat experience and emotional health: impairment and resilience in later life. *J. Pers.* 57, 311–341.
- Folkman, S., 1997. Positive psychological states and coping with severe stress. *Social Sci. Med.* 45, 1207–1221.
- Folkman, S., Lazarus, R.S., Gruen, R.J., DeLongis, A., 1986. Appraisal, coping, health status, and psychological symptoms. *J. Pers. Soc. Psychol.* 50, 571–579.
- Fredrickson, B.L., Tugade, M.M., Waugh, C.E., Larkin, G.R., 2003. What good are positive emotions in crises? A prospective study of resilience and emotions following the terrorist attacks on the United States on September 11th, 2001. *J. Pers. Soc. Psychol.* 84, 365–376.
- Gallimore Jr., J.L., Wilson, W.P., Rhoads, J.M., 1969. The religious life of patients with affective disorders. *Dis. Nerv. Syst.* 30, 483.
- Ghaemi, S.N., 2007. Feeling and time: the phenomenology of mood disorders, depressive realism, and existential psychotherapy. *Schizophr. Bull.* 33, 122.
- Ghaemi, S.N., Stoll, A.L., Pope Jr., H.G., 1995. Lack of insight in bipolar disorder. The acute manic episode. *J. Nerv. Ment. Dis.* 183, 464–467.
- Ghaemi, S.N., Boiman, E., Goodwin, F.K., 2000. Insight and outcome in bipolar, unipolar, and anxiety disorders. *Compr. Psychiatry* 41, 167–171.
- Gonzalez-Pinto, A., Gutierrez, M., Mosquera, F., Ballesteros, J., Lopez, P., Ezcurra, J., Figuerido, J.L., de Leon, J., 1998. First episode in bipolar disorder: misdiagnosis and psychotic symptoms. *J. Affect. Disord.* 50, 41–44.
- Gruber, J., Culver, J.L., Johnson, S.L., Nam, J.Y., Keller, K.L., Ketter, T.A., 2009. Do positive emotions predict symptomatic change in bipolar disorder? *Bipolar Disorders* 11 (3), 330–336.
- Hayward, P., Wong, G., Bright, J.A., Lam, D., 2002. Stigma and self-esteem in manic depression: an exploratory study. *J. Affect. Disord.* 69, 61–67.
- Havens, L.L., Ghaemi, S.N., 2005. Existential despair and bipolar disorder: the therapeutic alliance as a mood stabilizer. *Am. J. Psychother.* 59 (2), 137–147.
- Hight, N.J., McNair, B.G., Thompson, M., Davenport, T.A., Hickie, I.B., 2004. Experience with treatment services for people with bipolar disorder. *Med. J. Aust.* 181, S47–S51.
- Hirschfeld, R.M., Calabrese, J.R., Weissman, M.M., Reed, M., Davies, M.A., Frye, M.A., Keck Jr., P.E., Lewis, L., McElroy, S.L., McNulty, J.P., Wagner, K.D., 2003a. Screening for bipolar disorder in the community. *J. Clin. Psychiatry* 64, 53–59.
- Hirschfeld, R.M., Lewis, L., Vornik, L.A., 2003b. Perceptions and impact of bipolar disorder: how far have we really come? Results of the national depressive and manic-depressive association 2000 survey of individuals with bipolar disorder. *J. Clin. Psychiatry* 64, 161–174.
- Jamison, K.R., 1989. Mood disorders and patterns of creativity in British writers and artists. *Psychiatry* 52, 125–134.
- Jamison, K.R., Gerner, R.H., Hammen, C., Padesky, C., 1980. Clouds and silver linings: positive experiences associated with primary affective disorders. *Am. J. Psychiatry* 137, 198.
- Johnson, S.L., 2005. Mania and dysregulation in goal pursuit: a review. *Clin. Psychol. Rev.* 25 (2), 241–262.
- Jorm, A.F., Christensen, H., Griffiths, K.M., 2005. Belief in the harmfulness of antidepressants: results from a national survey of the Australian public. *J. Affect. Disord.* 88, 47–53.
- Kass, J.D., Friedman, R., Lesser, J., Zuttermeister, P.C., Benson, H., 1991. Health outcomes and a new index of spiritual experience. *J. Sci. Study Relig.* 30, 203–211.
- Kerr, N., Dunbar, R.I., Bentall, R.P., 2003. Theory of mind deficits in bipolar affective disorder. *J. Affect. Disord.* 73, 253–259.
- King, M., Speck, P., Thomas, A., 1994. Spiritual and religious beliefs in acute illness—is this a feasible area for study? *Soc. Sci. Med.* 38, 631–636.
- Koenig, H.G., 2009. Research on religion, spirituality, and mental health: a review. *Can. J. Psychiatry* 54, 283–291.
- Larson, R.W., 2000. Toward a psychology of positive youth development. *Am. Psychol.* 55, 170–183.
- Lee Duckworth, A., Steen, T.A., Seligman, M.E., 2005. Positive psychology in clinical practice. *Annu. Rev. Clin. Psychol.* 1, 629–651.
- Levin, J.S., 1996. How religion influences morbidity and health: reflections on natural history, salutogenesis and host resistance. *Soc. Sci. Med.* 43, 849–864.
- Link, B., 1982. Mental patient status, work, and income: an examination of the effects of a psychiatric label. *Am. Sociol. Rev.* 47, 202–215.
- Link, B., Castille, D.M., Stuber, J., 2008. Stigma and coercion in the context of outpatient treatment for people with mental illnesses. *Soc. Sci. Med.* 67, 409–419.
- Lovejoy, M.C., Steuerwald, B.L., 1995. Subsyndromal unipolar and bipolar disorders: comparisons on positive and negative affect. *J. Abnorm. Psychol.* 104, 381–381.
- Ludwig, A.M., 1995. *The Price of Greatness*. Guilford Press, New York.
- Maguire, C., McCusker, C.G., Meenagh, C., Mulholland, C., Shannon, C., 2008. Effects of trauma on bipolar disorder: the mediational role of interpersonal difficulties and alcohol dependence. *Bipolar Disord.* 10, 293–302.
- Majumdar, M., Grossman, P., Dietz-Waschkowski, B., Kersig, S., Walach, H., 2002. Does mindfulness meditation contribute to health? Outcome evaluation of a German sample. *J. Altern. Complement. Med.* 8, 719–730.
- Malhi, G.S., Lagopoulos, J., Das, P., Moss, K., Berk, M., Coulston, C.M., 2008. A functional MRI study of Theory of Mind in euthymic bipolar disorder patients. *Bipolar Disord.* 10, 943–956.
- Markowitz, F.E., 1998. The effects of stigma on the psychological well-being and life satisfaction of persons with mental illness. *J. Health Soc. Behav.* 39, 335–347.
- McFarlane, A.C., Van Hooff, M., 2009. Impact of childhood exposure to a natural disaster on adult mental health: 20-year longitudinal follow-up study. *Br. J. Psychiatry* 195, 142–148.
- Meyer, B., Johnson, S.L., Winters, R., 2001. Responsiveness to threat and incentive in bipolar disorder: relations of the BIS/BAS scales with symptoms. *J. Psychopathol. Behav. Assess.* 23 (3), 133–143.
- Michalak, E.E., Yatham, L.N., Kolesar, S., Lam, R.W., 2006. Bipolar disorder and quality of life: a patient-centered perspective. *Qual. Life Res.* 15, 25–37.
- Mitchell, L., Romans, S., 2003. Spiritual beliefs in bipolar affective disorder: their relevance for illness management. *J. Affect. Disord.* 75, 247–257.
- Moran, G., Diamond, C., 2008. Generating nonnegative attitudes among parents of depressed adolescents: the power of empathy, concern, and positive regard. *Psychother. Res.* 18, 97–107.
- Neria, Y., Olsson, M., Gameroff, M.J., Wickramaratne, P., Pilowsky, D., Verdeli, H., Gross, R., Manetti-Cusa, J., Marshall, R.D., Lantigua, R., Shea, S., Weissman, M.M., 2008. Trauma exposure and posttraumatic stress disorder among primary care patients with bipolar spectrum disorder. *Bipolar Disord.* 10, 503–510.
- 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. *J. Affect. Disord.* 85, 207–215.
- Olley, A.L., Malhi, G.S., Bachelor, J., Cahill, C.M., Mitchell, P.B., Berk, M., 2005. Executive functioning and theory of mind in euthymic bipolar disorder. *Bipolar Disord.* 7 (Suppl 5), 43–52.
- Penninx, B., Guralnik, J.M., Bandeen-Roche, K., Kasper, J.D., Simonsick, E.M., Ferrucci, L., Fried, L.P., 2000. The protective effect of emotional vitality on adverse health outcomes in disabled older women. *J. Am. Geriatr. Soc.* 48, 1359.
- Perlis, R.H., 2005. Misdiagnosis of bipolar disorder. *Am. J. Manag. Care* 11, S271–S274.
- Perron, B.E., Howard, M.O., Nienhuis, J.K., Bauer, M.S., Woodward, A.T., Kilbourne, A.M., 2009. Prevalence and burden of general medical conditions among adults with bipolar I disorder: results from the National Epidemiologic Survey on Alcohol and Related Conditions. *J. Clin. Psychiatry* 70, 1407–1415.
- Pollack, M.H., Simon, N.M., Fagioli, A., Pitman, R., McNally, R.J., Nierenberg, A.A., Miyahara, S., Sachs, G.S., Perlman, C., Ghaemi, S.N., Thase, M.E., Otto, M.W., 2006. Persistent posttraumatic stress disorder following September 11 in patients with bipolar disorder. *J. Clin. Psychiatry* 67, 394–399.
- Pronin, E., Wegner, D.M., 2006. Manic thinking: independent effects of thought speed and thought content on mood. *Psychol. Sci.* 17, 807–813.
- Pronin, E., Jacobs, E., Wegner, D.M., 2008. Psychological effects of thought acceleration. *Emotion* 8, 597–612.
- Proudfoot, J.G., Parker, G.B., Benoit, M., Manicavasagar, V., Smith, M., Gayed, A., 2009. What happens after diagnosis? Understanding the experiences of patients with newly-diagnosed bipolar disorder. *Health Expect.* 12, 120–129.
- Richards, R., Kinney, D.K., Lunde, I., Benet, M., Merzel, A.P., 1988. Creativity in manic-depressives, cyclothymes, their normal relatives, and control subjects. *J. Abnorm. Psychol.* 97, 281–288.
- Ritsher, J.B., Phelan, J.C., 2004. Internalized stigma predicts erosion of morale among psychiatric outpatients. *Psychiatry Res.* 129, 257–265.
- Rosenfield, S., 1997. Labeling mental illness: the effects of received services and perceived stigma on life satisfaction. *Am. Sociol. Rev.* 62, 660–672.
- Rothberg, A., 2001. Bipolar illness, creativity, and treatment. *Psychiatr. Q.* 72, 131–147.
- Santosa, C.M., Strong, C.M., Nowakowska, C., Wang, P.W., Rennie, C.M., Ketter, T.A., 2007. Enhanced creativity in bipolar disorder patients: a controlled study. *J. Affect. Disord.* 100, 31–39.
- Schou, M., 1979. Artistic productivity and lithium prophylaxis in manic-depressive illness. *Br. J. Psychiatry* 135, 97.
- Seligman, M.E., Csikszentmihalyi, M., 2000. Positive psychology: an introduction. *Am. Psychol.* 55, 5–14.
- Shamay-Tsoory, S., Harari, H., Szepeswol, O., Levkovitz, Y., 2009. Neuro-psychological evidence of impaired cognitive empathy in euthymic bipolar disorder. *J. Neuropsychiatr. Clin. Neurosci.* 21, 59–67.

- Simeonova, D.I., Chang, K.D., Strong, C., Ketter, T.A., 2005. Creativity in familial bipolar disorder. *J. Psychiatr. Res.* 39, 623–631.
- Sirey, J.A., Bruce, M.L., Alexopoulos, G.S., Perlick, D.A., Raue, P., Friedman, S.J., Meyers, B.S., 2001. Perceived stigma as a predictor of treatment discontinuation in young and older outpatients with depression. *Am. J. Psychiatry* 158, 479–481.
- Srivastava, S., Childers, M.E., Baek, J.H., Strong, C.M., Hill, S.J., Warsett, K.S., Wang, P.W., Akiskal, H.S., Akiskal, K.K., Ketter, T.A., 2010. Toward interaction of affective and cognitive contributors to creativity in bipolar disorders: a controlled study. *J. Affect. Disord.* 125, 27–34.
- Stanghellini, G., Raballo, A., 2007. Exploring the margins of the bipolar spectrum: temperamental features of the *typus melancholicus*. *J. Affect. Disord.* 100, 13–21.
- Strong, C.M., Nowakowska, C., Santosa, C.M., Wang, P.W., Kraemer, H.C., Ketter, T.A., 2007. Temperament–creativity relationships in mood disorder patients, healthy controls and highly creative individuals. *J. Affect. Disord.* 100, 41–48.
- Taylor, S.E., Brown, J.D., 1988. Illusion and well-being: a social psychological perspective on mental health. *Psychol. Bull.* 103, 193–210.
- Taylor, S.E., Brown, J.D., 1994. Positive illusions and well-being revisited: separating fact from fiction. *Psychol. Bull.* 116, 21–21.
- Vollm, B.A., Taylor, A.N., Richardson, P., Corcoran, R., Stirling, J., McKie, S., Deakin, J.F., Elliott, R., 2006. Neuronal correlates of theory of mind and empathy: a functional magnetic resonance imaging study in a nonverbal task. *Neuroimage* 29, 90–98.
- Wahl, O.F., 1999. Mental health consumers' experience of stigma. *Schizophr. Bull.* 25, 467–478.
- Weiner, B., Perry, R.P., Magnusson, J., 1988. An attributional analysis of reactions to stigmas. *J. Pers. Soc. Psychol.* 55, 738–748.
- Wiechman Askay, S., Magyar-Russell, G., 2009. Post-traumatic growth and spirituality in burn recovery. *Int. Rev. Psychiatry* 21, 570–579.
- Wills, T.A., 1986. Stress and coping in early adolescence: relationships to substance use in urban school samples. *Health Psychol.* 5, 503–529.
- Yatham, L.N., Kennedy, S.H., Schaffer, A., Parikh, S.V., Beaulieu, S., O'Donovan, C., MacQueen, G., McIntyre, R.S., Sharma, V., Ravindran, A., 2009. Canadian Network for Mood and Anxiety Treatments (CANMAT) and International Society for Bipolar Disorders (ISBD) collaborative update of CANMAT guidelines for the management of patients with bipolar disorder: update 2009. *Bipolar Disord.* 11, 225–255.