BRIEF REPORT

Feeling Stuck in the Present? Mania Proneness and History Associated With Present-Oriented Time Perspective

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Humans have the ability to mentally time travel through past, present, and future. But can a disruption in emotion characteristic of emotional disorders cause this ability to unwind, leaving people "stuck" in the present emotional moment? Two studies are presented that examine emotional time-perspective in a disorder (mania) characterized by present-oriented tendencies, including impulsivity and emotion dysregulation. In Study 1, associations were reported between mania proneness and emotion time-perspective ($n = 509$), and Study 2 compared emotion time-perspective between individuals with a clinical history of mania ($n = 32$), and controls ($n = 30$). We show that mania is associated with increased present and decreased future focus. These findings suggest that emotional disorders can be understood, at least in part, by examining how people understand and use time to guide their behavior and feelings.

Keywords: time perspective, emotion, mania, bipolar disorder

Humans have an amazing ability to mentally time travel. Not only can we experience the present and remember the past, but we can also conjure potential new futures. Indeed, the ability to construct possible future states and experience the affective consequences of these states may underlie self-regulation and adaptive decision-making (Damasio, 1996). Picturing oneself penniless in the future helps to inhibit a rash desire to gamble one's current assets, for example. In this article, we examine how individual differences in time perspective—the extent to which people mentally focus on remembering the past, experiencing the present, or conjuring the future (Zimbardo & Boyd, 1999)—are associated with a predisposition for emotional disorders. We focus on mania given its association with present-oriented tendencies, such as impulsivity and reward reactivity. We propose that these dysfunctional aspects of mania may be coupled with a chronic present-oriented time perspective, either through failing to consider the future or actively deciding not to.

Considering the ways that people understand and process time provides insight about individuals who experience emotional difficulties. For example, anxiety disorders are characterized by engaging in present-oriented strategies to alleviate emotional distress (e.g., avoidance; Salters-Pedneault, Tull, & Roemer, 2004), but that are ineffective for long-term emotional health (Borkovec & Sharpless, 2004). Similarly, substance abuse has been associated with satisfying short-term cravings despite negative long-term consequences (e.g., McLellan, Lewis, O'Brien, & Kleber, 2000). As such, emotional disorders appear to be associated with a compromised ability to consider future emotional states in order to make adaptive decisions.

Mania is a promising avenue to examine how emotion time perspective can go awry because it is characterized heavily by present-oriented emotional tendencies. Specifically, mania—both proneness toward and clinical history of—is associated with both positive emotion reactivity and impulsivity. With respect to positive reactivity, mania history has been associated with increased positive emotion to a variety of stimuli in the laboratory and in daily life compared with controls (e.g., Gruber, in press; Johnson, 2005). These individuals also exhibit greater psychophysiological correlates of positive emotion (i.e., respiratory sinus arrhythmia) in response to films and memories (Gruber, Harvey, & Johnson, 2009; Gruber, Johnson, Oveis, & Keltner, 2008). Neuroimaging studies further suggest that mania history is characterized by patterns of neural activation in response to emotionally evocative stimuli that recruit more bottom-up processes (e.g., amygdala) implemented in the present emotional moment, as opposed to strategies involving anticipating the future (e.g., prefrontal cortex; Phillips & Vieta, 2007). Moreover, mania history and proneness is associated with greater impulsivity, characterized by engagement in present-oriented pleasurable activities without regard for past or

future consequences. Impulsivity has been observed during active periods of mania (e.g., Strakowski et al., 2010) and in remitted bipolar patients with a history of mania (Swann, Anderson, Dougherty, & Moeller, 2001). Greater levels of impulsivity have also been found to predict the onset of manic episodes (Kwapil, Miller, Zinser, Chapman, & Eckblad, 2000).

Taken together, these data on positive reactivity and impulsivity indirectly point to the possibility that mania—proneness and clinical history—is associated with a present-oriented emotion time perspective. Yet no work to date has directly examined this hypothesis through a time-perspective lens. The present work is the first to directly examine how time perspective relates to both mania proneness (Study 1) and individuals with a history of mania (Study 2). More specifically, we propose that mania proneness and mania history are associated with increased present time perspective and decreased future time perspective.

Study 1

Method

Participants. Participants were 509 young adults from Yale University receiving course credit for participation. See Table 1 for demographics.

Measures.

Mania proneness. The Hypomanic Personality Scale (HPS; Eckblad & Chapman, 1986) was used as a measure of mania proneness, and consists of 48 true-false self-report items capturing episodic shifts in emotion, behavior, and energy. The HPS has excellent predictive validity for the onset of manic/hypomanic episodes (e.g., Eckblad & Chapman, 1986; Kwapil et al., 2000). Internal consistency was $\alpha = 0.86$ ($M = 17.63$, $SD = 8.08$).

Mood symptoms. Current symptoms of mania were assessed using the Self-Rating Mania Index (ASRM; Altman, Hedeker, Peterson, & Davis, 1997), a five-item self-report inventory measuring heightened cheerfulness, inflated self-confidence, reduced need for sleep, talkativeness, and excessive activity. Internal consistency was $\alpha = 0.75$. Current cognitive, affective, and somatic symptoms of depression were assessed using the 13-item self-report short form of the Beck Depression Inventory (BDI-SF; Beck & Beck, 1972). Internal consistency was $\alpha = 0.86$. See Table 1 for descriptives.

Emotional time perspective. The Zimbardo Time Perspective Inventory (ZTPI; Zimbardo & Boyd, 1999) is a 56-item scale measuring emotional time perspective, or the tendency to partition one's experiences into past, present, and future temporal frames. The ZTPI has five subscales, including Present-Hedonistic (e.g., "I find myself getting swept up in the excitement of the moment"), Present-Fatalistic (e.g., "It doesn't make sense to worry about the future, since there is nothing I can do about it anyway" and "You can't really plan for the future because things change so much"), Past-Positive (e.g., "It gives me pleasure to think about my past"), Past-Negative (e.g., "I often think of what I should have done differently in my life"), and Future (e.g., "I am able to resist temptations when I know there is work to be done" and "I take each day as it is rather than try to plan it out"). Each item is rated on a 1 (*very untrue of me*) to 5 (*very true of me*) scale. Internal consistency was high for Present-Hedonistic ($\alpha = .82$), Present-

Fatalistic ($\alpha = .77$), Past-Positive ($\alpha = .79$), Past-Negative ($\alpha = .83$), and Future ($\alpha = .80$).[1]

Procedure. Sessions were conducted using an anonymous online survey, during which other measures not central to the present study were also obtained.

Results

Correlations among ZTPI subscales are presented in Table 2.[2] Consistent with previous results (e.g., Gruber & Johnson, 2009), scores on the HPS scale were correlated with both manic, $r = .32$, and depressive symptoms, $r = .15$ ($p < .01$). All analyses were thus rerun controlling for manic and depressive symptoms to test the robustness of effects. Consistent with the hypothesis that people prone to mania are "stuck in the present," we found that HPS was positively correlated with both of the present-oriented subscales: Present-Hedonism ($r = .39$, $p < .001$), Present-Fatalistic ($r = .16$, $p < .01$). Furthermore, HPS was negatively correlated with a Future time perspective ($r = -.09$, $p < .05$). Last, HPS was correlated with a Past-Negative time perspective ($r = .24$, $p < .001$), but not with Past-Positive ($r = .05$, $p > .30$). Furthermore, nearly identical results emerged when we controlled for positive (PA) and negative (NA) affect (e.g., Tsai, 2007), indicating that it is unlikely that the intensity of emotional experience alone accounts for this pattern of data.

In sum, mania proneness was associated with simultaneous increases in present-focused—but not future-focused—time perspectives. In Study 2, we attempted to replicate these results using a clinically diagnosed sample of patients with a history of mania (bipolar disorder) and age-matched controls. To the extent that the differences found in Study 1 are associated with individual characteristics that lead to emotional disorders, we expected that these patients should show the same pattern of results (and that this pattern should not be observed in control participants).

Study 2

Method

Participants. Participants were 32 individuals with a history of mania (i.e., BD; bipolar disorder Type I) and 30 healthy controls (CTL) who did not meet current or past criteria for any Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision (*DSM–IV–TR*; American Psychiatric Association, 2000) Axis I disorder. Remitted participants with BD were selected to examine more trait-like patterns in emotional time-perspective. Exclusion criteria included severe head trauma, stroke, neurological disease, severe medical illness (e.g., autoimmune disorder), or current alcohol or substance abuse. The average age at onset for the BD group

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[1] We confirmed the original ZTPI factor structure by conducting a principal components analysis with varimax rotation.

[2] Before conducting analyses of hypotheses, we first examined univariate distributions for all key variables. The HPS (Skewness statistic = .43, $SE = .11$), ASRM (Skewness statistic = .63, $SE = .11$), and BDI (Skewness statistic = 1.45, $SE = .11$) scales were positively skewed. Given that the distribution of these variables mirrored the expected population distribution and that correlational analyses are robust with respect to skew, we did not transform variables.

Table 1
Demographic, Clinical, and Time-Perspective Characteristics of Participants

	Study 1	Study 2		
	(*n* = 509)	BD (*n* = 32)	CTL (*n* = 30)	Statistic
Demographic				
Age	19.35 (4.32)	30.81 (9.61)	31.45 (9.13)	*F* = 0.07
Female (%)	58.7	65.6	67.9	χ^2 = 0.03
Caucasian (%)	53.6	90.6	90.0	χ^2 = 3.34
Education (years)	13.56 (3.45)	15.08 (2.21)	15.95 (2.41)	*F* = 2.17
Mood Symptoms				
YMRS (or ASRM)	5.44 (3.73)	1.84 (1.89)	1.17 (1.05)	*F* = 2.99
IDS-C (or BDI-SF)	18.04 (4.94)	4.22 (3.27)	2.00 (1.98)	*F* = 10.27*
ZTPI Subscales				
Present-Hedonistic	3.29 (0.61)	3.50 (0.66)	3.13 (0.63)	*F* = 4.68*
Present-Fatalistic	2.43 (0.62)	2.68 (0.57)	1.97 (0.55)	*F* = 16.13*
Past-Positive	3.53 (0.61)	3.10 (0.58)	3.59 (0.54)	*F* = 8.14*
Past-Negative	2.95 (0.66)	3.28 (0.71)	2.36 (0.55)	*F* = 18.67*
Future	3.46 (0.59)	3.24 (0.60)	3.59 (0.41)	*F* = 8.68*

Note. BD = Bipolar participants; CTL = Nonclinical control participants; YMRS = Young Mania Rating Scale; ASRM = Altman Self-Rating Mania Scale; IDS-C = Inventory to Diagnose Depression; BDI-SF = Beck Depression Inventory-Short Form. Mean values (adjusted for covariates) are displayed with *SD*s in parentheses where applicable.
* $p < .05$.

was 10.05 years (*SD* = 11.77), and average illness duration was 7.30 years (*SD* = 8.52). BD participants were not excluded on the basis of comorbid disorders, though we verified that BD was the primary diagnosis (Di Nardo, Moras, Barlow, Rapee, & Brown, 1993). See Table 1 for demographic and clinical characteristics.

Measures.

Emotional time perspective. As with Study 1, the ZTPI was used to measure emotional time perspective. Internal reliability was good for Past-Negative (α = .89), Present-Hedonistic (α = .62), Future (α = .80), Present-Fatalistic (α = .75), and Past-Positive (α = .75) items.

Diagnostic evaluation. Diagnoses of BD and CTL were confirmed using the Structured Clinical Interview for *DSM–IV* (SCID-IV; First, Spitzer, Gibbon, & Williams, 1994) administered by clinical psychology faculty and staff.

Mood symptoms. Clinician-rated current symptoms of depression and mania were measured using the Clinician-Rated Inventory of Depressive Symptoms (IDS-C; Rush, Gullion, Basco, Jarrett, & Trivedi, 1996) and the Young Mania Rating Scale (YMRS; Young, Biggs, Ziegler, & Meyer, 1978), respectively. The YMRS is an 11-item measure of current manic symptoms with scores ranging from 0 to 60, and the IDS-C is a 30-item measure of current depressive symptoms with scores ranging from 0 to 84. Higher scores indicate greater symptom severity. Intraclass correlations for absolute agreement (ICC) between two raters for a subset of participants (*n* = 23) were strong for the IDS-C (*r* = .98) and YMRS (*r* = .98).

Procedure. After obtaining informed consent, the SCID, YMRS, and IDS-C were administered. Participants then completed a series of experiments not relevant to the present study. At the end

Table 2
Intercorrelations Between Zimbardo Time Perspective Inventory Subscales Across Studies 1 and 2

	Present-Hedonistic	Present-Fatalistic	Past-Positive	Past-Negative	Future
Study 1 (*n* = 334)					
Present-Hedonistic	—	0.33*	0.31*	0.19*	−0.12*
Present-Fatalistic		—	0.09	0.34*	−0.20*
Past-Positive			—	−0.18*	0.27*
Past-Negative				—	0.02
Future					—
Study 2 (*n* = 62)					
Present-Hedonistic	—	0.56*	0.09	0.24	−0.39*
Past-Positive		—	−0.21	0.59*	−0.34*
Present-Fatalistic			—	−0.41*	0.31*
Past-Negative				—	−0.09
Future					—

* $p < .05$.

of the session, participants completed an online survey including the ZTPI.

Results

As shown in Table 1, BD and CTL groups did not differ with respect to age, gender, ethnicity, or education ($p > .05$). We examined intercorrelations between ZTPI subscales demonstrating similar patterns of association as in Study 1 (Table 2). Examining the potential confound of current symptoms revealed that the BD scored higher on the IDS-C ($p < .01$) and trended toward higher scores on the YMRS ($p = .09$) than the CTL group, so symptoms were once again controlled for.

For our main analyses, we ran a repeated-measures analysis of covariance (ANCOVA) with Group (BD, CTL) as the between-subjects factor and ZTPI Subscale (5 subscales) as the within-subjects factor, controlling for symptoms (YMRS, IDS-C). Means and SDs are presented in Table 1. There was a main effect of ZTPI, $F(4, 232) = 21.96$, $p < .001$, $\eta_p^2 = .28$ and Group, $F(1, 58) = 4.16$, $p < .05$, $\eta_p^2 = .07$, which was qualified by a significant Group $\times$ ZTPI interaction, $F(4, 232) = 13.65$, $p < .001$, $\eta_p^2 = .19$. To decompose this interaction, five univariate ANCOVAs were conducted for each ZTPI subscale. Consistent with Study 1, results indicated that the BD group scored higher on both present-focused subscales (Present-Hedonistic [$F = 4.68$, $p < .05$], Present-Fatalistic [$F = 16.13$, $p < .05$]). Also consistent with hypotheses, the BD group scored lower on the Future subscales compared with the CTL group ($F = 8.68$, $p < .01$). The BD group also scored lower on the Past-Positive subscale ($F = 8.14$, $p < .01$) and higher on the Past-Negative subscale ($F = 18.67$, $p < .05$). Parallel to Study 1, controlling for intensity of PA and NA affect produced a consistent pattern of findings.

Discussion

Emotions are experienced in the present moment, but can result from mentally simulating future emotional events. For most people this is an adaptive regulatory capacity that can be used to guide decision-making via anticipating future consequences of behaviors. To the extent that these processes are necessary for self-regulation, it is likely that deficiencies in these processes lead to emotional deficits. In these studies, we demonstrate that being "stuck" in the present moment may be a marker of severe emotion dysregulation. Specifically, we find that mania is associated with present-oriented tendencies for both people who are prone to mania (Study 1) and for patients with a clinical history of mania even when not currently symptomatic (Study 2). Indeed, in addition to reporting more present-oriented time perspectives, mania was associated with deficits in future orientations, defined either as explicitly not considering the future (decreased Future perspective) or reporting that they do not have the ability to predict the future (increased Present-Fatalism). Together, an increased focus on the present coupled with a decreased orientation to the future may contribute to impulsivity and positive reactivity observed in mania.

These data are consistent with evidence suggesting abnormalities in present-oriented reward responsivity in individuals with mania history, or bipolar disorder. For example, bipolar disorder has been associated with increased activity in the behavioral approach system, a brain system that regulates reward seeking and reactivity (Alloy & Abramson, 2010). Individuals prone to mania and with a clinical history report greater positive emotion in response to pleasant stimuli (Johnson, Gruber, & Eisner, 2007) and at the possibility of earning rewards compared with healthy controls (Meyer, Johnson, & Winters, 2001). In sum, mania can be characterized as being "stuck" in the present.

Further consistent with our hypotheses was the finding across both studies that mania (proneness and clinical history) was associated with lower future-orientation. This is consistent with robust associations reported between mania and bipolar disorder with impulsivity, or a reckless disregard for future consequences (Strakowski et al., 2010; Swann, 2001). When examining future-oriented emotions from a neuroimaging perspective, manic bipolar individuals show lower nucleus accumbens signal modulation compared with healthy controls in response to the receipt of expected monetary rewards versus the omission of expected rewards (Abler, Greenhouse, Ongur, Walter, & Heckers, 2008). On the other hand, these results are seemingly inconsistent with work suggesting that mania history and proneness is associated with setting highly ambitious future goals (Gruber & Johnson, 2009; Johnson, 2005; Johnson & Carver, 2006). It should be noted that goal-setting in mania is characterized by unrealistic goals (e.g., "I want to be president") that may be rooted in grandiose visions of what is possible in the present, as opposed to more reality-based plans of future events measured in the present study. As such, even when people with mania do picture the future, they do so in a grandiose manner that could lead to failure, explaining their Present-Fatalistic perspective.

Last, although not central to our hypotheses, we also found mania was associated with increased Past-Negative and decreased Past-Positive time perspective. It is unclear whether these results indicate a biased form of information processing, or whether they simply reflect differences in previous experiences that co-occur with a diagnosis of bipolar disorder. Future work is warranted to explore potential mechanisms. Related, the precise role of emotion intensity and time-perspective requires further work. Although we did not find trait level emotion intensity to alter our findings, future studies more carefully examining the contribution of emotion intensity to online time perspective is warranted. It is possible that intense momentary emotions may facilitate keeping people "trapped" in the present, generating a self-sustaining feedback loop. As such, future experimental work examining time-perspective and emotional experience (e.g., delay of gratification) will be required to further enhance our understanding of mechanisms underlying mania and the potential for dynamic interactions among emotional vulnerabilities.

The finding that those prone to mania are most present-oriented toward rewards has potential wide-reaching implications. For example, work on intertemporal choice has found that peoples' default response is often to value immediate rewards more so than rewards in the future (Lowenstein & Thaler, 1989). To the extent that mania is associated with a fatalistic view of the present, there will be a steeper discounting curve—the uncertainty of receiving a reward in the future seems less probable. As such, it is not surprising that mania proneness or history is associated with less future orientation and greater impulsivity. In other words, the magnitude of future rewards may need to be greater relative to immediate rewards in order to decide a risk is worth taking. Therefore, it is likely that a focus on a present-oriented perspective

such as that found in mania is associated with deficits in delay of gratification paradigms (e.g., Mischel, Shoda, & Rodriguez, 1989) leading to a tendency to impulsively seek rewards (including pleasant feelings) even if the outcome is potentially costly. Such possibilities are consistent with work in mania finding greater impulsivity (Swann et al., 2001) and higher rates of occupational, social, and functional impairment in everyday life (Coryell et al., 1993).

In sum, the present study suggests that emotional disturbance through the lens of mania partially may be understood as being linked to a maladaptive time perspective. That is, if people need to consider the past and future to make adaptive long-term decisions, then being "stuck in the present" is a core problem associated with mania. Work focused on the emotional sequelae of being unable or unwilling to consider the future will be crucial in furthering our understanding of emotional disorders.

References

Abler, B., Greenhouse, I., Ongur, D., Walter, H., & Heckers, S. (2008). Abnormal reward system activation in mania. *Neuropsychopharmacology, 33,* 2217–2227. doi:10.1038/sj.npp.1301620

Alloy, L. B., & Abramson, L. Y. (2010). The role of the behavioral approach system (BAS) in bipolar spectrum disorders. *Current Directions in Psychological Science, 19,* 189–194. doi:10.1177/0963721410370292

Altman, E. G., Hedeker, D., Peterson, J. L., & Davis, J. M. (1997). The Altman Self-rating Mania Scale. *Biological Psychiatry, 42,* 948–955. doi:10.1016/S0006-3223(96)00548-3

American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders: DSM–IV–TR.* Washington, DC: American Psychiatric Association.

Beck, A. T., & Beck, R. W. (1972). Screening depressed patients in family practice. A rapid technique. *Postgraduate Medicine, 52,* 81–85.

Borkovec, T. B., & Sharpless, B. (2004). Generalized anxiety disorder: Bringing cognitive behavioral therapy into the valued. In S. C. Hayes, V. M. Follette, & M. Linehan (Eds.), *Mindfulness and acceptance: Expanding the cognitive-behavioral tradition* (pp. 209–242). New York, NY: Guilford Press.

Coryell, W., Scheftner, W., Keller, M., Endicott, J., Maser, J., & Klerman, G. L. (1993). The enduring psychological consequences of mania and depression. *American Journal of Psychiatry, 150,* 720–727.

Damasio, A. R. (1996). The somatic marker hypothesis and the possible functions of the prefrontal cortex. *Philosophical Transcripts of the Royal Society of London, B, Biological Sciences, 352,* 1413–1420. doi:10.1098/rstb.1996.0125

Di Nardo, P., Moras, K., Barlow, D. H., Rapee, R. M., & Brown, T. A. (1993). Responsibility of *DSM–III–R* anxiety disorder categories. Using the anxiety disorders interview schedule-revised (ADIS-R). (1993). *Archives of General Psychiatry, 50,* 251–256.

Eckblad, M., & Chapman, L. J. (1986). Development and validation of a scale for hypomanic personality. *Journal of Abnormal Psychology, 95,* 214–222. doi:10.1037/0021-843X.95.3.214

First, M. B., Spitzer, R. L., Gibbon, M., & Williams, J. B. W. (1994). *Structured Clinical Interview for DSM–IV Axis I Disorders (SCID).* Washington, DC: American Psychiatric Press.

Gruber, J. (in press). When feeling good can be bad: Positive emotion persistence (PEP) in bipolar disorder. *Current Directions in Psychological Science.*

Gruber, J., Harvey, A. G., & Johnson, S. L. (2009). Reflective and ruminative processing of positive emotional memories in bipolar disorder and healthy controls. *Behaviour Research and Therapy, 47,* 697–704. doi:10.1016/j.brat.2009.05.005

Gruber, J., & Johnson, S. L. (2009). Positive emotional traits and ambitious goals among people at risk for mania: The need for specificity. *International Journal of Cognitive Therapy, 2,* 179–190. doi:10.1521/ijct.2009.2.2.176

Gruber, J., Johnson, S. L., Oveis, C., & Keltner, D. (2008). Risk for mania and positive emotional responding: Too much of a good thing? *Emotion, 8,* 23–33.

Johnson, S. L. (2005). Mania dysregulation in goal pursuit: A review. *Clinical Psychology Review, 25,* 241–262.

Johnson, S. L., & Carver, C. S. (2006). Extreme goal setting and vulnerability to mania among undiagnosed young adults. *Cognitive Therapy and Research, 30,* 377–395. doi:10.1007/s10608-006-9044-7

Johnson, S. L., Gruber, J., & Eisner, L. (2007). Emotion in bipolar disorder. In J. Rottenberg & S. L. Johnson (Eds.), *Emotion and psychopathology: Bridging affective and clinical science.* Washington, DC: American Psychological Association. doi:10.1037/11562-006

Kwapil, T. R., Miller, M. B., Zinser, M. C., Chapman, L. J., & Eckblad, M. (2000). A longitudinal study of high scorers on the hypomanic personality scale. *Journal of Abnormal Psychology, 109,* 222–226. doi:10.1037/0021-843X.109.2.222

Lowenstein, G., & Thaler, R. H. (1989). Anomalies: Intertemporal choice. *Journal of Economic Perspectives, 3,* 181–193.

McLellan, A. T., Lewis, D. C., O'Brien, C. P., & Kleber, H. D. (2000). Drug dependence, a chronic medical illness: Implications for treatment, insurance, and outcomes evaluation. *Journal of the American Medical Association, 284,* 1689–1695. doi:10.1001/jama.284.13.1689

Meyer, B., Johnson, S. L., & Winters, R. (2001). Responsiveness to threat and incentive in bipolar disorder: Relations of the BIS/BAS scales with symptoms. *Journal of Psychopathology and Behavioral Assessment, 23,* 133–143. doi:10.1023/A:1010929402770

Mischel, W., Shoda, Y., & Rodriguez, M. L. (1989). Delay of gratification in children. *Science, 244,* 933–938.

Phillips, M. L., & Vieta, E. (2007). Identifying functional neuroimaging biomarkers of bipolar disorder: Toward DSM-V. *Schizophrenia Bulletin, 33,* 893–904. doi:10.1093/schbul/sbm060

Rush, A. J., Gullion, C. M., Basco, M. R., Jarrett, R. B., & Trivedi, M. H. (1996). The inventory of depressive symptomatology (IDS): Psychometric properties. *Psychological Medicine, 26,* 477–486. doi:10.1017/S0033291700035558

Salters-Pedneault, K., Tull, M. T., & Roemer, L. (2004). The role of avoidance of emotional material in the anxiety disorders. *Applied and Preventative Psychology, 11,* 95–114. doi:10.1016/j.appsy.2004.09.001

Strakowski, S. M., Fleck, D. E., DelBello, M. P., Adler, C. M., Shear, P. K., Kotwal, R., & Arndt, S. (2010). Impulsivity across the course of bipolar disorder. *Bipolar Disorders, 12,* 285–297. doi:10.1111/j.1399-5618.2010.00806.x

Swann, A. C., Anderson, J. C., Dougherty, D. M., & Moeller, F. G. (2001). Measurement of inter-episode impulsivity in bipolar disorder. *Psychiatry Research, 101,* 195–197. doi:10.1016/S0165-1781(00)00249-3

Tsai, J. L. (2007). Ideal affect: Cultural causes and behavioral consequences. *Perspectives on Psychological Science, 2,* 242–259. doi:10.1111/j.1745-6916.2007.00043.x

Young, R. C., Biggs, J. T., Ziegler, V. E., & Meyer, D. A. (1978). A rating scale for mania: Reliability, validity and sensitivity. *The British Journal of Psychiatry, 133,* 429–443. doi:10.1192/bjp.133.5.429

Zimbardo, P. G., & Boyd, J. N. (1999). Putting time in perspective: A valid, reliable individual-differences metric. *Journal of Personality and Social Psychology, 77,* 1271–1288. doi:10.1037/0022-3514.77.6.1271