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The grass is not as green as you think: Affect evaluation in people with internalizing disorders

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ABSTRACT

Background: Affect evaluation — how people evaluate their emotion experiences — has important implications for mental health.
Methods: We examined how 70 adults diagnosed with Major Depressive Disorder and/or Generalized Anxiety Disorder or no psychiatric disorders (control group) believe they should feel in the moment (should affect). We repeatedly assessed participants' current affect and should affect over one week using experience sampling. To examine the psychometric properties of should affect, participants rated their level of rumination at each survey and completed trait measures of brooding and ideal affect at the lab.
Results and conclusions: Independent of group status, participants reported that they should be feeling more positive affect and less negative affect. Even after accounting for mean affect, the clinical groups' reports were generally more extreme than were those of the control group. We documented good convergent and discriminant validity of should affect. Finally, we describe clinical implications and directions for future research.

People hold beliefs about, and goals for, themselves and their emotions. For example, self-discrepancy theory (Higgins, 1987) posits that individuals differ in their representations of their self-domains (e.g., ought self). People also have emotional scripts and goals that differ as a function of context (e.g., Koopmann-Holm and Tsai, 2014; Tamir et al., 2008). For example, how do you think you should feel when you are on a date with your romantic partner? Or when you receive a promotion at work? This study focuses on people's evaluations of their state emotional experiences, or how individuals think they should feel in the moment (should affect).

Should affect is an important component of emotional experience; these affect evaluations inform people about whether they should increase or decrease their affect and provide feedback to shape future experiences. We posit that an individual's levels of should positive affect (PA) and should negative affect (NA) are dynamic, varying as a function of the individual's current context. Further, although state PA and NA also vary over time, we do not expect that people's levels of state affect will be strongly associated with should affect. In other words, we do not expect that these affective experiences will always be coupled. Nevertheless, given that people generally want to feel good (e.g., Larsen, 2000), we expect that most people will report that they should feel more PA (i.e., more should PA) and less NA (i.e., less should NA). We hypothesize that individuals, such as those with internalizing disorders, who are characterized by aberrant emotional experience, including difficulties with emotion regulation, will have more extreme evaluations of their emotional experiences than will people who do not experience these difficulties. More specifically, we expect that people with Major Depressive Disorder (MDD) and/or Generalized Anxiety Disorder (GAD) will have higher should PA and lower should NA than will healthy controls.

To examine these hypotheses, we recruited participants diagnosed with MDD, GAD, and co-occurring MDD and GAD (i.e., MDD-GAD), as well as a healthy control group (CTL). The diagnostic criteria for MDD and GAD include the experience of high levels of negative affect (e.g., high negative mood in MDD; high worry in GAD); the diagnostic criteria for MDD also include experiencing low levels of PA (i.e., loss of interest or pleasure; American Psychiatric Association, 2013). To be diagnosed with MDD, people must report a marked change in these emotional experiences. To the extent that people with MDD and/or GAD have insight into these changes, they could think that they should feel better, which is adaptive as it could motivate them to make changes or seek treatment.

We hypothesize two reasons that may drive the expected group differences in should affect. First, we think that people with MDD

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and/or GAD are implicitly comparing their emotional experiences to those of "other people" (i.e., imagined others who have better psychological functioning, or a healthier version of the participant's self). We think that individuals in the clinical groups hold beliefs about the emotional experiences of "other people'" that do not reflect normative emotional experiences, leading them to think that they should be feeling *much* better. In effect, they are miscalculating how others feel and how they, themselves, should be feeling. In other words, we do not think differences in should affect will be driven by group differences in levels of mean PA and NA. We expect that even after adjusting for mean affect, individuals with MDD and/or GAD will have more extreme should affect than the CTL group. Importantly, these negative evaluations of their emotional experience are consistent with findings that people with MDD are self-critical (e.g., Enns and Cox, 1999; Luyten et al., 2007).

A second reason why we theorize that levels of should affect will differ between healthy controls and those with MDD and/or GAD involves perfectionism. More extreme values of should affect in clinical groups is consistent with the formulation that people diagnosed with MDD and GAD hold higher emotional standards or goals for what they think they should be feeling than do healthy controls. Investigators have linked perfectionism to both GAD (e.g., Handley et al., 2014) and MDD (Egan et al., 2011). Although research on perfectionism does not include goals about emotions, we think it may generalize to this construct.

Finally, should affect is conceptually related to ideal affect and rumination. Ideal affect has been operationalized as a trait, reflecting the extent to which people would ideally like to experience low- and high-arousal PA and NA (e.g., Tsai, 2007). Although should affect likely has a stable trait component, we contend that it is distinct from the construct of *ideal affect*. This is consistent with Tsai et al. (2006), who distinguished empirically between reports of how people would ideally like to feel and how they "ought" to feel. Although we did not assess state ideal affect, we posit that if should and ideal affect were examined in state form over time, should affect would be more dynamic and variable (i.e., more within-person variance). In other words, we expect that state should affect would vary more as a function of an individual's current context than would state ideal affect.

Should affect shares features with rumination; both constructs focus on the self (Nolen-Hoeksema et al., 2008; Thomsen, 2006) and include negative and repetitive thinking. We expect that trait rumination is significantly associated with should NA. More specifically, we think that higher levels of trait rumination will be inversely associated with more extreme should NA (i.e., thinking one's NA should be even lower). We examined the associations between should affect and state rumination to demonstrate that they are unique constructs.

Using experience sampling, we surveyed participants with a handheld device randomly and repeatedly over one week. We assessed how participants felt in the moment (state affect) and how they thought they should be feeling in the moment (should affect). We expected that both the clinical and CTL groups would report wanting to feel better (i.e., more should PA, less should NA). We also predicted that compared with the CTL group, the clinical groups would report higher should PA and lower should NA, and we did not expect these differences to be explained by group differences in mean affect. Finally, to demonstrate the psychometric properties of should affect, we assessed trait ideal affect and rumination and state rumination.

1. Method

1.1. Participants and procedure

We recruited 70 women between the ages of 18 and 50 through online advertisements and at local psychiatric clinics. We restricted our sample to women both to strengthen statistical power and because MDD, GAD, and their co-occurrence are twice as prevalent in women as in men (Kendler et al., 2007). Additional demographic characteristics by clinical group are presented in Table 1.

To determine eligibility, participants completed a diagnostic interview for current and past mental health, the *Structured Clinical Interview for DSM-IV Axis I Disorders* (First et al., 2001), which was administered by trained interviewers. Participants in the MDD group (n=16) and GAD group (n=15) met diagnostic criteria for the respective disorder but not GAD and MDD, respectively, in the past 24 months. Participants in the co-occurring MDD-GAD group (n=20) met diagnostic criteria for current MDD and current GAD. Finally, to be eligible for the CTL group (n=19), people could not meet criteria for any current or lifetime Axis I disorders. Inter-rater reliability was excellent among the interviewers for depressive and anxiety diagnoses (κ=.92–1.0). Exclusion criteria included any of the following: not fluent in English, severe head trauma, psychotic symptoms, bipolar disorder, current substance abuse or dependence.

At another laboratory session, participants completed self-report measures and received a handheld electronic device (Palm Pilot Z22), including training in its use. The devices were programmed using ESP 4.0 software (Barrett and Feldman-Barrett, 2000) to prompt participants to complete surveys eight times per day during a 12-hour period between 8am and 10 pm for approximately one week. On average, prompts occurred 96 min apart (SD=37 min). Participants were given five minutes to begin each survey. We excluded one participant who did not respond to at least five prompts. Participants provided informed consent, and the study was approved by the university institutional review board.

Table 1
Demographic and clinical characteristics of participants.

	MDD M(SD) or %	GAD M(SD) or %	MDD-GAD M(SD) or %	CTL M(SD) or %
Age	31.6 (10.3)	31.1 (7.0)	35.5 (10.1)	34.7 (9.9)
Race/ethnicity (%)				
Non-Hispanic White	50.0	66.7	60.0	66.7
Hispanic/Latina	0	13.3	10.0	0
Black/African American	6.3	0	5.0	11.1
Asian American	18.8	20.0	15.0	5.6
Bi-racial	25.0	0	10.0	16.7
Prompt completion (%)	57.3 (25.3)	65.5 (21.8)	68.3 (26.3)	65.1 (23.4)
Depressive symptoms	28.3 $(8.6)_c$	14.2 $(9.6)_b$	30.7 $(10.6)_c$	1.5 $(2.6)_a$
Generalized Anxiety Disorder symptoms	8.0 $(4.0)_b$	10.9 $(1.1)_c$	10.4 $(2.6)_c$	1.9 $(2.2)_a$
Global Assessment of Functioning	55.9 $(5.2)_c$	64.1 $(5.7)_b$	54.4 $(6.1)_c$	89.4 $(8.8)_a$

Note. MDD = current Major Depressive Disorder; GAD = current Generalized Anxiety Disorder; MDD-GAD = current MDD and GAD; CTL = no past or current psychiatric disorder. Different subscripts within rows indicate significant pairwise comparisons, $p < 0.05$.