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Assessment of Fluctuation Between Grandiose and Vulnerable Narcissism: Development and Initial Validation of the FLUX Scales

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Abstract

There is a growing interest in the distinction between grandiose and vulnerable narcissism, along with a hypothesis of a fluctuation between grandiose and vulnerable narcissism within individuals. There are several well-validated measures of both grandiose and vulnerable narcissism, but research has generally found that they are relatively distinct in their relations with their nomological networks. Further, the existing measures of narcissism do not actually assess for a possible fluctuation. The present study developed three scales of narcissistic fluctuation: Fluctuation between Indifference and Anger, Grandiosity and Shame, and Assertiveness and Insecurity. Consistent with expectations, the FLUX scales correlated with both grandiose and vulnerable narcissism, displayed convergent and discriminant validity with factor derived-narcissism scales and the five-factor model, and correlated at moderate-to-large effect sizes with measures of affective lability. The three FLUX scales were also reduced to one unidimensional nine-item scale of narcissistic fluctuation (the g-FLUX) that retained the correlational properties for the more specific scales and had incremental validity over the Five-Factor Narcissism Inventory and Pathological Narcissism Inventory grandiose and vulnerable scales in accounting for affective lability. Results from the present study suggest that the FLUX scales may provide an informative assessment of a fluctuation between grandiose and vulnerable narcissism.

Keywords

narcissism; grandiose; vulnerable; fluctuation; personality disorder

Narcissism is a personality construct that is defined by grandiose traits such as having an exaggerated sense of self-importance and a tendency to be dominant, exploitative, and entitled (American Psychiatric Association [APA], 2013). However, observations of narcissistic vulnerability, which includes traits such as anger, shame, and insecurity, are central to some definitions of narcissism (Cain, Pincus, & Ansell, 2008; Kernberg, 1975; Kohut & Wolf, 1978). It has been hypothesized that some narcissistic persons fluctuate between grandiose and vulnerable states (Pincus & Lukowitsky, 2010; Ronningstam, 2009).

Inconsistent with this view perhaps is that the grandiose and vulnerable variants of narcissism are often uncorrelated (Miller, Lynam, et al., 2017). Multiple studies have demonstrated narcissistic grandiosity and vulnerability to be rather distinct, with different nomological networks. Wink (1991) found two largely distinct grandiose and vulnerable subtypes in a principal components analysis of narcissism scales from the Minnesota Multiphasic Personality Inventory (MMPI; Hathaway & McKinley, 1951). Miller, Lynam, et al. (2017) presented the five-factor model (FFM) profiles for averaged grandiose narcissism scales and averaged vulnerable narcissism scales. The two variants of narcissism had divergent associations with neuroticism and extraversion, albeit somewhat similar associations with antagonism. Miller et al. (in press) used dominance analysis to demonstrate that vulnerable narcissism is primarily defined by neuroticism. Grandiose and vulnerable narcissism have also been shown to have nomological network patterns that are uncorrelated overall, with grandiose narcissism being correlated with externalizing forms of psychopathology, such as yelling, threatening, and physical aggression, and vulnerable narcissism correlated with internalizing forms of psychopathology (indeed, all the clinical scales of the Brief Symptom Inventory; Derogatis & Melisaratos, 1983) (Miller et al., 2011). These findings suggest that narcissistic persons do not endorse grandiosity and vulnerability simultaneously, with the exception perhaps of antagonistic traits (e.g., Krizan & Johar, 2015; Miller, Lynam, et al., 2017). One exception to these findings is a high correlation between the Pathological Narcissism Inventory (PNI; Pincus et al., 2009) grandiosity and vulnerability scales (Wright, Lukowitsky, Pincus, & Conroy, 2010). This correlation though may not reflect a fluctuation of persons between grandiosity and vulnerability, but rather the inclusion of vulnerability within the PNI Grandiosity scale, a suggestion for which there has been some debate (Miller, Lynam, & Campbell, 2016; Wright, 2016). In sum, the existing findings for most grandiose and vulnerable narcissism scales appear to suggest that persons elevating on the grandiose scales are not the same persons who elevate on the vulnerable scales, and that persons do not appear to be fluctuating between grandiose and vulnerable narcissism (Miller et al., 2013).

An alternative view is that the existing scales for grandiose and vulnerable narcissism may simply be assessing for the tendency to be characteristically or typically grandiose or vulnerable (respectively) and may thereby be failing to identify persons who characteristically fluctuate between states of grandiosity and vulnerability. Persons who elevate on the vulnerability scales of the PNI or the Five-Factor Narcissism Inventory (FFNI; Glover et al., 2012) would be characteristically or consistently vulnerable rather than characteristically fluctuating between vulnerability and grandiosity. What is perhaps needed is an instrument that assesses for a fluctuation between grandiosity and vulnerability, but no such measure has yet been developed. The present study therefore develops a self-report measure that assesses specifically for a fluctuation between grandiose and vulnerable narcissism.

There has been a growing interest in the proposal that some narcissistic persons demonstrate a fluctuation between grandiosity and vulnerability (Levy, Reynoso, Wasserman, & Clarkin, 2007). “Many contemporary clinical experts on narcissism now recognize that grandiose self-states oscillate with vulnerable self-states and affective dysregulation within the same person” (Pincus & Lukowitsky, 2010, p. 428). Pincus et al. (2014) stated, “Our clinical

experience with narcissistic patients indicates they virtually always exhibit both covert and overt grandiosity and covert and overt vulnerability” (p. 440). Ronningstam (2009) has likewise suggested that narcissistic personality disorder is a “pervasive pattern of fluctuating self-esteem ranging from grandiosity and assertiveness to inferiority and insecurity” (p. 118). Horowitz (1989) had described a “sudden state transition from self-righteous rage to the mixed state of shame, rage, and anxiety... this is exactly what happens in the state cycling patterns of some persons with the narcissistic personality disorder” (p. 536). These clinical observations of fluctuating grandiose and vulnerable narcissism traits align with earlier psychoanalytic theories that describe shame, anger, insecurity, and inferiority as cornerstones of narcissism, coexisting with grandiose sense of self and entitlement (Kernberg, 1998; Kohut & Wolf, 1978). Kernberg and Yeomans (2013), for example, stated, “patients with NPD show rather extreme fluctuations between severe feelings of inferiority and failure, and corresponding depressive reactions, on the one hand, and, on the other hand, an inordinate sense of superiority and grandiosity that shows in their contemptuous and dismissing behavior toward others, including their therapist” (p. 15).

A potential fluctuation between grandiose and vulnerable traits appears to be an important, but understudied, characteristic of narcissism. There are indeed few studies that have directly examined fluctuation in personality pathology more generally. Wright and Simms (2016) found in a sample of 101 clinical outpatients with personality disorders that maladaptive personality traits fluctuated characteristically across a period of three months. This study found fluctuation in negative affectivity, manipulativeness, and exhibitionism, which are grandiose and vulnerable narcissism traits (APA, 2013), although fluctuation was not specific to those traits. Roche, Jacobsen, and Pincus (2016) similarly found that DSM-5 Section III maladaptive traits predicted daily oscillating patterns in personality impairment. Other studies though have reported a stability in grandiose traits (Carlson & Gjerde, 2009; Giacomini & Jordan, 2016). In any case, none of these results shed light on a possible fluctuation *between* grandiose and vulnerable traits.

Gore and Widiger (2016) surveyed clinicians and clinical psychology professors with respect to persons they knew who met criteria for being either a grandiose or a vulnerable narcissist (the clinicians provided ratings with respect to a current or prior patient). If they reported knowing a grandiose or vulnerable narcissist, they were asked whether this person expressed traits of the other variant and, if so, whether it was never, some of the time, or a significant period of the time. Gore and Widiger reported that persons identified as grandiose narcissists did indeed indicate that they evidenced, for a significant period of the time, several vulnerable narcissistic traits (e.g., not responding well to criticism or rebuke, reacting with anger or shame when status is threatened, feeling very upset when treated unjustly, and craving admiration from others). However, persons identified as vulnerable narcissists did not evidence grandiose traits for significant periods of time (they did evidence some grandiose traits for “some” of the time). Hyatt et al. (in press) partially replicated the results of Gore and Widiger by indicating that participants recruited from Amazon.com’s Mechanical Turk (MTurk), who were identified as grandiose, evidenced expressions of rage in response to criticism or rebuke (but not expressions of shame).

There are currently several measures of both grandiose and vulnerable narcissism. For the assessment of grandiose narcissism, there are the Narcissistic Personality Inventory (NPI; Raskin & Terry, 1988), the Narcissistic Grandiosity Scale (Rosenthal et al., 2007), and the Narcissistic Admiration and Rivalry Scales (Back et al., 2013). One might also consider the many alternative measures of the DSM-5 Section II narcissistic personality disorder, such as the Personality Diagnostic Questionnaire (Bagby & Farvolden, 2004), to be largely measures of grandiose narcissism (Cain et al., 2008). For vulnerable narcissism there is the Hypersensitive Narcissism Scale (Hendin & Cheek, 1997). There are also the more recently developed measures, such as the PNI and the FFNI, which include scales for both grandiose and vulnerable narcissism. However, none of the scales within any of these inventories assess explicitly for a history of fluctuating between grandiose and vulnerable narcissism. As noted earlier, the grandiose and vulnerable scales from most of these inventories, except the PNI, are typically uncorrelated with one another and appear to be identifying different persons. There is little to suggest that they are being successful in identifying persons who might fluctuate between grandiose and vulnerable narcissism.

There is evidence that self-report measures of fluctuation can capture significant variance in within-person variability across time. Webster, Smith, Brunell, Paddock, and Nezlek (2017) examined whether the Rosenberg Self Stability Scale (RSSS; Rosenberg, 1965), a self-report measure of fluctuation in self-esteem, correlated with variability in self-esteem in a meta-analysis of repeated-measure self-esteem assessment studies spanning days or weeks. They found that the RSSS predicted self-esteem fluctuation at moderate-to-large effect sizes. “Three different methods (meta-analysis, IDA [integrative data analysis], and multilevel showed similar and convincing evidence of convergent validity between the RSSS and temporal self-esteem instability” (Webster et al., 2017, p. 163). This evidence that a self-report scale may be useful to predict fluctuation across time supports the proposal that a narcissistic fluctuation scale may be a useful tool. There are, however, experts who may disagree (Trull & Ebner-Priemer, 2014).

In sum, the goal of the present study was to develop scales to assess narcissistic fluctuation between grandiosity and vulnerability. Clinical descriptions of narcissistic fluctuation were reviewed to serve as a framework from which to develop the FLUX scales (Ronningstam, 2009; Pincus et al., 2014). Kohut (1972) made it clear that the grandiose and exhibitionistic individual demonstrates narcissistic rage and shame: More specifically regarding shame, he stated, “the essential disturbance which underlies the experience of shame concerns the boundless *exhibitionism* of the grandiose self” (p. 395; his emphasis). Ronningstam (2009) indicated that narcissistic individuals may demonstrate a “pervasive pattern of fluctuating self-esteem ranging from grandiosity and assertiveness to inferiority and insecurity” (p. 118), and Kernberg (2009) also noted this insecurity in narcissists, observing “bouts of insecurity disrupting their sense of grandiosity or specialness” (p. 106).

The FLUX scales were then validated by examining their relations with measures of grandiose and vulnerable narcissism and the FFM. Relations with affective lability were also examined because it was hypothesized that fluctuation between grandiose and vulnerable narcissism would be associated with instability of mood (Pincus & Lukowitsky, 2010). It was expected that narcissistic fluctuation would correlate highly with both grandiose and

vulnerable narcissism, and with affective lability, and would resemble the FFM profiles of both grandiose and vulnerable narcissism (high neuroticism, high extraversion, high antagonism).

Study 1: Scale Development

A set of 140 draft items was written by the authors to assess narcissistic fluctuation between three pairs of grandiose and vulnerable traits: Fluctuation between indifference and anger, fluctuation between grandiosity and shame, and fluctuation between assertiveness and insecurity (Horowitz, 1989; Kernberg, 1975; Kohut, 1972; Pincus et al., 2014; Ronningstam, 2009). Example items for the FLUX Indifference/Anger, Grandiosity/Shame, and Assertiveness Insecurity scales are “I can get really angry when I am disrespected, but other times I simply don’t care,” “My feelings of grandiosity and glory are interchanged with feelings of uselessness,” and “My strong assertiveness hides feelings of troubled insecurity,” respectively. Items were rated on a scale from 1 (*strongly disagree*) to 5 (*strongly agree*).

Participants

The items were administered to a sample of 282 participants ($M_{age} = 35.2$ years; $SD = 11.2$, 64% female) via MTurk who were currently in mental health treatment or had been in mental health treatment at some point in the past. Thirty-nine percent were currently in mental health treatment, 7% in the past month, 26% in the past one year, 17% in the past five years, 9% in the past ten years, and 3% outside the past ten years. Fifty-seven percent were currently taking psychotropic medications, and 88% had been taking psychotropic medications at some point in the past. Participants reported receiving mental health treatment for a variety of conditions: Depression (79%), anxiety (72%), personality disorder (10%), substance abuse (8%), alcohol abuse (9%), psychosis (4%), and 18% other, which participants provided in an additional text box, including: autism, attention-deficit hyperactivity disorder, bipolar disorder, body dysmorphic disorder, eating disorder, family therapy, gender dysphoria, obsessive-compulsive disorder, panic disorder, post-traumatic stress disorder, self-harm, and suicide attempt. Participants reported seeing psychiatrists (57%), psychologists (56%), social workers (15%), family therapists (19%), and 9% other, including: alcoholics anonymous, primary care physicians, addiction and gambling counselors, and attending group therapy and residential rehabilitation. Marital status consisted of 38% single, 34% married, 14% cohabiting, 12% divorced, and 1% widowed. Ethnic backgrounds consisted of 82% white, 9% black/African-American, 3% Hispanic/Latino, 3% Asian, 0.4% Native Hawaiian or Pacific Islander, 1% American Indian or Alaskan Native, and 2% other. Eleven persons were excluded from the dataset due to noncontent-based responding (scale described in Study 2), and one for responding with the same answer many times in a row. The final sample size was $N = 270$. The present investigation was approved by the local institutional review board.

Results

The dataset was split in half to select items in the first half and cross-validate them in the second half. In the first half ($n = 135$), inter-item correlation matrices were inspected for each FLUX scale. The indifference/anger draft item pool included 45 potential items,

grandiosity/shame included 42 items, and assertiveness/insecurity included 53 items. Items that correlated highly ($> r = .70$) with other items in the respective scale were eliminated, and items that correlated too low ($> r = .40$) with other items in the respective scale were eliminated, to obtain moderate mean inter-item correlations (MICs; Clark & Watson, 1995). Moderate-sized inter-item correlations were targeted because the FLUX scales were to be relatively homogeneous indicators of their respective narcissistic fluctuation. In cases when the statistical results were indistinguishable, the items with the most similar wording were eliminated. Each scale was thereby reduced to 10 items.

Tests for the number of factors were then performed in R statistical software (R Core Team, 2013) on the final 30 items in the first half of the dataset. Parallel analysis was conducted using 5,000 iterations with the paran package (Dinno, 2012; Horn, 1965) and Velicer's Minimum Average Partial (MAP) Test was conducted with the paramap package (O'Connor, 2016; Velicer, Eaton, & Fava, 2000). Parallel analysis suggested three components under the principal components framework and four factors under the common factor analysis framework. The MAP test suggested three factors. Inspection of the Scree plot also indicated three factors should be extracted.

The 30 items (ten items from each FLUX scale) were then subjected to exploratory principal factor analysis. Three factors were extracted (in line with theoretical expectations, as well as the recommendations of parallel analysis using the principal components framework and the MAP and Scree tests) and rotated with oblique rotation (Direct Oblimin). The first three factors (with eigenvalues of 12.34, 2.77, and 2.09) explained 53% of the variance. The fourth eigenvalue was 1.26¹. Pattern matrix factor loadings revealed that all items loaded greater than .40 on their respective, hypothesized, factors. There were no cross-loadings above .40 on any non-corresponding factors. Correlations among the factors, though, were moderate to large according to Cohen's (1992) guidelines (Indifference/Anger correlated $r = .55$ with Grandiosity/Shame, Indifference/Anger correlated $r = .44$ with Assertiveness/Insecurity, and Grandiosity/Shame correlated $r = .54$ with Assertiveness/Insecurity).

Identical item-level exploratory factor analyses of these items were then conducted in the second group of 135 participants. Parallel analysis suggested two components under the principal components framework and three factors under the common factor analysis framework. The MAP Test suggested three factors. The Scree plot again suggested three factors. In line with theorized expectations, three factors were then extracted using exploratory principal factor analysis with oblique rotation. The first three factors (with eigenvalues of 14.41, 3.36, and 1.63) explained 61% of the variance. The fourth eigenvalue was 0.94. The factor loadings obtained in the derivation sample were replicated in the second sample, in that all but two items from each scale loaded greater than .40 on their respective factors and less than .40 on non-corresponding factors: The two exceptions were that one item from Grandiosity/Shame cross-loaded at .44 with Assertiveness/Insecure and one item from Grandiosity/Shame loaded primarily on Assertiveness/Insecure, and did not

¹We examined a four-factor EFA solution separately in the two halves of the dataset. In the first half, four FLUX items (all items from indifference/anger) loaded above .40 on a fourth factor (whose eigenvalue was 1.26). In the second half, one FLUX item (another item from indifference/anger that did not load on the fourth factor in the analysis using the first half of the dataset) loaded above .40 on a fourth factor (whose eigenvalue was 0.94). Together these analyses indicate that the fourth factor was not reliable.

load on its own factor. In total, 97% of the items loaded greater than .40 on their hypothesized factor, and 93% of the items loaded greater than .40 on their respective hypothesized factors and less than .40 on all other factors. Correlations among the factors were, though, again moderate to large (Indifference/Anger correlated $r = .53$ with Grandiosity/Shame, Indifference/Anger correlated $r = .50$ with Assertiveness/Insecurity, and Grandiosity/Shame correlated $r = .70$ with Assertiveness/Insecurity).

Study 2: Scale Validation

Participants

A second sample was recruited to validate the finalized FLUX scales. The second sample consisted of 280 adults who were currently or had been in mental health treatment and they were again recruited from MTurk. Twenty persons who had participated in Study 1 were identified through matching IP addresses and were excluded from the Study 2 dataset. The final sample size was $N = 241$. Mean age of the participants was 33.3 years ($SD = 10.3$; 71% female). Forty-one percent were currently in mental health treatment, 10% in the past one month, 22% in the past one year, 16% in the past five years, 8% in the past ten years, and 2% outside the past ten years. Fifty-two percent were currently receiving psychotropic medications. Eighty-four percent had received psychotropic medications in the past. Participants reported receiving mental health treatment for a variety of conditions: Depression (81%), anxiety (69%), personality disorder (9%), substance abuse (9%), alcohol abuse (9%), psychosis (5%), and 10% other, which participants provided in an additional text-box, including: adjustment disorder, Asperger's syndrome, attention-deficit hyperactivity disorder, bipolar disorder, crisis counseling, eating disorder, family and relationship issues, fear of rejection and failure, gender identity disorder, insomnia, obsessive-compulsive disorder, panic disorder, post-traumatic stress disorder, schizoaffective disorder, self-harm, poor social skills, suicidal ideation, and trichotillomania. Participants reported seeing psychiatrists (58%), psychologists (54%), social workers (15%), family therapists (22%), and 7% other including: alcoholics anonymous, primary care physicians, and military counselors. Marital status consisted of 41% single, 34% married, 14% cohabiting, 7% divorced, and 2% widowed. Ethnic backgrounds consisted of 84% white, 5% black/African-American, 4% Hispanic/Latino, 4% Asian, 0.4% Native Hawaiian or Pacific Islander, 0.4% American Indian or Alaskan Native, and 0.4% other. Eighteen persons were excluded from the dataset due to noncontent-based responding, and one for responding with the same answer many times in a row.

Measures

FLUX Scales—The thirty items selected in Study 1 (ten for each scale) were administered again in Study 2 and rated on a scale from 1 (*strongly disagree*) to 5 (*strongly agree*). Seven items were altered from Study 1 to Study 2 to balance the order of the grandiose and vulnerable parts within items (i.e., to have the items be evenly balanced with respect to whether they first referred to either a grandiose or a vulnerable state; 15 began with the grandiose aspect and 15 began with the vulnerable aspect). Descriptive statistics for the scales follow: Indifference/Anger $M = 31.47$, $SD = 9.30$, skewness = -0.13 ($SE = 0.16$), kurtosis = -0.33 ($SE = .31$), $\alpha = .92$, and MIC = $.53$; Grandiosity/Shame $M = 29.40$, $SD =$

10.39, skewness = -0.10 ($SE = 0.16$), kurtosis = -0.78 ($SE = .31$), $\alpha = .95$, and MIC = $.64$; Assertiveness/Insecurity $M = 28.20$, $SD = 9.42$, skewness = 0.04 ($SE = 0.16$), kurtosis = -0.36 ($SE = .31$), $\alpha = .92$, and MIC = $.52$. The FLUX scales and scoring are provided in the supplemental materials.

Five-Factor Narcissism Inventory (FFNI; Glover et al., 2012)—The FFNI is a 148-item self-report measure of narcissism (Glover et al., 2012; Miller, Few et al., 2013; Miller et al., 2015). Items are rated on a Likert-type scale from 1 (*strongly disagree*) to 5 (*strongly agree*). Vulnerable scales consist of Reactive Anger, Shame, Need for Admiration, and Cynicism/Distrust, while Grandiose scales consist of Indifference, Exhibitionism, Thrill-Seeking, Authoritativeness, Grandiose Fantasies, Manipulativeness, Exploitativeness, Entitlement, Arrogance, Lack of Empathy, and Acclaim-Seeking. The FFNI can also be scored using factor analytically-derived scores (Miller et al., 2016): The FFNI Neuroticism score is composed of the Shame, Indifference (reversed), and Need for Admiration. The FFNI Antagonism score is composed of the Exploitativeness, Lack of Empathy, Entitlement, Arrogance, Manipulativeness, Reactive Anger, Cynicism/Distrust, and Thrill-Seeking. The FFNI Extraversion score is composed of Acclaim-Seeking, Authoritativeness, Grandiose Fantasies, and Exhibitionism. Internal consistency of the scales ranged from $\alpha = .80$ (Cynicism/Distrust) to $\alpha = .92$ (Exploitativeness), with a median $\alpha = .88$.

Pathological Narcissism Inventory (Pincus et al., 2009)—The PNI is a 52-item measure of grandiose and vulnerable narcissism. The PNI consists of seven scales: Exploitativeness, Self-Sacrificing Self-Enhancement, and Grandiose Fantasies, which assess grandiose narcissism, and Contingent Self-Esteem, Hiding the Self, Devaluing, and Entitlement Rage, which assess vulnerable narcissism (Wright et al., 2010). Participants rated the items on a 1 (*not at all like me*) to 5 (*very much like me*) scale about themselves. Internal consistency of the scales ranged from $\alpha = .77$ (Hiding the Self) to $\alpha = .93$ (Contingent Self-Esteem), with a median of $\alpha = .86$. It should be noted that the PNI is usually rated on a 6-point scale.

Affective Lability Scales (ALS; Harvey, Greenberg, & Serper, 1989; Oliver & Simons, 2004)—The ALS is an 18-item measure of the rapid and substantial fluctuation between normal and abnormal emotional states and includes six correlated scales: Anxiety (3 items; $\alpha = .85$), Anxiety/Depression (2 items; $\alpha = .84$), Depression (4 items; $\alpha = .82$), Elation (2 items; $\alpha = .70$), Bipolar (2 items; $\alpha = .78$), and Anger (5 items; $\alpha = .90$).

Big Five Aspects Scale (BFAS; DeYoung, Quilty, & Peterson, 2007)—The BFAS is a factor analytically-derived measure of the FFM that includes two distinct scales per FFM domain that are at an intermediate level between facets and domains. Internal consistency ranged from $\alpha = .80$ (A2 Politeness) to $\alpha = .93$ (A1 Compassion), with a median of $\alpha = .86$.

Five-Factor Model Rating Form (FFMRF; Mullins-Sweatt, Jamerson, Samuel, Olson, & Widiger, 2006)—The FFMRF is a 30-item adjective checklist questionnaire that assesses 30 facets of the FFM. Each end of a scale is labeled with trait adjectives (e.g., “sociable, outgoing” on the high end versus “withdrawn, isolated” on the low end for the

Gregariousness facet). Items are rated on the following scale: 1 (*Extremely Low*), 2 (*Low*), 3 (*Neutral*), 4 (*High*), and 5 (*Extremely High*). Coefficient α ranged from .64 (Agreeableness) to .76 (Neuroticism), with a median of .70.

Noncontent-Based Responding Scale—A four-item scale was also administered to ensure that participants were paying attention to the content of the questionnaires. Each item describes a behavior that was very unlikely to be true (e.g., “I have not used a computer in the past 2 years”), thus the response suggests whether the individual is or is not attending to the item’s content. The items are rated on a five-point Likert scale whose values range from 1 (*strongly disagree*) to 5 (*strongly agree*). Items were spaced throughout the questionnaire battery and scored so that higher scores reflected less content-based responding. Participants with a total score nine or higher ($n = 18$) were eliminated from the dataset.

Results

The 30 FLUX items were again submitted to an item-level three-factor analysis to replicate the Study 1 factor structure. All items loaded greater than .40 on their own factors, and only one item cross-loaded greater than .40 on any other factors. The results therefore replicated the three-scale structure (see Table 1). Tucker’s congruence coefficients (Tucker, 1951) were calculated to examine similarity between these factor loadings and the factor loadings from the second half of Study 1. The coefficient for the assertiveness/insecurity factor was .92, for the anger/indifference factor was .98, and for the grandiosity/shame factor was .94, which indicate fair to essentially equal similarity (Lorenzo-Seva & ten Berge, 2006). Correlations among the three factors were large (Indifference/Anger correlated $r = .52$ with Grandiosity/Shame, Indifference/Anger correlated $r = .53$ with Assertiveness/Insecurity, and Grandiosity/Shame correlated $r = .56$ with Assertiveness/Insecurity).

Three FLUX scale total scores were created. Table 2 displays the FLUX scales’ Study 2 correlations with the scales of the FFNI and PNI (Table 2 also includes the Study 3 correlations of the g-FLUX scale). Despite the fact that FFNI Grandiosity and FFNI Vulnerability were modestly with one another ($r = .13$), two of the three FLUX scales correlated moderately to highly with both FFNI Grandiosity and FFNI Vulnerability scales (the exception being FLUX Grandiosity/Shame with FFNI Grandiosity). All three FLUX scales correlated moderately to highly with both PNI Grandiosity and PNI Vulnerability (in contrast to the FFNI, PNI Grandiosity and Vulnerability did correlate substantially with one another; $r = .71$). All three FLUX scales also correlated significantly with most of the individual grandiosity and vulnerability scales of the PNI and FFNI (the exceptions being FFNI Lack of Empathy, Acclaim-Seeking, and Indifference). FLUX scales demonstrated large effect size convergent validity correlations with specific FFNI and PNI scales: Indifference/Anger correlated highest with FFNI Reactive Anger and PNI Entitlement Rage. Grandiosity/Shame correlated highest with FFNI Need for Admiration and PNI Contingent Self-Esteem and Grandiose Fantasies. Assertiveness/Insecurity correlated highest with FFNI Reactive Anger and Manipulativeness and moderately with all PNI scales. The FFNI factor-derived scores provided evidence of discriminant validity for the FLUX scales: FLUX Indifference/Anger correlated highly with FFNI Antagonism, but modestly with Neuroticism or Extraversion; FLUX Grandiosity/Shame correlated moderately with FFNI Antagonism

and Neuroticism, but modestly with Extraversion; FLUX Assertiveness/Insecurity correlated highly with FFNI Antagonism, moderately with Extraversion, and modestly with Neuroticism.

It is also evident from Table 2 that the pattern of correlations was similar across the three FLUX scales. The three FLUX scales' patterns of correlations with the 15 FFNI and 7 PNI scales were highly correlated: The Grandiosity/Shame pattern correlated $r = .73$ with the Indifference/Anger pattern and $r = .73$ with the Assertiveness/Insecurity pattern. The Indifference/Anger pattern correlated $r = .78$ with the Assertiveness/Insecurity pattern.

Table 3 provides the Study 2 correlations of the FLUX (and FFNI and PNI) scales with the BFAS and FFMRF assessments of the FFM, and the ALS assessments of affective lability (Table 3 also includes the Study 3 results with the g-FLUX scale). It is evident from Table 3 that the three FLUX scales correlated primarily with neuroticism (particularly with BFAS Volatility) and secondarily with antagonism (particularly with the inverse of BFAS Politeness). The FLUX scales demonstrated discriminant validity through weak correlations with openness scales. Although there was little overall distinction between the patterns of relations between the FLUX scales and the FFM, there were distinctions between the scales: FLUX Assertiveness/Insecurity correlated higher and at a moderate effect size with BFAS Assertiveness (from FFM extraversion) and FLUX Grandiosity/Shame correlated higher with the BFAS Withdrawn Distress and FFMRF neuroticism scales. All three FLUX scales correlated moderately to highly with all six affective lability scales, as did the FFNI and PNI Vulnerability scales and the PNI Grandiosity scale (FFNI Grandiosity correlated weakly with all but one of the affective lability scales). The factor-derived FFNI scores displayed discriminant validity in their associations with the ALS scales. In particular, FFNI Neuroticism correlated moderately with ALS Depression and Anxiety, while FFNI Antagonism correlated moderately to highly with ALS Anger, and FFNI Extraversion correlated modestly or not significantly with the ALS scales.

Again, the overall patterns of correlations obtained by the three FLUX scales with the 15 FFM and six affective lability measures, though, were quite similar. The results for the Grandiosity/Shame pattern correlated $r = .91$ with the Indifference/Anger pattern and $.89$ with the Assertiveness/Insecurity pattern. The Indifference/Anger pattern correlated $r = .96$ with the Assertiveness/Insecurity pattern.

Study 3: Scale Reduction

The correlations among the three FLUX factors in Studies 1 and 2 were moderate to high (median $r = .53$) and the FLUX scales displayed a similar nomological network of relationships with the narcissism, FFM, and ALS measures in Study 2. We therefore examined whether the three scales might be collapsed and equally represented in one general nine-item scale of narcissistic fluctuation (which we named the g-FLUX). Study 3 used the data from Study 2 with the new purpose to reduce the 30 FLUX items to one brief unidimensional scale of narcissistic fluctuation.

Results

Descriptive statistics—Item skewness, kurtosis, and response frequencies were considered in selecting potential items for a general fluctuation scale. No FLUX items were skewed more than $|0.7|$ or kurtotic more than $|1.3|$. Items with more difficulty (i.e., had lower levels of positive endorsement) were given priority, as the sample was clinically relevant, but not selected for high levels of narcissism.

Graded response models—Four graded response models were fit using item response theory in the ltm package (Rizopoulos, 2017) in R; one model per FLUX scale (i.e., ten items per model), and one full model with all 30 FLUX scale items. Items with higher discrimination, implying better distinction of the response options for the item, and items with the most information, implying less error of measurement, were given preference for inclusion in the reduced scale.

Bifactor model—A confirmatory bifactor model was fit for the thirty items of the three FLUX scales using the lavaan (Rosseel, 2012) package in R. The model consisted of one general factor and three specific factors (one for each of the three FLUX scales). Fit indices for the model were: RMSEA = .065 (90% CI = .058, .071), SRMR = .046, CFI = .906. Omega hierarchical (ω_h), explained common variance (*ECV*), and the percentage of uncontaminated correlations (*PUC*) were calculated to evaluate unidimensionality and the saturation of the general factor (Dueber, 2017; McDonald, 1999; Zinbarg, Revelle, Yovel, & Li, 2005). Omega hierarchical was .81, *ECV* was .64, and *PUC* was .69. Rodriguez, Reise, and Haviland (2016) state, “when *omegaH*[ω_h] is high ($> .80$), total scores can be considered essentially unidimensional, in the sense that the vast majority of reliable variance is attributable to a single common source.” (their emphasis, pp. 224–225). Reise, Schienens, Widaman, and Haviland, (2013) indicate that when *PUC* is less than .80, ω_h above .70 and *ECV* above .60 can serve as benchmarks for unidimensionality (p. 22). The *ECV* and *PUC* indicate that there is some multidimensionality in the FLUX, but not enough to consider unidimensional interpretation problematic (Reise et al., 2013). Some multidimensionality was expected due to the FLUX scales assessing fluctuation between different pairs of grandiose and vulnerable traits. Bifactor loadings are displayed in Table 4. All items loaded above .40 on the general factor. All items also loaded above .30 on the Indifference/Anger and Grandiosity/Shame specific factors. Half of the loadings on the Assertiveness/Insecurity specific factor loaded above .30. This indicated that the scales all largely captured the same narcissistic fluctuation construct, but that they also contained unique variance, albeit clearly weaker for the Assertiveness/Insecurity items. Potential items for the shorter g-FLUX scale were identified by high loadings on the general factor, as well as their respective specific factor. Items loading highly on both the general factor and their respective unique factors captured variability in narcissistic fluctuation, as well as unique variance on their respective scales.

Reduction

Descriptives: Nine items (three from each full FLUX scale) that obtained the best overall performance using the above criteria in Study 3 constitute the final, reduced, general scale of narcissistic fluctuation: $M = 25.42$, $SD = 8.12$, skewness = 0.06 ($SE = 0.16$), kurtosis =

−0.39 ($SE = 0.31$), $\alpha = .88$, and $MIC = .46$. Item discrimination values ranged from 2.14 to 3.19, with a median of 3.10. Average threshold parameters were −1.11, −0.16, 0.34, and 1.37.

Correlations: The fourth column of Table 2 provides the correlations of the general FLUX scale with the narcissism scales. It is again noteworthy that despite the fact that FFNI Grandiosity and FFNI Vulnerability were modestly with one another, g-FLUX correlated with FFNI Grandiosity ($r = .44$) and FFNI Vulnerability ($r = .61$). The g-FLUX correlated highly with PNI Grandiosity and PNI Vulnerability. It is also evident from Table 2 that the g-FLUX scale represents well the typical findings for each of the FLUX scales, which can be seen in its moderate-to-large sized correlations with all three FFNI factor-derived scores (Antagonism, Neuroticism, and Extraversion). The g-FLUX's pattern of correlations with the 15 FFNI and 7 PNI scales correlated with those of the FLUX Indifference/Anger, Grandiosity/Shame, and Assertiveness/Insecurity patterns $r = .93$, $.91$, and $.86$, respectively.

Table 3 provides the correlations of g-FLUX with the FFM and affective lability scales. g-FLUX correlated specifically with neuroticism (particularly BFAS Volatility) and antagonism (particularly inversely with BFAS Politeness) and obtained large effect size relationships with each of the ALS scales. The g-FLUX's pattern of correlations with the FFM and ALS scales correlated with those of the FLUX Indifference/Anger, Grandiosity/Shame, and Assertiveness/Insecurity patterns $r = .98$, $.97$, and $.97$, respectively. It is also apparent that the pattern of correlations for g-FLUX paralleled in most cases the results obtained by FFNI and PNI Vulnerability, with the notable exceptions that both Vulnerability scales obtained medium to large effect size relationships with BFAS Withdrawn/Distress, whereas g-FLUX correlated only with BFAS Volatility (the correlations for FFNI and PNI Vulnerability were both statistically significantly higher; $z = 8.50$, $p < .001$ and $z = 3.83$, $p < .001$, respectfully). g-FLUX also correlated more highly with the inverse of BFAS Politeness (from antagonism) than did FFNI Vulnerability ($z = 3.51$, $p < .001$) and PNI Vulnerability ($z = 2.86$, $p < .001$). Differences between the correlations were tested with Lee and Preacher's (2013) software.

Hierarchical Linear Regression: Regression analyses were conducted to compare the extent to which the higher-order FFNI and PNI narcissism scales, in comparison to the g-FLUX, were uniquely associated with affective lability. Table 5 provides the results of five hierarchical linear regression models examining the incremental validity of the g-FLUX over the higher order FFNI (Antagonism, Neuroticism, and Extraversion) and PNI (Grandiosity and Vulnerability) scales in the prediction of total affective lability (the ALS total score, which was used for parsimony). In each model, the g-FLUX scale predominated as the strongest predictor of the ALS, significantly increasing R^2 when added to the model (i.e., in each step two). The g-FLUX β 's were at large effect sizes for each model (ranging from $\beta = .64$ to $\beta = .76$), with the exception of one model in which PNI Vulnerability also explained unique variance in affective lability, and for which in step two the g-FLUX β was $.48$ and the PNI Vulnerability β was $.38$ (both moderate effect sizes).

Discussion

There has been a growing interest in the distinction between grandiose and vulnerable narcissism (Miller, Lynam, et al., 2017; Pincus & Lukowitsky, 2010) and the “fluctuation hypothesis” that narcissistic individuals fluctuate between grandiose and vulnerable states (Ronningstam, 2009). Measures of grandiose and vulnerable narcissism are largely uncorrelated (with the exception of the PNI), a finding that is considered to be inconsistent with the fluctuation hypothesis (Miller, Lynam, et al., 2017). However, the existing measures of grandiose and vulnerable narcissism do not explicitly assess for a fluctuation between the two. The present study developed and provided initial validation for a self-report measure designed to assess fluctuation between grandiose and vulnerable narcissism.

Results from the present study found support for three correlated scales of narcissistic fluctuation that retained a three-factor structure at the item level. The Indifference/Anger, Grandiosity/Shame, and Assertiveness/Insecurity FLUX scales appeared to be relatively homogeneous indicators of a fluctuation between grandiose and vulnerable traits (i.e., MIC's around .50) and correlated moderately to highly with both PNI and FFNI grandiose and vulnerable narcissism (despite FFNI grandiose and vulnerable narcissism being only modestly correlated). The FLUX scales demonstrated relationships with FFM neuroticism, extraversion, and antagonism, and contained unique information; for example, FLUX Grandiosity/Shame correlated somewhat more with neuroticism and FLUX Assertiveness/Insecurity somewhat more with extraversion. FLUX associations with the FFM align with theory and research regarding narcissism and the FFM (Miller, Lynam, et al., 2017). The FLUX scales also correlated at moderate-to-high levels with scales of affective lability, consistent with expectations for a labile narcissistic fluctuation (Pincus & Lukowitsky, 2010).

Results also indicated that the three FLUX scales could be collapsed into one nine-item general fluctuation scale (the g-FLUX) that equally represents the three FLUX scales with three items each. Although the FLUX scales were not perfectly correlated with each other, criteria correlations in Study 2 were highly similar across the three scales. High factor intercorrelations, along with bifactor indices including the ω_h , *ECV*, and *PUC*, indicated that the narcissistic fluctuation construct could be interpreted unidimensionally without serious problems, despite maintaining some multidimensionality (Reise et al., 2013; Rodriguez et al., 2016). The bit of multidimensionality can be thought of as specific variance captured by each FLUX scale. By combining informative and unique items from the three full length scales, the g-FLUX assesses the broader unidimensional narcissistic fluctuation construct. It displayed a correlational pattern that was similar to each of the three more specific FLUX scales. It also demonstrated a strong and unique relationship with affective lability, consistent with expectations (Pincus & Lukowitsky, 2010). In sum, the g-FLUX scale is a unique measure of narcissism in that it captures both grandiose and vulnerable narcissism as well as affective lability. It could be a useful tool as a shorter substitute for the full-length FLUX scales.

The FFNI Grandiose and Vulnerable narcissism scales were modestly correlated in the current study, consistent with prior FFNI research (Glover et al., 2012; Miller, Lynam, et al.,

2017). The absence of a substantial correlation between grandiose and vulnerable narcissism indicates clearly that persons who are endorsing the presence of grandiose traits are not also endorsing the presence of vulnerable traits, inconsistent with the view that some persons fluctuate between grandiose and vulnerable traits. Despite the absence of a correlation between FFNI Grandiose and Vulnerable, both scales did correlate with the g-FLUX, suggesting that at least some persons who are endorsing the presence of grandiose or vulnerable narcissistic traits are also indicating that they fluctuate between grandiosity and vulnerability. This may not be evident with the existing narcissism measures as they ask respondents if they are characteristically grandiose or vulnerable, not whether they fluctuate.

The PNI Grandiose and Vulnerable scores, in contrast to the FFNI, were highly correlated with each other ($r = .71$), but they were again also highly correlated with the FLUX scales. The PNI Grandiose scale was developed to measure a more clinical presentation of narcissistic grandiosity observed in therapy settings, which might explain its divergent relations with other measures of grandiose narcissism (Wright, 2016). PNI Grandiose does appear to include more vulnerability than FFNI Grandiose (Miller et al., 2016). However, results of the present study demonstrate that PNI Vulnerability captures more substantial and unique affective lability than does PNI Grandiosity.

The FLUX scales related to FFM antagonism, neuroticism, and extraversion, consistent with both grandiose and vulnerable narcissism (Miller et al., 2017). However, it also appears to be the case that the FLUX scales are more strongly and consistently associated with neuroticism, consistent with the view that the fluctuation may be associated with an affective fluctuation. FFM neuroticism, when assessed with the NEO PI-R (Costa & McCrae, 1992), has not been strongly related to affective instability (Kamen, Pryor, Gaughan, & Miller, 2010; Miller, Vachon, & Lynam, 2009). However, Goldberg (1993), who provided the predominant lexical foundation for the FFM, had in fact originally characterized the neuroticism domain as emotional instability versus stability. In addition, some measures of FFM neuroticism include affective instability. This is notably evident within the BFAS (DeYoung et al., 2007), which includes a Volatility scale, which contains such items as getting upset easily, emotions not under control, mood changing a lot, and mood going up and down easily. Indeed, g-FLUX obtained a large effect size relationship with BFAS Volatility (and was only modestly correlated with the other BFAS Neuroticism scale, Withdrawn/Distress).

The FLUX scales correlated with both narcissistic grandiosity and narcissistic vulnerability, but somewhat more highly with vulnerability. Individuals who endorsed vulnerable narcissism traits appeared somewhat more likely to indicate that their vulnerable states fluctuated with grandiose states than vice versa. This finding might appear to be inconsistent with the results of Gore and Widiger (2016) and Miller et al. (in press) who reported that persons identified as grandiose narcissists were more likely to evidence vulnerable traits than persons identified as vulnerable narcissists demonstrating grandiose traits. This difference in results may reflect, in part, that Gore and Widiger and Miller et al. relied on informant reports, and it is evident that informants provide different information regarding narcissistic vulnerability than do self-reports (Oltmanns, Crego, & Widiger, 2018), and informants report more associated dysfunction in narcissistic grandiosity than do self-reports

(Clifton, Turkheimer, & Oltmanns, 2005; Oltmanns et al., 2018; Park & Colvin, 2014). The relatively stronger relationship of the g-FLUX with vulnerability is also consistent with prior research indicating that vulnerability is strongly related to FFM neuroticism (Miller, Lynam, et al., 2017).

In sum, the presence of a scale for the assessment of narcissistic fluctuation may facilitate future research exploring the fluctuation hypothesis. For example, it will be of interest for future research to explore whether there is a different nomological network of relationships for the g-FLUX as compared to the existing measures of grandiose and vulnerability. The current results would not suggest a substantial difference, given the close association of g-FLUX with both grandiose and vulnerable narcissism. Yet, given that grandiose and vulnerable narcissism often do not correlate much, it will be of interest to explore the extent to which the various scales are identifying the same persons.

Finally, the FLUX scales have potential clinical utility in that they are the first scales to explicitly assess characteristic narcissistic fluctuation and would expand the assessment of narcissism in clinical and research settings. The FLUX scales or g-FLUX would be beneficially used in tandem with measures of narcissistic grandiosity and narcissistic vulnerability. This would allow for a comparison of characteristic narcissistic presentation with a fluctuating presentation. In some cases one may indeed find that the g-FLUX identifies different persons than are identified by either a grandiose or vulnerable scale, and in other cases persons who are currently elevated on a grandiose or a vulnerable scale (i.e., their current narcissistic state; Giacomin & Jordan, 2016).

Limitations

One potential limitation of the current study was the reliance upon one-time self-report. A focus of future research would be to verify that persons who believe they are fluctuating across time (i.e., by providing high scores on g-FLUX) are accurate in their self-description. A compelling case has been made that ecological momentary assessment (EMA) provides a more valid assessment of, for instance, affective instability (Santangelo, Bohus, & Ebner-Priemer, 2014; Trull et al., 2008) and narcissistic fluctuation (Edershile & Wright, 2018). There is reason to believe that self-reports though are providing sufficiently valid information concerning trait narcissism (Glover et al., 2012; Miller et al., 2017; Pincus et al., 2009, 2014) and fluctuation in self-esteem (Webster et al., 2017). Nevertheless, given the evident support for the validity of EMA, it would be useful for future validation research on the g-FLUX to indicate that elevations on this scale accurately identify persons who fluctuate as assessed through EMA.

There is also evidence that narcissistic individuals observe and report less social dysfunction than colleagues and/or peers who have observed them (Clifton et al., 2005; Oltmanns et al., 2018; Park & Colvin, 2014). As noted earlier, clinicians and clinical psychology professors report persons with grandiose traits as having more vulnerable traits than the reverse (i.e., grandiose traits within vulnerable persons; Gore & Widiger, 2016; Miller et al., in press). It would then be of interest in future research to explore the convergence across self and informant versions of the FLUX.

A final potential limitation of the present study is reliance on crowdsourced online data from MTurk, which has been found to include somewhat younger and better educated participants compared to the US population, and a relatively higher rate of psychopathology (Chandler & Shapiro, 2016). Any particular clinical sample though would also not be representative of the US population and the current study sampled persons who were currently or had been in mental health treatment. There was, however, not a way to ensure in an online data collection that the participants had in fact received clinical treatment. Nevertheless, the two data collections provided similar percentages of reported clinical history (e.g., type of disorder and type of treatment). Investigations of MTurk have also indicated that the data quality show similar or even better reliability than samples collected using more traditional methods (Buhrmester, Kwang, & Gosling, 2011; Jahnke, Imhoff, & Hoyer, 2015), as well as consistency of findings obtained from traditional samples, similar effect sizes in experimental research across samples from different populations (Chandler & Shapiro, 2016), and high test-retest reliability on personality and psychopathology measures (Buhrmester et al., 2011; Miller, Crowe, et al., 2017; Shapiro, Chandler, & Mueller, 2013).

Conclusion

There are many well-validated measures used to assess grandiose and vulnerable narcissism, but despite growing theories of a fluctuation between grandiosity and vulnerability, there have been no measures developed specifically to assess for a fluctuation between grandiose and vulnerable narcissism. The present study developed such a measure that includes three scales assessing for a narcissistic fluctuation between indifference and anger, grandiosity and shame, and assertiveness and insecurity, along with a short general scale of narcissistic fluctuation that consists of a balanced number of items from all three scales. The present findings indicate that these scales correlate with narcissism, facets of the FFM that are theoretically and empirically related to narcissism, and affective lability. The nine-item g-FLUX scale uniquely predicted affective lability, demonstrating incremental validity at moderate-to-high effect sizes over and above the FFNI and PNI scales. In sum, the FLUX scales might provide a relatively unique and useful instrument for the assessment of a fluctuation between grandiose and vulnerable narcissism.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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Public Significance Statement

Some researchers believe that narcissistic persons fluctuate between grandiose and vulnerable narcissism, but existing measures of narcissism do not explicitly assess for this fluctuation. This study develops a self-report questionnaire that can be used to assess fluctuation between grandiose and vulnerable narcissism.

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Table 1

Study 1 (second sample) and Study 2 item-level exploratory factor loadings

	Factor					
	1		2		3	
	Study 1	Study 2	Study 1	Study 2	Study 1	Study 2
Flux ind/ang1	-.05	-.01	.62	.76	-.19	-.05
Flux ind/ang2	.09	.06	.65	.65	-.02	-.08
Flux ind/ang3	-.02	.05	.74	.71	-.06	.03
Flux ind/ang4	.02	.06	.76	.77	-.11	-.03
Flux ind/ang5	-.01	-.09	.71	.77	-.04	.10
Flux ind/ang6	-.01	.03	.75	.84	-.10	-.12
Flux ind/ang7	.01	.12	.74	.70	-.10	-.01
Flux ind/ang8	-.01	.01	.88	.70	.05	.07
Flux ind/ang9	.09	-.14	.88	.68	.17	.16
Flux ind/ang10	.01	.01	.76	.55	.12	.15
Flux grnd/shm1	-.49	.71	-.05	.04	.44	.06
Flux grnd/shm2	-.73	.79	.02	-.01	.11	.05
Flux grnd/shm3	-.56	.90	.13	-.01	.20	-.05
Flux grnd/shm4	-.88	.80	-.03	.01	.00	.05
Flux grnd/shm5	-.80	.82	.12	-.03	-.09	.04
Flux grnd/shm6	-.88	.78	.03	.12	-.05	.02
Flux grnd/shm7	-.67	.79	-.01	-.02	.20	.11
Flux grnd/shm8	-.70	.79	.02	.06	.12	.05
Flux grnd/shm9	-.43	.74	.06	-.03	.19	-.08
Flux grnd/shm10	-.19	.58	.07	.12	.51	.02
Flux assrt/ins1	-.07	.43	.06	-.04	.70	.53
Flux assrt/ins2	-.02	.20	.10	.16	.69	.43
Flux assrt/ins3	-.13	-.03	.12	.02	.66	.80
Flux assrt/ins4	-.04	.16	-.01	.13	.80	.58
Flux assrt/ins5	.08	-.10	-.12	-.05	.87	.82
Flux assrt/ins6	-.15	.14	.00	.07	.63	.60
Flux assrt/ins7	-.10	.19	.06	.08	.62	.57
Flux assrt/ins8	-.04	.10	.09	.05	.64	.57
Flux assrt/ins9	.01	.08	.01	-.02	.79	.71
Flux assrt/ins10	.09	-.08	.03	.05	.78	.70

Note.

Loadings > .40 in bold. Study 1 (2nd sample; $N = 135$). Study 2 ($N = 241$). ind/ang = Indifference/Anger, grnd/shm = Grandiosity/Shame, and assrt/ins = Assertiveness/Insecurity.

Table 2

FLUX scale correlations with FFNI and PNI scales

Criterion Scale	FLUX scale			
	Ind/Ang	Grnd/Shm	Assrt/Insc	g-FLUX
FFNI Reactive Anger	.65	.51	.53	.68
FFNI Shame	.14	.42	.22	.28
FFNI Indifference	-.03	-.26	-.11	-.13
FFNI Need for Admiration	.35	.56	.39	.52
FFNI Exhibitionism	.25	.17	.39	.30
FFNI Authoritativeness	.22	.07	.42	.23
FFNI Thrill-Seeking	.37	.39	.41	.47
FFNI Grandiose Fantasies	.28	.31	.39	.38
FFNI Cynicism/Distrust	.42	.34	.30	.42
FFNI Manipulativeness	.34	.31	.51	.43
FFNI Exploitativeness	.33	.26	.40	.40
FFNI Entitlement	.29	.19	.28	.34
FFNI Arrogance	.31	.28	.41	.40
FFNI Lack of Empathy	.25	.13	.19	.28
FFNI Acclaim-Seeking	.12	.16	.26	.19
FFNI Grandiosity	.37	.27	.48	.44
FFNI Vulnerability	.50	.61	.47	.61
FFNI Antagonism	.50	.40	.51	.57
FFNI Neuroticism	.19	.46	.26	.34
FFNI Extraversion	.27	.22	.46	.34
PNI Contingent Self-Esteem	.41	.62	.49	.59
PNI Exploitativeness	.33	.31	.48	.42
PNI Self-Sacrifice Self-Enhance	.22	.33	.33	.29
PNI Hiding the Self	.23	.34	.33	.36
PNI Grandiose Fantasies	.30	.52	.43	.49
PNI Devaluing	.45	.50	.45	.57
PNI Entitlement Rage	.51	.50	.49	.60
PNI Grandiosity	.36	.51	.51	.52
PNI Vulnerability	.48	.60	.53	.64

Note. $N = 241$.

Bold = medium effect size, underline = large effect size (Cohen, 1992), Ind/Ang = Indifference/Anger, Grnd/Shm = Grandiosity/Shame, Assrt/Insc = Assertiveness/Insecurity. FFNI = Five-Factor Narcissism Inventory, PNI = Pathological Narcissism Inventory.

Table 3

Comparative Associations of the FLUX, FFNI and PNI Scales with Criteria

	FLUX Scales					FFNI Scales					PNI Scales				
	Ind/Ang	Grnd/Shm	Assrt/Insc	g-FLUX		FFNI G	FFNI V	FFNI A	FFNI N	FFNI E	PNI G	PNI V	PNI G	PNI V	PNI G
BFAS N1	.47	<u>.51</u>	.41	<u>.54</u>	.01	<u>.68</u>	.29	<u>.55</u>	-.07	<u>.56</u>	.26	<u>.47</u>	-.07	<u>.56</u>	.26
BFAS N2	.13	.43	.17	.28	-.34	<u>.67</u>	-.04	<u>.74</u>	-.36	<u>.47</u>	.16	.47	-.36	<u>.47</u>	.16
BFAS E1	-.03	-.09	.03	-.07	.14	-.24	-.12	-.12	.41	.18	-.10	-.10	.41	.18	-.10
BFAS E2	.20	.05	.41	.22	<u>.60</u>	-.09	.33	-.27	<u>.74</u>	.36	.02	.36	<u>.74</u>	.36	.02
BFAS O1	-.13	-.07	.02	-.09	.03	-.22	-.19	-.18	.31	.07	-.21	-.21	.31	.07	-.21
BFAS O2	.01	.14	.05	.03	-.12	.10	-.19	.17	.12	.19	.04	.04	.12	.19	.04
BFAS A1	-.20	-.11	-.14	-.24	-.41	-.15	<u>.60</u>	.08	.02	.05	-.16	-.16	.02	.05	-.16
BFAS A2	-.40	-.33	-.46	-.48	<u>.75</u>	-.30	<u>.81</u>	-.02	-.46	-.35	-.34	-.34	-.46	-.35	-.34
BFAS C1	-.11	-.30	-.16	-.22	.12	-.43	-.14	-.46	.29	-.08	-.31	-.31	.29	-.08	-.31
BFAS C2	.02	-.01	-.01	-.02	-.10	.04	-.12	.06	.01	.08	.12	.12	.01	.08	.12
FFMRF N	.26	.47	.31	.42	-.09	<u>.63</u>	.16	<u>.58</u>	-.14	.26	.53	.53	-.14	.26	.53
FFMRF E	.12	.01	.24	.10	.42	-.15	.18	-.18	.57	.30	-.04	-.04	.57	.30	-.04
FFMRF O	-.04	.23	.12	.12	.23	.06	.09	.07	.37	.34	.08	.08	.37	.34	.08
FFMRF A	-.29	-.22	-.21	-.30	-.33	-.26	-.47	-.06	-.08	-.04	-.23	-.23	-.06	-.08	-.23
FFMRF C	.04	-.05	.11	.01	.14	-.17	-.03	-.23	.28	.09	-.07	-.07	.28	.09	-.07
ALS ANX	.43	<u>.51</u>	.44	<u>.53</u>	.11	<u>.51</u>	.27	.35	.07	.37	.55	.55	.07	.37	.55
ALS A/D	.35	<u>.56</u>	.43	<u>.54</u>	.01	<u>.54</u>	.20	.44	-.04	.39	.58	.58	-.04	.39	.58
ALS DEP	.47	<u>.58</u>	.50	<u>.60</u>	.20	<u>.50</u>	.33	.35	.16	.43	.60	.60	.16	.43	.60
ALS E	.45	<u>.56</u>	.49	<u>.58</u>	.24	.42	.29	.28	.27	.48	.54	.54	.27	.48	.54
ALS BP	<u>.50</u>	<u>.55</u>	.49	<u>.62</u>	.24	.44	.34	.29	.18	.40	.55	.55	.18	.40	.55
ALS ANG	<u>.66</u>	<u>.58</u>	.55	<u>.73</u>	.33	<u>.54</u>	.51	.28	.19	.44	.63	.63	.19	.44	.63

Note.

Bold = medium effect size, underline = large effect size (Cohen, 1992), Indiff/Ang = Indifference/Anger, Grnd/Shm = Grandiosity/Shame, Assrt/Insc = Assertiveness/Insecurity, FFNI = Five-Factor Narcissism Inventory, PNI = Pathological Narcissism Inventory, G = Grandiose, V = Vulnerable, BFAS = Big Five Aspects Scale, FFMRF = Five-Factor Model Rating Form, ALS = Affective Liability Scales, N1 = Volatility, N2 Withdrawn Distress, E1 Enthusiasm, E2 Assertiveness, O1 Intellect, O2 Openness, A1 Compassion, A2 Politeness, C1 Industriousness, C2 Orderliness, N = Neuroticism, E = Extraversion, O = Openness, A = Agreeableness, C = Conscientiousness, A = Anxiety, A/D = Anxiety/Depression, D = Depression, E = Elation, B = Bipolar, ANG = Anger.

Table 4

Bifactor model loadings of the 30 FLUX items

Item	General	Ind/Ang	Assrt/Insc	Grnd/Shm
FLUX Ind/Ang 1	.46	.56		
FLUX Ind/Ang 2	.40	.52		
FLUX Ind/Ang 3	.54	.53		
FLUX Ind/Ang 4	.54	.56		
FLUX Ind/Ang 5	.50	.58		
FLUX Ind/Ang 6	.47	.64		
FLUX Ind/Ang 7	.59	.49		
FLUX Ind/Ang 8	.54	.50		
FLUX Ind/Ang 9	.45	.52		
FLUX Ind/Ang 10	.52	.39		
FLUX Assrt/Insc 1	.79		.20	
FLUX Assrt/Insc 2	.65		.21	
FLUX Assrt/Insc 3	.61		.50	
FLUX Assrt/Insc 4	.73		.27	
FLUX Assrt/Insc 5	.44		.68	
FLUX Assrt/Insc 6	.70		.25	
FLUX Assrt/Insc 7	.73		.21	
FLUX Assrt/Insc 8	.56		.37	
FLUX Assrt/Insc 9	.60		.47	
FLUX Assrt/Insc 10	.48		.48	
FLUX Grnd/Shm 1	.67			.37
FLUX Grnd/Shm 2	.68			.43
FLUX Grnd/Shm 3	.65			.58
FLUX Grnd/Shm 4	.67			.51
FLUX Grnd/Shm 5	.66			.52
FLUX Grnd/Shm 6	.73			.48
FLUX Grnd/Shm 7	.71			.49
FLUX Grnd/Shm 8	.72			.48
FLUX Grnd/Shm 9	.50			.43
FLUX Grnd/Shm 10	.56			.30

Note. $N = 241$. Ind/Ang = Indifference/Anger, Grnd/Shm = Grandiosity/Shame, Assrt/Insc = Assertiveness/Insecurity.

Loadings > .40 in bold.

Table 5

Hierarchical linear regression models predicting total affective lability

Criterion	Step	R ²	R ²	Model	β	Tolerance	VIF
Affective Lability	1	.17	.17 *	FFNI Antagonism	.41 *	1.00	1.00
	2	.53	.36 *	FFNI Antagonism g-FLUX	-.01 .73 *	.67	1.49 1.49
Affective Lability	1	.15	.15 *	FFNI Neuroticism	.39 *	1.00	1.00
	2	.55	.40 *	FFNI Neuroticism g-FLUX	.16 .67 *	.88	1.13 1.13
Affective Lability	1	.03	.03	FFNI Extraversion	.17	1.00	1.00
	2	.54	.51 *	FFNI Extraversion g-FLUX	-.09 .76 *	.88	1.13 1.13
Affective Lability	1	.25	.25 *	PNI Grandiosity	.50 *	1.00	1.00
	2	.55	.30 *	PNI Grandiosity g-FLUX	.17 .64 *	.74	1.36 1.36
Affective Lability	1	.48	.48 *	PNI Vulnerability	.69 *	1.00	1.00
	2	.62	.14 *	PNI Vulnerability g-FLUX	.38 .48 *	.59	1.69 1.69

Note.

* = $p < .001$, italics = $p < .01$. FFNI = Five-Factor Narcissism Inventory, PNI = Pathological Narcissism Inventory.