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Comparing the Validity of Informant- and Self-reports of Personality Using Laboratory Indices of Emotional Responding as Criterion Variables

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Abstract

Personality traits relate to risk for psychopathology and can inform predictions about treatment outcome. In an effort to obtain a comprehensive index of personality, informant-reports of personality are sometimes obtained in addition to self-reports of personality. However, there is limited research comparing the validity of self- and informant-reports of personality, particularly among those with internalizing psychopathology. This is important given that informants may provide an additional (and perhaps different) perspective on individuals' personality. The present study therefore compared how both reports of positive affectivity (PA) and negative affectivity (NA) relate to psychophysiological and subjective measures of emotional responding to positive and negative stimuli. Given that our sample ($n = 117$) included individuals with no history of psychopathology, as well as individuals with major depressive disorder (MDD) and/or panic disorder (PD), we were also able to explore whether these internalizing diagnoses moderated the association between personality reports and measures of emotional responding. Informant-reported PA predicted physiological responses to positive stimuli (but not negative). Informant reported NA predicted physiological responses to negative stimuli (but not positive). Self-reported personality did not predict physiological responding, but did predict subjectively measured emotional responding (NA for negative responding; PA for positive responding). Diagnoses of internalizing psychopathology (PD or MDD) did not moderate these associations. Results suggest self- and informant-reports of personality may each provide valid indices of an individual's emotional response tendencies, but predict different aspects of those tendencies.

Keywords

Personality; Informant-reported personality; Startle; EEG asymmetry; Panic disorder; Major Depressive Disorder

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There is a robust literature showing that several personality traits within the five-factor model (McCrae & Costa, 1987; McCrae & Costa, 1999) are risk factors for the development of psychopathology. Of those personality traits, neuroticism (often called trait negative affectivity [NA]) and extraversion (often called trait positive affectivity [PA]) have received particular attention in studies of internalizing psychopathologies (Grav, Stordal, Romild & Hellzen, 2012; Jylhä & Isometsä, 2006; Saklofske, Kelly & Janzen, 1995; Sen et al., 2003). Individual differences in NA, which refers to the tendency to experience negative emotions such as anger, fear and sadness (Watson & Clark, 1984), have been found to positively predict the subsequent development of anxiety and depressive disorders (Krueger et al., 1999; Moffitt et al., 2007). On the other hand, PA, which refers to the tendency to experience positive emotions such as excitement and elation, has been found to negatively predict risk for depression, but not certain anxiety disorders (Clark & Watson, 1991; Chorpita, 2002; Watson & Clark, 1992). This suggests that some personality traits differentially predict the development of specific psychopathologies. Personality assessment can also inform predictions about an individual's prognosis. For example, heightened NA has been associated with a chronic course of depression and poorer response to treatment (Duggan, Lee & Murray, 1990; Mulder, 2002; Scott, Williams, Brittlebank & Ferrier, 1995).

Obtaining a comprehensive index of personality is therefore particularly important in clinical populations. Despite this, personality is most commonly assessed *solely* through self-report (Vazire, 2006), an approach which has several notable limitations. First, multi-method assessment is more likely to yield a reliable, and thus valid, index of psychological constructs than a single method assessment (Hopwood & Bornstein, 2014). Second, longitudinal and cross-sectional studies have shown that self-ratings of personality traits are influenced by psychiatric symptoms (Hirschfeld et al., 1983; Ormel, Oldehinkel & Vollebergh, 2004; Reich, Noyes, Coryell & O'Gorman, 1986; Sauer et al., 1997). In sum, obtaining only self-report of personality could yield a limited assessment of personality constructs (Cobb-Clark & Schurer; Costa & McCrae, 1997; Costa & McCrae, 2006).

In an effort to assess personality more thoroughly, researchers and clinicians sometimes collect ratings of personality traits from family members or close friends (i.e., informants), in addition to self-ratings of personality traits (McDonald, 2008; Vazire, 2006). However, there is often discordance between self- and informant-reports of personality (Klonsky, Oltmanns & Turkheimer, 2002), and this discordance may vary by the diagnosis of those being rated (Lieberman et al., 2015). This raises the question of whether the information provided by each report is valid, and whether the validity of each report varies by diagnosis.

One approach to comparing the validity of self- and informant-reports of personality traits is to assess the association between each report and laboratory-based sequelae of those traits, as laboratory studies can provide a "snapshot" of these response tendencies. For example, as PA and NA reflect a *tendency* to experience positive and negative emotions (Clark & Watson, 1991; Revelle & Scherer, 2009), respectively, one can assess how self- and informant-reported PA and NA predict responses to positive and negative stimuli. Using this approach in a sample of college students, Spain and colleagues. (2000) found that self-reported neuroticism and extraversion predicted subjective reports of positive and negative

emotional responding, respectively, better than informant-reported personality over the course of eight days.

Laboratory studies can measure emotional responding in multiple ways, but typically do so subjectively (i.e., by self-report), behaviorally, and/or physiologically (Bradley & Lang, 2000; Mauss et al., 2009). Studies that have evaluated the validity of personality reports using behavioral criterion have found informant-reports to have predictive validity equal or superior to that of self-reports (e.g., Kolar, Funder & Colvin, 1996, Levesque & Kenny, 1993; Vazire & Mehl, 2008). However, overt behaviors may not be ideal criteria for traits associated with limited observable behavioral sequelae. For example, NA is characterized by internal emotional states, such as guilt, worrying, and sadness (Watson & Clark, 1984), which may not result in the display of overt behaviors that could be observed by informants (Funder & Doborth, 1984; Vazire, 2010).

Additionally, simply being an observer with a different perspective gives an informant information about another's discrete behaviors (e.g., facial expressions) that the individual may not have about him- or herself (Andersen et al., 1998; Vazire et al., 2010). On the other hand, an individual may have superior access to his or her own physiological states (e.g., physiological arousal) relative to informants (Vazire et al., 2010). Given this, the self-other knowledge asymmetry model (SOKA; Vazire [2010]) posits that individuals and informants use different information from one another to assess an individual's personality. It is therefore important to compare self- and informant-reports of PA and NA using criterion variables assessed by multiple measurement modalities – including physiology. To our knowledge, though, no studies have compared the validity of self- and informant-reported personality using psychophysiological indices of emotion as the criterion variable. Thus, it is not clear whether self- and informant-reports each provide valid indices of this aspect of emotion.

Several psychophysiological indices of emotional response tendencies may be appropriate for comparing the validity of self- and informant-reported personality. In particular, frontal EEG asymmetry during the anticipation of reward can provide an index of the propensity to experience PA, with greater left relative to right frontal activity indicating greater PA (e.g., Davidson, 1994; Shankman, Klein, Tenke & Bruder, 2007). Likewise, magnitude of the eyeblink startle reflex during the anticipation of aversive stimuli can provide an index of NA, with greater startle magnitude being indicative of greater NA (e.g., Craske et al., 2009; Schneider, 2004). These physiological indicators of emotion have demonstrated strong re-test reliability. For example, Shankman and colleagues found Pearson's correlation coefficients greater than .68 for the retest reliability (ten days following initial testing) of startle magnitude during the anticipation of predictable and unpredictable aversive stimuli. Likewise, coefficients were greater than .69 for retest reliability of EEG asymmetry across several electrode sites during the anticipation of reward (Shankman et al., 2013). This provides further support for the utility of these physiological indicators as criterion variables for assessing the validity of personality reports.

Of note, several investigations have not found an association between *self*-reported PA/NA and the aforementioned psychophysiological indices (e.g., Grillon & Baas, 2003; Hagemann

et al., 1998). This inconsistency suggests either that self-reported personality is not the best predictor of emotional responding (or at least of physiologically measured emotional responding), or that individual difference factors affect one's ability to report their personality accurately. As mentioned above, changes in mood and anxiety disorder symptoms predict changes in self-ratings of personality (Ormel, Oldehinkel & Vollebergh, 2004; Sauer et al., 1997). Therefore, self-ratings of personality may at least partially reflect an individual's current symptoms, rather than overall emotional propensities. Although some have suggested that informant-ratings of personality traits are also influenced by the proband's internalizing symptoms (Case et al. 2007), it is not known whether the *predictive validity* of either report is affected by these symptoms.

The present study therefore investigated whether self- and informant-reports of PA and NA provide valid indices of emotional responding among individuals with either: no history of psychopathology, depression only, anxiety only, or comorbid anxiety and depression. Given the heterogeneity in depression and anxiety disorders (Clark & Watson, 2006; Shankman & Klein, 2003), only individuals with early-onset MDD were included in the MDD groups (depression only and comorbid) and all participants in the anxiety groups (anxiety only and comorbid anxiety and depression) were required to have a diagnosis of panic disorder. Subjective *and* psychophysiological reports of emotional responding were used as criterion variables so as to assess whether the validity of each report differs as a function of how emotion is measured (i.e., physiologically vs. subjectively). Physiological and subjective indices of emotional responding were obtained during two laboratory tasks: (1) the NPU-threat task, a well-validated startle task designed to assess fear and anxiety responding in the presence of predictable and unpredictable threat, respectively, and (2) a slot machine task designed by Shankman and colleagues (2007) to assess positive affect during the anticipation of monetary reward. Given the abovementioned evidence that psychopathology may influence the validity of personality reports (Hirschfeld et al., 1983; Ormel, Oldehinkel & Vollebergh, 2004; Reich, Noyes, Coryell & O'Gorman, 1986; Sauer et al., 1997), we utilized this clinical sample to also explore whether diagnosis (MDD or PD) moderated the association between each report and laboratory indices of emotional responding (i.e., the criterion variables). Because this is the first study of its kind, we did not have specific hypotheses regarding the validity of each report, or whether the validity of either report would vary by diagnostic group.

Method

Participants

Data from the present study was collected as part of a larger investigation on emotional processing abnormalities in anxiety and depression (Shankman et al., 2013). Physiological indices of emotional responding, and self-report measures of personality and temperament were collected from four groups of individuals (i.e., probands; $N = 208$), those with: (1) no history of Axis I psychopathology (i.e., healthy controls; $n = 82$), (2) current major depressive disorder (MDD) and no lifetime history of any anxiety disorder (i.e., MDD-only group; $n = 40$), (3) current panic disorder (PD) and no lifetime history of MDD (i.e., PD-only group; $n = 28$), (4) current PD and MDD (i.e., comorbid PD and MDD group; $n = 58$).

Thus, the study was a 2 (MDD status: yes vs. no) X 2 (PD status: yes vs. no) design. Diagnoses were made via the Structured Clinical Interview for DSM-IV (SCID; First, Spitzer, Gibbon, & Williams, 1996). Participants in PD-only and comorbid groups were allowed to have other current or past anxiety disorders. In addition, due to the aims of the larger study (and to reduce the heterogeneity of those with MDD), all individuals with MDD had an early onset of dysthymia or MDD (i.e., prior to age 18). Participants were excluded if they had a lifetime diagnosis of a psychotic disorder, bipolar disorder, or dementia; were unable to read or write in English; had a history of head trauma with loss of consciousness; or were left-handed (left-handedness was confirmed using the Edinburgh Handedness Inventory; Oldfield, 1971).

Informant-reports were completed and returned for 117 (51%) of the 208 probands (PD-only = 15, MDD-only = 21, comorbid PD and MDD = 28, controls = 53). Of the probands that had informant data, 51.3% were Caucasian, 26.5% were African-American, 7.7% were Hispanic, and 14.5% were Asian, and 65% were female. The mean age of this sample was 33.29 ($SD = 12.71$). Probands with informant-reports did not differ from those without in ethnicity, $X^2(3, N = 208) = 4.70, ns$, gender, $X^2(1, N = 208) = .12, ns$, depression status, $X^2(1, N = 208) = 2.94, ns$, panic status, $X^2(1, N = 208) = 2.33, ns$, or age, $F(1, 198) = .04, ns$. There were also no mean-level differences in NA, $F(1, 198) = .00, ns$, or PA, $F(1, 198) = .12, ns$, between probands with and without informant-reports of personality.

Procedure

After providing informed consent, probands completed a battery of self-report personality questionnaires. In addition, probands completed a reward anticipation task (slot task; Shankman et al., 2007), during which frontal EEG asymmetry was measured, and a threat of shock task (NPU-threat task; Schmitz & Grillon, 2012), during which EMG of the eyeblink startle reflex was measured. The two tasks were presented in a counterbalanced order, and order did not differ between diagnostic groups. For both tasks, participants sat in an electrically shielded, sound-attenuated booth approximately 3.5 ft from a 19-in. computer monitor. All probands were compensated for their time.

Probands provided contact information for a family member or close friend to serve as an informant to complete a packet of questionnaires about the proband's "qualities and characteristics". After consenting to participate, informants completed an identical battery of personality questionnaires, although they were worded in the third person, either by the developers of the scales or with permission from the developers. Informants who returned the packets were paid \$20 for their participation. The numbers of days between the administration of self- and informant-reports was skewed with a mean of 318.15 ($SD = 377.18$), but a median of 243. All procedures were approved by the University of Illinois-Chicago's Institutional Review Board.

NPU-Threat Task and EMG Startle Recording

The NPU-threat task was designed by Grillon and colleagues (2012) to differentially assess two types of negative emotional responses – fear and anxiety. More specifically, fear responding is operationalized as potentiation of response to predictable threat and anxiety

responding is operationalized as potentiation of response to unpredictable threat. The present study used EMG of the eyeblink startle reflex during the NPU-threat task as a psychophysiological index of emotional responding to negative stimuli (i.e., shock). To eliminate the confound of early exaggerated startle responding on analyses of individual differences in startle, participants heard 9 acoustic startle probes prior to the NPU-threat task. Next, a shock work-up procedure was completed in which participants received increasing levels of shock intensity until they reached a level that they described as feeling “highly annoying but not painful.” Individual shock levels were used to ensure equality in perceived shock aversiveness (Rollman & Harris, 1987) and to be consistent with prior studies (e.g., Grillon et al., 2008). The maximum shock level a participant could achieve was 5 mA. The mean shock level was 2.10 mA ($SD = 1.26$).

The NPU-threat task included three within-subjects conditions - no shock (N), predictable shock (P), and unpredictable shock (U). Text at the bottom of the computer monitor informed participants of the current threat condition by displaying: “no shock” (N), “shock possible during square” (P), or “shock possible at any time” (U). Each condition lasted 90s, during which an 8-s geometric cue (blue circle for N, red square for P, and green star for U) was presented four times. Different shapes were used for each condition to ensure that participants were aware of the current condition. Interstimulus intervals (ISIs) ranged from 7 to 17-s ($M = 12.4$ -s), during which only the text describing the condition was on the screen. In the N condition, no shocks were delivered. In the P condition, participants could only receive a shock when the cue (red square) was on the screen. The shock was delivered at the end of the cue presentation (i.e., the 6th or 7th second) during the P condition. In the U condition, shocks were administered at any time (i.e., during the cue or ISI). Given that the U shocks were spread out across cue and ISI periods, there were several periods in which no shock occurred, making the U condition completely unpredictable. Startle probes were presented during the cue (2–7-s following cue onset) and ISI (4–12-s following ISI onset). Only one startle probe was delivered during each presentation of the cue or each ISI.

The task was divided into two recording blocks, separated by a rest period that was on average 3.7-min long ($SD = 1.4$ min). Each block consisted of two presentations of each 90-s condition, during which the respective cue appeared four times, in the following orders (counterbalanced): PNUNPU or UPNUNP. All participants received 12 electric shocks (6 during P and 6 during U) and 72 startle probes (24 during N, 24 during P, and 24 during U). The time interval between a shock and a subsequent startle probe was always greater than 10s to minimize the effect of an immediate shock on startle responses. Of note, the average interval between a shock and subsequent startle probe were balanced across the U and P conditions.

Stimuli (i.e., shocks, white noise) were administered using PSYLAB (Contact Precision Instruments, London, UK) hardware and software. Psychophysiological data were acquired using Neuroscan 4.4 (Compumedics, Charlotte, NC). Acoustic startle probes were 40-ms, 103-dB bursts of white noise with near-instantaneous rise time presented binaurally through headphones. Electric shocks lasted 400-ms and were administered to the wrist of the participants' left hand.

Startle response was recorded from two 4-mm Ag/AgCl electrodes placed over the orbicularis oculi muscle below the right eye and the ground electrode was at the frontal pole (AFZ). Consistent with published guidelines (Blumenthal et al., 2005), one electrode was 1-cm below the pupil and the other was 1-cm lateral of that electrode. Data were collected using a bandpass filter of DC to 200 Hz at a sampling rate of 1,000 Hz. Although the upper end of this frequency band is below the Blumenthal et al. recommendation of 500 Hz, the missing bandwidth (200–500 Hz) was not likely to effect the experimental manipulation or the reliability of the results (A. Van Boxtel & T. Blumenthal, personal communication, December 14, 2009).

Slot Task and EEG Asymmetry Recording

The slot machine paradigm was designed to assess sensitivity to reward (Shankman et al., 2007). The present study used frontal EEG asymmetry during the slot task as a psychophysiological index of emotional responding to positive stimuli (i.e., reward). The task consisted of three reels of numbers and fruit, which “spun” simultaneously for 11 s and then “landed” on a result. To start the reels spinning, participants pressed a button with both thumbs that pulled a lever on the computer screen. The task included 60 “spins” that were divided into two possible outcomes of 30 trials each: a reward condition (R) in which participants won money if the reels landed on three fruits, and a no-incentive condition (NI) in which participants were ineligible to win money no matter the outcome. Thus, the R condition was designed to elicit reward anticipation, and the NI condition served as a control for several aspects of the R condition (e.g., visual input, anticipating an outcome). The amount of money that could be won during each R trial ranged from \$0.50 to \$3. Notably, participants did not lose money in either condition.

Trials were presented in a fixed, pseudorandom order, with no more than two consecutive trials of similar type or outcome. Participants began the game with \$2 and were told the specific condition (R or NI) prior to each trial, but not the potential dollar amount in each R condition. Unbeknownst to the participant, half of the trials in each condition “landed” on three fruits. Trials were divided into three blocks. Participants completed retrospective ratings of their emotional state for each condition after the first and second blocks (see below). At the end of the task, all participants received \$12 in cash.

EEG data were recorded from Ag/AgCl electrodes in a 64-channel stretch-lycra electrode cap. The ground electrode was at the frontal pole (AFZ) and the online reference was near the vertex (between CZ and CPZ). Electrodes placed at the right supra- and infraorbital sites were used to monitor vertical eye movements (VEOG) and electrodes placed at the right and left outer canthi were used to monitor horizontal eye movements (HEOG). Electrode impedances were under 5,000 ohms, and homologous sites (e.g., F3/F4) were within 1,500 ohms of each other. Data were acquired at a gain of 10K (5K for eye channels) with a bandpass of DC-200 Hz and digitized continuously at a rate of 1000 Hz.

Physiological Data Processing

Startle—Startle blinks were scored according to published guidelines (Blumenthal et al., 2005). Data processing included applying a 28 Hz high-pass filter, rectifying, and then

smoothing using a 40 Hz low-pass filter. Blink response was defined as the peak amplitude of electromyography (EMG) activity within the 20–150-ms period following startle probe onset relative to baseline. The baseline period was defined as the average baseline EMG level for the 50-ms preceding the startle probe onset. Each peak was identified by software but examined by hand to ensure acceptability. Blinks were scored as non-responses if EMG activity during the 20–150-ms post-stimulus timeframe did not produce a blink peak that was visually differentiated from baseline activity. Blinks that were scored as non-responses were included as zeros. Blinks were scored as missing if the baseline period was contaminated with noise, movement artifact, or if a spontaneous or voluntary blink began before minimal onset latency and thus interfered with the startle probe-elicited blink response.

EEG—EEG data from the 11-s period while the slot machine reels were spinning were segmented into consecutive 1.024-s epochs every 0.512 s (50% overlap). After referencing to a linked mastoid reference offline and then applying a baseline correction, we manually excluded epochs contaminated by blinks, eye movements, and movement-related artifacts from analyses by direct visual inspection of the data. The EEG was tapered over the entire 1.024-s epoch by a Hanning window to suppress spectral side lobes. Artifact-free data were recovered in adjacent (overlapping) epochs and power spectra were computed offline from EEG data by using a fast Fourier transform. Subsequently, the average absolute alpha power was computed for each electrode site and then natural log transformed to normalize the data. Consistent with previous studies (e.g., Bruder, Fong, Tenke, & Leite, 1997), we defined the alpha band as 7.81–12.70 Hz and used it as an inverse measure of regional brain activity. Frontal asymmetry scores were computed for the R and NI conditions by subtracting power at left frontal electrodes from power at homologous right electrodes (i.e., average of F2, F4, F6, F8, subtracting the average of F1, F3, F5, and F7), so that the higher values reflect greater activity in left relative to right frontal regions. Averaging power from neighboring electrodes helps yield a more representative frontal asymmetry score.

Of the 117 individuals for whom informant-reports of personality were received, five (three MDD only, one individual with comorbid PD/MDD, and one control) were excluded from EEG analyses because of excessive artifacts in electrodes of interest in the NI or R condition, leaving a sample of 112 for the EEG analyses (15 PD only, 18 MDD only, 27 comorbid, and 52 controls). Likewise, five participants (two MDD only, one individual with comorbid PD and MDD, and three controls) were excluded from EMG startle analyses because they produced fewer than two scorable blinks in any single condition, leaving a sample of 112 for the EMG startle analyses (15 PD only, 20 MDD only, 27 comorbid, and 50 controls).

Subjective Indices of Emotional Responding

After each block of the NPU-threat task, participants rated their level of nervousness/anxiety during the cues and ISIs for each condition on a scale ranging from 1 (not at all) to 7 (extremely). Similarly, after the first two blocks of the slot task, participants rated how much they “looked forward to three pieces of fruit” (i.e., excitement) during both the R and NI conditions on a scale ranging from 1 (not at all) to 7 (extremely). Three participants (two

controls and one MDD only) were excluded from the analyses of subjectively measured excitement, and two participants (one control and one individual with comorbid PD and MDD) were excluded from the analyses of subjectively measured anxiety because they did not complete the self-reported emotions ratings.

Personality Measures

A broad battery of personality measures was obtained to assess PA and NA.

GTS and GTS-IR—The General Temperament Scale (GTS; Clark & Watson, 1990) is a 90-item true-false questionnaire that yields scores for negative and positive temperament. Higher scores on the negative temperament subscale indicate a tendency to experience negative emotions, whereas higher scores on the positive temperament subscale indicate a tendency to experience positive emotions. Cronbach's alpha for self- and informant-reports of negative and positive temperament were above .88.

EPQ-R and EPQ-R-IR—Eysenck's Personality Questionnaire (EPQ; Eysenck, Eysenck & Barrett, 1985) is a 100-item questionnaire with yes or no answer options. The EPQ yields scores for neuroticism and extraversion. Cronbach's alpha for self- and informant-reports of neuroticism and extraversion were above .70.

TEPS and TEPS-IR—The Temporal Experience of Pleasure Scale (TEPS; Gard, Gard, Kring & John, 2006) is an 18-item questionnaire with a 6-point Likert scale assesses trait differences in ability to derive pleasure from the anticipation and consummation of reward. Cronbach's alpha for self- and informant-reports of TEPS were above .83.

ASI-R and ASI-R-IR—The Anxiety Sensitivity Index-Revised (ASI-R; Taylor & Cox, 1998; Taylor et al., 2007) is 36-item revised version of the original ASI developed by Reiss et al (1986). Statements are rated on a five-point scale ranging from "very little" to "very much." The ASI is designed to assess the extent to which an individual experiences fear or distress in response to physiological indicators of anxiety, such as heart racing or nausea. Cronbach's alpha for self- and informant-reports of anxiety sensitivity were above .95.

BIS/BAS Scale and BIS/BAS Scale-IR—The Behavioral Inhibition System/Behavioral Activation System Scale (BIS/BAS Scale; Carver & White, 1994) includes 26-items rated on a four-point scale ranging from "very true" to "very false." The BIS/BAS has two subscales: behavioral inhibition and behavioral activation. The BIS scale assesses the tendency of individuals to experience negative affect or withdrawal behaviors in response to stimuli. The BAS scale assesses the tendency of individuals to experience positive affect or approach behaviors in response to stimuli. Cronbach's alpha for self- and informant-reports of BAS and BIS were above .80.

Calculation of NA and PA Factor Scores

Missing questionnaire items were imputed using the participant's own average response on the missing item's subscale. If a participant was missing more than 20% of a questionnaire's items, we did not interpolate item-level responses. However, we did calculate factor scores

(see below) for these subjects using a combination of the participant's available data and the average of their group (i.e., control, PD, MDD). More specifically, missing subscale scores were imputed using the average z-score for that participant's diagnostic group. Z-scores were then multiplied by the appropriate factor loading and added together to generate a factor score.

Self-report responses were visually examined for clearly biased reporting (e.g., selection of all 1's) by the experimenters. We also examined the distributions of self-rated PA and NA, which were normally distributed with skewness of .09 (SE = .22) and -.58 (SE = .22), respectively. Kurtoses for self-reported NA and PA were -1.14 (SE = .44) and -.14 (SE = .44), respectively, and there were no outliers present in the self-reported personality data.

To reduce method variance for all analyses (Elliot & Thrash, 2002), we conducted principle component factor analyses using a varimax rotation, independently for each self- and informant-reports – the complete results for which have been reported elsewhere (Lieberman et al., 2015). To summarize, factor analyses revealed the same two-factor structure for self- and informant-reports of personality. Reward processing (TEPS), positive emotionality (GTS), extraversion (EPQ), and behavioral activation (BIS/BAS), loaded positively onto a PA factor. Anxiety sensitivity (ASI), negative emotionality (GTS), neuroticism (EPQ), and behavioral inhibition (BIS/BAS) loaded onto an NA factor. The factor loadings from Lieberman et al. (2015) are reported again in Table 1. In the present sample, self- and informant-reports of personality were correlated (PA: $r = .36$, NA: $r = .55$, $p's < .05$).

Data Analysis Plan

Gender and age of the proband were included as covariates for all analyses described below. Given that personality may exhibit some changes over time (e.g., Vaidya et al., 2002 [particularly if symptoms change]), it is possible that the degree of concordance and/or predictive validity between self- and informant-reports may vary as a function of the time spanned between the administrations of each report. Thus, the degree of unique variance provided by each report may be accounted for by the time spanned between reports. The number of days spanned between administrations was therefore also included as a covariate for all analyses below because that number varied across participants. All continuous variables were mean-centered (using the respective sample means for EEG asymmetry and EMG startle analyses). Diagnostic variables included in the analyses were MDD (yes/no) and PD (yes/no). This 2x2 between subjects design is ideal for the present purpose. Studies that do not have the fully crossed design (e.g., only three of the cells) attempt to examine the separate effects of depression or anxiety by “covarying out” the effects of one or the other, an approach that is not ideal (see Miller & Chapman, 2001 for a full description of the flaws of this approach). In other words, the present 2 X 2 design allowed for the examination of the main effects of PD and MDD without confounding those effects. Although this 2x2 variable design allows us to examine the unique and interactive effects of PD and MDD on the relative validity of self- and informant-reported personality, the present sample size did not yield adequate power to conduct analyses of these three-way effects (e.g., MDD x PD x personality).

In order to examine the independent effects of four personality scores (i.e., self- and informant-reported PA and NA) on emotional responding to negative stimuli (i.e., threat) during NPU, we conducted a series of repeated measures general linear models. That is, we ran separate general linear models to examine the effects of self- and informant-reports. However, given that self- and informant-reports of personality were correlated in the present sample (Lieberman et al., 2015), we also examined whether the pattern of results remained when both reports were included in the general linear models. In preliminary models, personality scores (i.e., self- or informant-reported PA or NA), MDD status, PD status, and the two-way interactions of personality X MDD and personality X PD were included as between-subjects factors. Personality scores were kept as continuous independent variables in the SPSS repeated measures ANOVA procedure. Task condition (N, P, and U) and cue (when cue was present vs. ISI) were included as within-subjects factors. This approach enabled for an examination of whether the association between personality (informant- or self-reported) and emotional responding differed by condition of the NPU task (i.e., self-reported personality x condition or informant-reported personality x condition interactions). Magnitude of the eyeblink startle reflex was entered as the dependent variable for analyses of the association between personality reports and physiologically indexed emotional responding to negative stimuli. Self-rated anxiety/nervousness was entered as the dependent variable for analyses of the association between personality reports and subjectively indexed emotional responding to negative stimuli.

The same analyses as above were run to examine the association between personality scores and emotional responding to positive stimuli (i.e., reward) during the slot task. Specifically, personality scores, diagnoses, and the two-way interactions of personality x diagnosis were included as between-subject factors. Task condition (R and NI) was entered as the within-subjects factor. Frontal EEG asymmetry was entered as the dependent variable for analyses of the association between personality reports and physiologically indexed emotional responding to positive stimuli. Self-rated excitement was entered as dependent variable for analyses of the association between personality reports and subjectively indexed emotional responding to positive stimuli. Significant interactions of personality scores by condition were followed up using linear regression models to examine the simple slopes (Aiken & West, 1991) of personality scores in each condition of the task.

Of note, the diagnostic variables X personality effects (i.e., PD x personality and MDD x personality) were all non-significant for both self- or informant-reported personality suggesting that the presence of MDD or PD did not moderate the association between personality and emotional responding (p 's > .36). Thus, all diagnostic variables (i.e., the main effects and interaction terms) were subsequently removed from the analyses for the final models. Lastly, we conducted a series of Z-tests to directly compare the associations between self-reported personality and laboratory indices of emotional responding to the associations between informant-reported personality and laboratory indices of emotional responding (DeCoster, 2005; Steiger, 1980).

Results

Personality Reports and Physiological Indices of Emotion

NPU-Threat task—There was an effect of informant-reported NA, $F(1, 107) = 6.94, p < .05, \eta_p^2 = .06$, but not informant-reported PA, $F(1, 107) = .05, ns$, on startle magnitude averaged across the conditions of the NPU-threat task (see Table 3). There was no significant effect of self-reported personality (NA or PA) on startle magnitude. Neither the two-way interactions of condition (i.e., the effect of conditions N, P, or U) and PA/NA, nor cue (i.e., the effect of the geometric cue across conditions) and PA/NA were significant for self- and informant-reports. There was also no three-way interaction of condition $\times$ cue $\times$ personality for self- or informant-reported NA or PA. Thus, informant-reported NA predicted average startle response during the threat task, but not *change* in startle magnitude to the specific threat conditions (e.g., potentiation of startle to U condition, or in the presence of the geometric threat cue during the P condition). This pattern of results remained when self- and informant-reports of NA were entered together in the model, such that there was a main effect of informant-reported NA ($1, 106) = 6.09, p < .05, \eta_p^2 = .05$, and no significant two-way (i.e., personality $\times$ cue or condition) nor three-way (condition $\times$ cue $\times$ personality) interactions for self- or informant-reported NA. The results of a Z-test also revealed that the association between informant-reported NA and the overall startle magnitude was greater than the association between self-reported NA and overall startle magnitude at a trend level ($z = 1.72, p = .08$).

Slot task—There was a significant condition $\times$ informant-reported PA interaction on frontal EEG asymmetry, $F(1, 107) = 8.19, p < .05, \eta_p^2 = .07$. Follow-up analyses revealed that informant-reported PA positively predicted potentiation of frontal EEG asymmetry (increase in frontal EEG asymmetry during R, relative to NI) during the anticipation of reward, $\beta = 0.26, t(107) = 2.86, p < .05$ (see Table 4). There was no main effect of informant-reported PA, $F(1, 107) = .11, ns$, or NA, $F(1, 107) = 1.69, ns$, on frontal EEG asymmetry averaged across the two conditions of the slot task. There was also no two-way interaction of condition $\times$ informant-reported NA on frontal EEG asymmetry. Like the startle results, there were no significant effects of self-report (PA or NA) on frontal EEG asymmetry.

The pattern of results remained when self- and informant-reports were entered together in the model. More specifically, there was a condition $\times$ informant-reported PA interaction on frontal EEG asymmetry, $F(1, 106) = 8.91, p < .05, \eta_p^2 = .08$, such that informant-reported PA positively predicted potentiation of frontal EEG asymmetry during the anticipation of reward, $\beta = 0.30, t(106) = 2.99, p < .05$. A Z-test revealed that the association between informant-reported PA and EEG asymmetry potentiation to reward was significantly greater than the association between self-reported PA and EEG asymmetry potentiation to reward ($z = 2.25, p < .05$).

Personality Reports and Subjective Indices of Emotion

NPU-Threat Task Anxiety Ratings—There was a main effect of self-reported NA, $F(1, 110) = 32.77, p < .05, \eta_p^2 = .23$, but not PA, $F(1, 110) = .00, ns$, on average self-ratings of

anxiety/nervousness obtained during the NPU-threat task. There was also a main effect of informant-reported NA, $F(1, 110) = 7.21, p < .05, \eta_p^2 = .06$, but not PA, $F(1, 110) = 1.25, ns$, on average self-ratings of anxiety/nervousness obtained during the NPU-threat task (see Table 5). There were no interactions between self- or informant-reported NA, condition (i.e., N, P, U) or cue (i.e., the effect of the geometric cue across conditions). Nor was there a three way interaction of condition $\times$ cue $\times$ personality for self- or informant-reports. Thus, self- and informant-reported NA predicted average anxiety/nervousness ratings during the threat task, but not a change in anxiety/nervousness to the specific threat conditions. The main effect of self-reported NA, $F(1, 109) = 23.82, p < .05, \eta_p^2 = .18$, on average self-ratings of anxiety/nervousness remained when self- and informant-reports of NA were entered in the model together. However, there was no longer a main effect of informant-reported NA, $F(1, 109) = .04, ns$, on average ratings of anxiety/nervousness. That is, the main effect of informant-reported NA on average anxiety/nervousness ratings did not remain after adjusting for the effect of self-reported NA. Additionally, the results of the Z-test revealed that the association between self-reported NA and self-ratings of anxiety/nervousness was significantly greater than the association between informant-reported NA and self-ratings of anxiety/nervousness ($z = 2.86, p < .05$).

Slot Task Excitement Ratings—Akin to the association between self-reported NA and self-ratings of anxiety/nervousness during the threat task, there was a main effect of self-reported PA, $F(1, 109) = 8.49, p < .05, \eta_p^2 = .07$, but not NA, $F(1, 109) = .42, ns$, on subjective ratings of excitement obtained during the slot task (see Table 6). There was no main effect of informant-reported PA or NA, nor were there significant interactions between condition and self- or informant-reported PA or NA, on excitement ratings. The pattern of results remained the same when self- and informant-reports were entered in the model together, such that there was a main effect of self-reported PA $F(1, 108) = 8.02, p < .05, \eta_p^2 = .07$, and no main effect of informant-reported PA. Additionally, the Z-test revealed that the association between self-reported PA and self-ratings of excitement was greater than the association between informant-reported NA and self-ratings of excitement at a trend level ($z = -1.76, p = .08$).

Discussion

The present study is the first to compare validity of self- and informant-reports of personality using laboratory measures of proband emotional response tendencies as the criterion. We found that informant-, but not self-reports of personality were predictive of the proband's physiological responding during emotionally salient laboratory tasks. Conversely, self-, but not informant-reports of personality predicted the proband's subjective responding during emotionally salient laboratory tasks. These associations were valence specific (i.e., PA $\rightarrow$ positive emotion; NA $\rightarrow$ negative emotion). There was no interaction of internalizing psychopathology (i.e., PD or MDD diagnoses) by self- or informant-reported personality on subjective or physiological responding during emotionally salient tasks. Below we discuss these patterns of results and their implications for understanding personality reports.

Personality Reports and Physiological Indices of Emotion

Higher informant-reported PA (but not NA) was positively associated with greater *potentiation* of frontal EEG asymmetry to positive stimuli. Conversely, higher informant-reported NA (but not PA) was associated with on *overall* higher magnitude of the eyeblink startle reflex during the NPU-threat task. However, informant-reported NA did not predict *potentiation* of the eyeblink startle reflex to negative stimuli (i.e., the change magnitude of the eyeblink startle reflex from baseline to conditions of the task that signaled threat).

The association between informant-reported NA and overall startle magnitude may suggest that informant-reported NA is predictive of basal reactivity of the proband's defensive motivational system (Craske et al., 2009). This hypothesis is further supported by the fact that when we explored the association between NA and the average startle response during the habituation period prior to the NPU-threat task, informant reported NA predicted average startle response ($\beta = 0.22$, $t(107) = 2.34$, $p < .05$), but self-reported NA did not ($\beta = 0.12$, $t(107) = 1.26$, *ns*). Given that the defensive motivational system is involved in generating negative emotional states (Lang, Bradley & Cuthbert, 1998), informant-reported NA may be indicative of a physiological preparedness for experiencing negative emotion while *at rest* (or at least at baseline), rather than in response to a specific emotional challenge or aversive stimulus. Relatedly, some studies have shown that average startle magnitude during a laboratory task may actually be more trait-like and genetically mediated than startle potentiation to discrete, emotionally salient stimuli. Two twin studies (Anokhin, Golosheykin, Heath, 2007; Vaidyanathan et al., 2014), found that genetics played a significant role in average startle magnitude, but not emotion modulated startle. Therefore, overall startle magnitude may better capture the propensity to experience negative emotion than change to stimuli. Although previous investigations of the association between personality and baseline startle magnitude have yielded mixed results (Cook, Davis, Hawk, Spence & Gautier, 1992; Craske et al., 2009; Grillon et al., 1993), this is the first study to our knowledge that has examined whether informant-reported personality predicts baseline startle. As self-reported personality was not associated with startle magnitude during the NPU-threat task, informant-reported NA may provide a more reliable predictor of basal startle magnitude than self-reported NA.

In contrast to startle, *potentiation* of frontal EEG asymmetry to emotionally salient stimuli has been posited to be more trait-like than baseline/overall frontal EEG asymmetry, and therefore better captures the propensity to experience positive emotion (Coan et al., 2006; Stewart et al., 2014). The capability model by Coan and colleagues (2006) suggests that measuring frontal EEG asymmetry during an emotional challenge (such as the present slot machine game) provides a more reliable and valid index of one's emotional disposition than resting state frontal EEG asymmetry (Shankman et al., 2007; Stewart et al., 2014). Similar to the effects of startle, the results for EEG asymmetry suggest that informant-reports of PA may be a more valid indicator of a physiological predisposition to experience state changes in positive emotion than self-reports.

Of note is that the superior predictive validity of informant-reports relative to self-reports at predicting physiological responding was supported by the Z-test comparisons. Importantly, the pattern of results for physiological indices of emotional responding remained the same

when self- and informant-reported personality traits were entered together in the model, such that informant-, but not self-reported NA and PA were predictive of startle magnitude and EEG asymmetry. That is, despite the significant correlation between self- and informant-reported personality, informant-reported personality remained predictive of physiologically measured emotional responding even after adjusting for self-reported personality.

Personality Reports and Subjective Indices of Emotion

The subjective indices of emotion yielded a different pattern of results than that of physiological indices of emotion. Self-reported PA positively predicted self-ratings of excitement throughout the slot task, but was not associated with *potentiation* of self-rated excitement to positive stimuli (i.e., change in self-ratings of excitement from no incentive condition, to the reward condition). Informant-reported PA was not predictive of subjective responding during the slot task. The association between PA and self-ratings of excitement was therefore specific to self-reported PA. This pattern of results remained the same when self- and informant-reported traits were entered together in the same model.

In contrast to the specific association between self-reported PA and excitement ratings, self- and informant-reported NA positively predicted self-ratings of anxiety/nervousness throughout the NPU-threat task. However, when both self- and informant-reported NA were in the same model, only the effect of self-reported NA remained significant. Moreover, Z-test comparisons indicated that self-reported NA was a better predictor of anxiety/nervousness ratings during NPU than informant-reported NA. Notably, neither self- nor informant-reported NA predicted *potentiation* of self-rated anxiety/nervousness to negative stimuli (i.e., a change in self-ratings of anxiety/nervousness from the no shock condition, to conditions of the task that signaled threat).

Taken together, these findings suggest that self-, but not informant-reported PA may be predictive of subjectively measured “snapshots” of an individual’s subjective propensity to experience excitement. Informant-reported NA may be predictive of the subjective propensity to experience anxiety. However, given that the association between informant-reported NA and self-rated anxiety/nervousness did not remain when controlling for self-reported NA, it may be that informants fail to provide any additional information about this subjective emotional propensity relative to what the proband can provide about him or herself. Moreover, akin to the valence specific association between informant-reported personality and physiological indices of emotional responding, the associations found with subjectively measured emotional responding were valence specific (i.e., informant/self-reported NA was not associated with excitement ratings during the slot machine task; informant/self-reported PA was not associated with anxiety/nervousness ratings during the NPU threat task).

This overall pattern of results is consistent with the ecological momentary assessment study of Spain et al. (2000) and suggests that self-reported personality may provide a superior index of an individual’s general predisposition to subjectively experience positive or negative emotions throughout a laboratory task, relative to informant-reported personality. It is important to note that subjective reports of emotional responding were not obtained after each trial of the laboratory tasks, but were instead obtained after completion of task blocks.

Subjective reports were therefore somewhat retrospective. It has been suggested that retrospective reports of emotion may be influenced by memory biases, and one's beliefs about how he or she was supposed to feel during the time that the ratings refer to (Robinson & Clore, 2002). Interestingly, these are some of the same factors that may influence ratings of emotionally oriented traits (Paulus, 1991; Robinson & Clore, 2002). The point is not that the self-reported traits and emotions during the task were biased and therefore invalid. Rather, it is possible that the two self-reports were related because similar cognitive processes (and thus method variance; Vazire & Mehl, 2008) contributed to both self-reported personality and self-rated emotional states.

Implications for SOKA model

As stated above, the SOKA model (Vazire, 2010) posits that individuals and informants use different information to assess the individuals personality and that individuals may have privileged access to information about their own physiological and subjective response tendencies (Vazire, 2010). If this is the case, then self-reported personality should be a more valid predictor of physiologically *and* subjectively measured positive and negative emotions, relative to informant-reports. In the present study, this hypothesis from the SOKA model held for subjective/self-report indicators of emotion, but not for physiological indicators (which were only validly predicted from informant-reports of personality). This suggests that the self may not *necessarily* have privileged access to certain physiological responses.

The association between informant-, but not self-reports, and physiological responding is paradoxical to what one might predict given the aforementioned SOKA model, as well as the inherently internal nature of the processes that govern the physiological responses measured in the present study. Although the pattern of results found by the present study is surprising, it does support the growing view that while emotions are composed of physiological, subjective, and behavioral responses, oftentimes, these response channels do not align and individual difference variables predict one channel but not another (Lang, 1994; Mauss et al. 2005; Mauss & Robinson, 2009; Rottenberg, Ray, & Gross, 2007). That is, the results from the present study suggest that self- and informant-reports of personality may each provide valid indices of emotional response tendencies but different components of those tendencies. On the other hand, because the personality and physiological associations did not contain the aforementioned shared method variance that the personality and subjective associations had (i.e., subjective response processes; Robinson & Clore, 2002), it is possible that the informants provided *more* valid indicators of personality than the self. This provocative, but highly speculative, hypothesis requires further inquiry.

Although there was no association between self-reported personality and physiological responses in the present study, it is possible that physiological variables other than the ones measured in the present study (EEG asymmetry and startle) would be more strongly associated with self-reports of personality than informant-reports of personality. For example, individuals may be cognizant of (and thus have privileged access to) their average levels of physiological arousal, which can be indexed by other psychophysiological measures, such as echocardiogram or galvanic skin responding.

Internalizing Psychopathology and Validity

There was no interaction of PD or MDD by personality (self- or informant-reports) on emotional responding. Although some have suggested that proband symptoms of internalizing psychopathology may skew self- or informant-ratings of personality traits, resulting in unreliable or invalid reports (e.g., Case et al, 2007; Hirschfeld et al., 1983; Ormel, Oldehinkel & Vollebergh, 2004), results from the present study did not find evidence of this. Rather, self- and informant-reports of personality provided valid indicators of subjectively and physiologically measured emotion, respectively, regardless of current internalizing psychopathology. If replicated, this has important implications. Clinicians and researchers may therefore be able to obtain accurate predictors of an individual's emotional response tendencies from either source, regardless of current anxiety or depressive symptoms. Of note, we were unable to examine the effect of comorbid depression and anxiety on validity because the present study did not have adequate power to detect this higher order (PD x MDD) interaction (although there was adequate power to detect the 2-way effects for individual diagnoses [i.e., PD or MDD]).

The present study had several noteworthy strengths – the use of a clinical sample to evaluate the relative impact of an anxiety or depressive disorder on the validity of personality reports, two physiological measures of emotional responding (startle to threat and EEG asymmetry to reward) that have been shown to be relatively stable over time (Shankman et al., 2013), and assessing personality using factor analytically derived scores rather than a single measure. However, there were several limitations worth noting. Information was not obtained about the relationship of the informant to the proband, the informants' history of psychopathology, or demographic information. Any of the aforementioned factors could have influenced the validity of informant-reports. As stated above, a small sample size in each of the four diagnostic groups restricted our ability to examine the effect of comorbid anxiety and depression on the validity of self- and informant-reports of personality. In addition, the average time between the collection of self- and informant-reports varied greatly across participants. Although we did control for the number of days spanned in between the administration of self- and informant-reports (and there was no main effect for this variable in any of our models, nor did the pattern of results change when this covariate was removed from our models), this factor may have influenced the validity of each report. However, even with the time spanned between self- and informant-reports, informant-reports were *still* predictive of physiologically measured emotional responding.

Additionally, the majority of observed effect sizes in the present study were small, and we only used one validator of personality (emotional responding), albeit with two channels of responding (physiological and self-report). Future studies should compare the validity of self- and informant reports of personality using other physiological measures (e.g., measures of arousal, such as heart rate and skin conductance). As mentioned above, individuals may be particularly aware of their own physiological arousal and therefore more likely to provide self-ratings of personality that are predictive of arousal during laboratory tasks. Given that the present study only investigated whether PD or early onset MDD moderates the validity of self- or informant-reported personality, future studies should also assess whether other psychopathologies impact the relative validity of either report.

In sum, the present study is the first to our knowledge to compare validity of self- and informant-reports of personality using physiologically measured emotional responding as a criterion variable. In doing so, we found that informant-, but not self-reports were predictive of physiological responding during emotionally salient tasks; and self-, but not informant-reports were predictive of subjective responding during the same tasks. Results suggest that both self- and informant-reports may be valid indicators of different aspects of emotional response propensities.

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Table 1

Results of the Principle Component Factor Analysis of the GTS, EPQ, ASI-R, BIS/BAS, and TEPS

	Self-report Factor 1 (NA)	Self-report Factor 2 (PA)
GTS Negative Emotionality	.91	–.22
EPQ Neuroticism	.90	–.22
BIS/BAS Behavioral Inhibition	.79	–.01
ASI-R Anxiety Sensitivity	.80	–.10
TEPS Reward Processing	–.12	.81
BIS/BAS Behavioral Activation	.14	.72
GTS Positive Emotionality	–.41	.79
EPQ Extraversion	–.30	.82

	Informant-report Factor 1 (NA)	Informant-report Factor 2 (PA)
GTS Negative Emotionality	.90	–.11
EPQ Neuroticism	.90	–.17
BIS/BAS Behavioral Inhibition	.71	–.19
ASI-R Anxiety Sensitivity	.75	.00
TEPS Reward Processing	.00	.74
BIS/BAS Behavioral Activation	.03	.87
GTS Positive Emotionality	–.32	.76
EPQ Extraversion	–.27	.73

Note. Factor loadings > .70 are in boldface

Table 2

Bivariate Correlations of Study Variables

	NA Inf	PA Inf	NA Self	PA Self	Age	Gender	Days	Mean Startle Mag	EEG Pot
NA Inf	--								
PA Inf	.04	--							
NA Self	.56**	-.14	--						
PA Self	-.15	.36**	-.01	--					
Age	-.08	.01	-.02	-.18	--				
Gender	.20*	.11	.10	-.20*	-.01	--			
Days	.12	-.00	.15	-.02	.01	.11	--		
Mean Startle Mag	.26**	.04	.11	-.03	-.12	.11	-.06	--	
EEG Pot	-.01	.23*	-.09	.05	.08	-.15	.06	-.01	--

* $p < .05$
** $p < .01$

Table 3
The Association between Overall Startle Magnitude and Self- or Informant- Reports of NA

	M (SD, range)		B (t-score)		R (R ²)	
Step 1						.18 (.03)
Age	32.63 (12.40, [51.56 – 18.63])		-.10 (-1.04)			
Gender	--		-.13 (-1.37)			
Days Spanned	322.65 (382.38, [.00 – 2,567])		-.08 (-.80)			
Step 2						
NA	-.00 (1.00, [-2.03 – 1.82])	.01 (1.03, [-1.96 – 2.19])	.10 (1.00)	.25* (2.63)	.20 (.01)	.30 (.06*)

Note. NA = Negative Affectivity; Days spanned = number of days spanned in between the administration of self- and informant-reports.

* $p < .05$. Separate models were run for self and informant reports of personality.

Table 4

The Association between Frontal EEG Potentiation to Reward and Reports of PA

M (SD, range)		B (t-score)			R (R ²)	
Step 1						
Age	32.89 (12.62, 18.63 – 70.20)	.07 (.78)				
Gender	--	.14 (1.47)				
Days Spanned	317.21 (385.01, [1.00 – 2,567])	.08 (.87)				
Step 2						
PA	.01 (1.00, [–3.11 – 1.77])	Self	Inf	Self	Inf	Inf
				.03 (.34)	.26* (2.86)	.17 (.00)
						.31 (.07*)

Note. PA = positive affectivity; Days spanned = number of days spanned in between the administration of self- and informant-reports.
* $p < .05$. Separate models were run for self and informant reports of personality.

Table 5

The Association between Overall Anxiety Ratings and Reports of NA

	M (SD, range)		B (t-score)		R (R ²)	
Step 1						.15 (.02)
Age	33.08 (12.56, [18.63 – 70.20])		-.12 (-1.28)			
Gender	--		-.09 (-.29)			
Days Spanned	317.21 (385.01, [00 – 2,567])		-.03 (-.98)			
Step 2						
NA	Self -.01 (.99, [-2.03 – 1.82])	Inf .01 (1.02, [-1.96 – 2.19])	Self .48* (5.73)	Inf .25* (2.69)	Self .50 (.22*)	Inf .29 (.06*)

Note. NA = Negative Affectivity; Days spanned = number of days spanned in between the administration of self- and informant-reports.

* $p < .05$. Separate models were run for self and informant reports of personality.

Table 6

The Association between Overall Excitement Ratings and Reports of PA

	M (SD, range)		B (t-score)				R (R ²)	
Step 1								.23 (.05)
Age	33.08 (12.56, [18.63 – 70.20])					.23 (2.52)		
Gender	--					.02 (.20)		
Days Spanned	316.45 (378.37, [00 – 2,567])					-.02 (-.21)		
Step 2								
PA	Self - .00 (1.00, [-3.11 – 1.77])	Inf .01 (1.07, [-3.08 – 2.72])	Self .24* (2.55)	Inf .06 (.62)	Self .33 (.05*)	Inf .24 (.00)		

Note. PA = positive affectivity; Days spanned = number of days spanned in between the administration of self- and informant-reports.
* $p < .05$. Separate models were run for self and informant reports of personality.