Personality traits and affective states: Relationships with and without affect induction

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ABSTRACT

Substantial evidence shows that extraversion is related to positive affect (PA) and neuroticism is related to negative affect (NA), and there are several possible explanations for these relationships. The current paper replicates these findings and examines relationships between the other Big Five traits with general positive and negative states ($N = 257$). Agreeableness was negatively related to NA, while conscientiousness and openness were positively related to PA. Next, affect was induced and extraversion and conscientiousness predicted changes in affect following an affect-induction ($N = 262$). The current findings support some theoretical understandings of broad personality traits and their relationships to general affect, and also suggests some refinements.

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1. Introduction

Personality is one's characteristic ways of thinking, feeling, and behaving. This paper focuses on the second element: feeling. How people feel, in terms of emotional experience, is an important part of daily life and provides motivation to engage in an array of behaviors. Therefore, it is important to deepen our understanding of relationships between personality traits and affective states.

Consistent findings regarding relationships between personality traits and affect reveal that extraversion is positively related to positive affect (PA) and neuroticism is positively related to negative affect (NA; DeNeve & Cooper, 1998; Lucas & Fujita, 2000). Furthermore, trait-level PA is related to well-being, social potency, achievement, and current PA; and trait-level NA is related to stress reaction, alienation, aggression, angry affect, and current NA (Martin, Watson, & Wan, 2000; Tellegen, 1985). One explanation for these findings is that extraverts are more responsive to potential rewards and neurotics are more responsive to potential punishments (e.g., Larsen & Ketelaar, 1991; Robinson, Moeller, & Ode, 2010), which is based on Gray's theory of behavioral activation and inhibition systems (Gray, 1970; Pickering & Gray, 1999). This explanation is supported by some research (Larsen & Ketelaar, 1991), although other research has not supported this pattern of results (Lucas & Baird, 2004). Other possible explanations of the link between extraversion and PA are incentive motivation theory, in which affective situations/words are processed differently by extraverts and introverts (Robinson et al., 2010); and differential processing of positive and negative affect scenarios that is related to trait levels (Wilkowski, Robinson, & Meier, 2006). The current paper will not test the mechanism behind the results, but instead will extend our knowledge about relationships between personality and affect to include other personality traits and specific emotions.

Some research has examined links between the other Big Five traits and affect, and suggests that agreeableness and conscientiousness are positively related to PA and negatively related to NA, while openness is less strongly related to affect (McCrae & Costa, 1991; Ready & Robinson, 2008). Other relevant research has revealed that agreeableness moderates negative outcomes associated with neuroticism (Ode & Robinson, 2007); and highly agreeable people are less reactive than low agreeables to aggressive primes and more likely to activate prosocial thoughts in response to antisocial words (Meier, Robinson, & Wilkowski, 2006). However, the research on traits other than extraversion and neuroticism is less voluminous, and none of these studies have reported how specific emotions are related to personality. Learning about links with specific emotions has the advantage of laying a groundwork for future studies that examine mechanisms linking emotion with personality.

2. Study 1: Prediction without affect induction

Despite the robust findings regarding the relationships of extraversion and neuroticism with affect, there is less research that

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reports how other broad personality traits are related to affect, or how any broad traits are related to more specific emotions (but see Silvia & Kashdan, 2009). Therefore, the current study examined relations of all of the Big Five personality traits with general and specific affective states.

Hypothesis 1 is that previous findings of relationships between extraversion and PA and between neuroticism and NA will be replicated. Furthermore, based on conceptual and theoretical understanding of these traits in terms of item content used for assessment (International Personality Item Pool, n.d.; John, Naumann, & Soto, 2008), it is predicted that traits will be differentially related to specific emotions. Extraversion will be positively related to feeling excited, enthusiastic, and active; and negatively related to feeling distressed, upset, and nervous. Neuroticism will be positively related to feeling distressed, upset, guilty, scared, irritable, ashamed, nervous, jittery, and afraid.

Hypothesis 2 is that the other Big Five traits will be differentially related to specific affective states. Agreeableness will be negatively related to feeling upset, proud, hostile, irritable, and afraid. Conscientiousness will be positively related to feeling determined and attentive. Openness will be positively related to feeling interested, excited, inspired, and enthusiastic. The predictions are again based on the item content of measures of the Big Five.

Hypothesis 3 is that when traits are examined as simultaneous predictors of affect, extraversion will be the strongest predictor of PA and positive emotions and neuroticism will be the strongest predictor of NA and negative emotions. This hypothesis is based on the literature that primarily reports relations between these two traits and affect, and therefore it is likely that these traits will be most strongly related to affect.

2.1. Study 1: Method

2.1.1. Participants

Participants were 257 students (100 males, 149 females, 8 unknown, M_{age} = 23.77, SD_{age} = 6.78) from Idaho State University who received course credit in exchange for participation. Participants were mostly Caucasian (81.5% Caucasian, 8.7% Hispanic, 9.7% other/unknown).[1]

2.1.2. Measures and procedures

2.1.2.1. Big Five personality traits. After observing videos and making judgments of personality, participants completed self-report measures. Depending on the study they were in, they completed one of two measures of the Big Five traits. The Big Five Inventory (BFI; John et al., 2008) was completed by 166 participants, and the International Personality Item Pool version of the NEO-PI-R for domains (IPIP-NEO-domains; International Personality Item Pool, n.d.) was completed by 91 participants. The BFI has 44 items and reliably assesses each trait (Cronbach's α's = .79–.87; John et al., 2008). The reliabilities for the BFI in the current study were adequate (α's: extraversion = .87, agreeableness = .79, conscientiousness = .67, neuroticism = .84, openness = .75). The IPIP-NEO-domains scale has 50 items and also reliably assesses all traits (α's = .77–.86) and correlates highly with the NEO-PI-R (International Personality Item Pool, n.d.). The reliabilities for the IPIP-NEO-domains in the current study were also adequate (α's: extraversion = .89, agreeableness = .79, conscientiousness = .81, neuroticism = .84, openness = .74).

2.1.2.2. Positive and negative affect. All participants completed the Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988), which consists of 10 items assessing PA and 10

items assessing NA. For each item, participants indicate the extent to which they feel each emotion in general. For the general instructions, the PANAS has good internal consistency and adequate test–retest reliability. In the current data, the reliabilities for both subscales were high (α's: PA = .83, NA = .85).

2.2. Study 1: Results

See online Supplementary materials for descriptive statistics for both studies.

The results will be presented as beta coefficients from simultaneous regressions in which the mean-centered trait scores were used to predict affect. The five traits accounted for significant variance in PA (R^2 = .32, $F(5,249)$ = 22.98, $p < .001$); with extraversion (β = .34, $p < .001$), conscientiousness (β = .26, $p < .001$), neuroticism (β = −.14, p = .02), and openness (β = .14, p = .01) accounting for unique variance (see Table 1). The five traits also accounted for significant variance in NA (R^2 = .39, $F(5,249)$ = 31.48, $p < .001$); with extraversion (β = −.11, p = .04), agreeableness (β = −.17, p = .002), and neuroticism (β = .49, $p < .001$) accounting for unique variance.

All specific emotions were significantly predicted by the set of traits (positive emotions: R^2 = .12–.20, p's < .001; negative emotions: R^2 = .12–.24, p's < .001). For extraversion, the largest positive predictors included enthusiastic (β = .34, $p < .001$), excited (β = .33, $p < .001$), interested (β = .22, $p < .001$), and active (β = .22, $p < .001$); the largest negative predictors included guilty (β = −.20, $p < .001$), nervous (β = −.14, p = .02), and jittery (β = −.14, p = .02). For neuroticism, the largest positive predictors included distressed (β = .43, $p < .001$), nervous (β = .40, $p < .001$), and afraid (β = .38, $p < .001$); the only significant negative predictor was strong (β = −.34, $p < .001$). For agreeableness, there was only one significant positive predictor, and it was of small magnitude (enthusiastic; β = .13, p = .03); the largest negative predictors were hostile (β = −.31, $p < .001$), irritable (β = −.31, $p < .001$), and upset (β = −.24, $p < .001$). For conscientiousness, the strongest positive predictors were attentive (β = .30, $p < .001$), determined (β = .27, $p < .001$), and alert (β = .26, $p < .001$); there were not any significant negative predictors. For openness, the strongest positive predictors were inspired (β = .23, $p < .001$), interested (β = .16, p = .008), and determined (β = .16, p = .008); there were not any significant negative predictors.

Hypothesis 3 was supported, in that extraversion was associated with the largest beta coefficients for PA for 4 of 10 positive emotions (and was .01 less for a fifth emotion); and neuroticism was associated with the largest beta coefficients for NA for 8 of 10 negative emotions.

2.3. Study 1: Discussion

In general, good support was found for the hypotheses. Extraversion was related to PA and neuroticism was related to NA. Extraversion accounted for unique variance in four out of the six predicted emotions (excited, enthusiastic, active, nervous), and in 10 other specific emotions. Neuroticism accounted for unique variance in all nine emotions it was predicted to be most strongly related to, and in two other emotions.

Support was also found for the predictions for the other traits. Agreeableness accounted for unique variance in three out of four predicted emotions, and to two other emotions. Conscientiousness accounted for unique variance in both of the predicted emotions, and in four other emotions. Openness accounted for unique variance in two out of four predicted emotions, and in three other emotions.

Extraversion and neuroticism do appear to be the traits with the strongest links to emotion. Additionally, agreeableness and conscientiousness have a number of links to specific emotions. If the rela-

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[1] Percentages are based on N = 195 due to a data recording error.