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# Distinguishing Evaluation From Description in the Personality-Emotion Relationship

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*Personality characteristics and emotional experiences contain both descriptive and evaluative aspects. The purpose of the present study was to test whether evaluation was a mediator in two well-established personality-emotion relationships. Using structural equation modeling procedures with two samples of participants, the authors demonstrated that evaluation fully mediated the relationship between neuroticism and negative affect and partially mediated the relationship between extraversion and positive affect. The results suggest that both description and evaluation components are essential to understanding the complex relationships between personality and emotion.*

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**T**he concept of evaluation is not new to psychologists. Formally, an evaluation is a valenced (i.e., positive or negative) judgment about a stimulus. Evaluation is assumed to be among the most pervasive and dominant of human responses (Jarvis & Petty, 1996); thus, it is not surprising that it is a component of many important psychological processes (for a review, see Tesser & Martin, 1996). Evaluative content has been identified in attitudes toward the self (Bjorklund & Green, 1992; Norem & Cantor, 1986; Suls & Mullen, 1982; Wayment & Taylor, 1995), toward other objects (Bargh, 1990; Bargh, Chaiken, Govender, & Pratto, 1992; Fazio, Sanbonmatsu, Powell, & Kardes, 1986), in emotion knowledge (Feldman Barrett, 1996; Morgan & Heise, 1988), and in personality characteristics (Peabody, 1967; Saucier, 1994). In addition, evaluation is a fundamental part of our language structure (Osgood, Suci, & Tannenbaum, 1957) and can be detected with various neurological, physiological, and behavioral indices (e.g., Cacioppo, Crites, Gardner, & Berntson, 1994; Cacioppo, Petty, Losch, & Kim, 1986; Cacioppo, Priester, & Berntson, 1993). Recently, the tendency to make evaluations has been identified as a personality characteristic because

people differ both in their likelihood and extent of evaluative responding (Jarvis & Petty, 1996).

Most personality descriptors, such as those in standard self-report measures, contain both an evaluative and a descriptive component (Peabody & Goldberg, 1989; Rorer, 1990; Saucier, 1994). The descriptive component of a personality adjective refers to the portrait of the person's attributes independent of desirability, whereas the evaluative component refers to the desirability of a characteristic. Consider the personality term "neurotic." When you refer to someone as neurotic, you are not only describing the person as emotionally intense and reactive but you are also using a term that connotes an undesirable, negatively evaluated attribute. If you had labeled the person as passionate or sensitive, you would be providing similar descriptive information about the person, but with a more neutral or positive evaluation. Some theorists propose that evaluation and description in personality judgments can be separated by selecting items that are neutral in content or by using scales to measure people's tendency to respond to items on the basis of evaluative content (Paulhus, 1984; Paulhus, Bruce, & Trapnell, 1995; Saucier, 1994).

All theorists agree that the descriptive or nonevaluative aspects of the personality terms contain valuable information for researchers. However, theorists disagree on the psychological value of the evaluative component.

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Some view evaluation as an artifact (e.g., Saucier, 1994), whereas others believe it is an intrinsic and socially meaningful part of most personality characteristics (e.g., Borkenau, 1990; Hogan, 1983). Whether it is seen as psychologically meaningful, it seems to be the case that to be well understood, research must take account of both the evaluative and descriptive components associated with personality characteristics.

Emotion descriptors also contain both descriptive and evaluative aspects (Feldman Barrett, 1996). Valence plays a dominant role in self-report ratings of emotional experience (e.g., Feldman, 1995a, 1995b; Mayer & Gaschke, 1988; Meyer & Shack, 1989; Russell, 1980; Russell & Mehrabian, 1977; Smith & Ellsworth, 1985). The valence of an emotion term refers to both its hedonic tone and evaluative connotation (Feldman Barrett, 1996). For example, when you say that you are sad, you are not only indicating that you feel unpleasant, you might also be indicating an evaluation of your feeling (i.e., "this is a bad feeling to be having" or "I dislike having this feeling"). Many investigators consider the valence of emotions to be the single most important dimension of affective experience (cf. Diener, 1993; Russell, 1991).

#### *The Role of Evaluation in the Personality-Emotion Relationship*

The personality characteristics of neuroticism and extraversion have been associated with the experience of negative and positive emotions, respectively. Traditionally, neuroticism has been defined as emotional instability or the tendency to experience psychological distress, and extraversion has been defined as sociability or the tendency to be active and social (Costa & McCrae, 1991). Simple correlational research has accumulated to indicate that negative emotions are associated with neuroticism and positive emotions with extraversion (e.g., Izard, Libero, Putnam, & Haynes, 1993; Larsen & Ketellar, 1991; McCrae & Costa, 1991; Watson & Clark, 1992). These findings have led some to rename the personality constructs to reflect the notion that their core features are affective in nature. Neuroticism has been referred to as negative emotionality or negative temperament and extraversion has been referred to as positive emotionality or positive temperament (Tellegen, 1985; Watson & Clark, in press). Neurotics have been described as those who are sensitive to negative cues or punishment in the environment leading to increased negative affect, whereas extraverts have been described as individuals who are sensitive to positive or reward cues leading to increased positive affect (Carver & White, 1994; Gray, 1987a, 1987b; Tellegen, 1985).

Because both personality characteristics and emotional experiences contain evaluative information, the

well-established relationships between neuroticism and negative affect, and between extraversion and positive affect, may in part be accounted for by what personality and emotion share descriptively (e.g., the individuals who describe themselves as neurotic experience a lot of unpleasant emotions), by what they share evaluatively (e.g., it is a bad thing to experience unpleasant emotions and to have the personality characteristics of neuroticism), or by both. To date, no one has parsed the relationship between personality and emotion into its evaluative and descriptive parts. This would seem a necessary step to fully understand the relationship between personality and emotional experience.

#### THE PRESENT STUDY

The purpose of the present study was to determine whether evaluation mediated the personality-emotion relationships that have been previously observed. Because neuroticism contains a large evaluative component (Peabody, 1984, 1987; Peabody & Goldberg, 1989; Saucier, 1994), we predicted that the neuroticism-negative emotion relationship would be largely mediated by evaluation. In contrast, extraversion is not as strongly related to evaluation (Peabody, 1984, 1987; Peabody & Goldberg, 1989; Saucier, 1994); therefore, we predicted that the extraversion-positive emotion relationship would only be partially mediated by evaluation.

To test these hypotheses, we first examined whether personality characteristics were related to self-report ratings of emotional experience, unmediated by evaluation. The personality-emotion relationship is represented by the path model presented in Figure 1a. For example, the relationship between neuroticism and negative affect would be represented by path p31; this path represents the total effect, or zero-order correlation, between neuroticism and negative affect. The relationship between neuroticism and evaluation would be represented by path p21; this path represents the total effect, or zero-order correlation, between neuroticism and evaluation. In this first model, evaluation and negative affect are not related to one another.

Second, we tested the hypothesis that evaluation mediated the personality-emotion relationship. This path model is presented in Figure 1b. For example, the unique relationship between evaluation and negative affect would be represented by path p32 (i.e., path p32 depicts the direct effect of evaluation on negative affect, controlling for neuroticism). The indirect path from neuroticism to negative affect via evaluation would be represented by the product of paths p21 and p32. Path p31' in this figure represents the direct effect of neuroticism on negative affect, controlling for evaluation, thus representing the relationship between descriptive components. If evaluation fully mediates the personality-

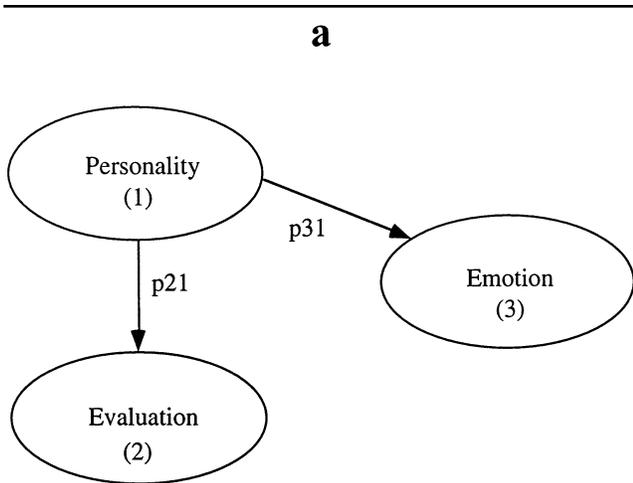


Figure 1a The total effect of personality on emotion.

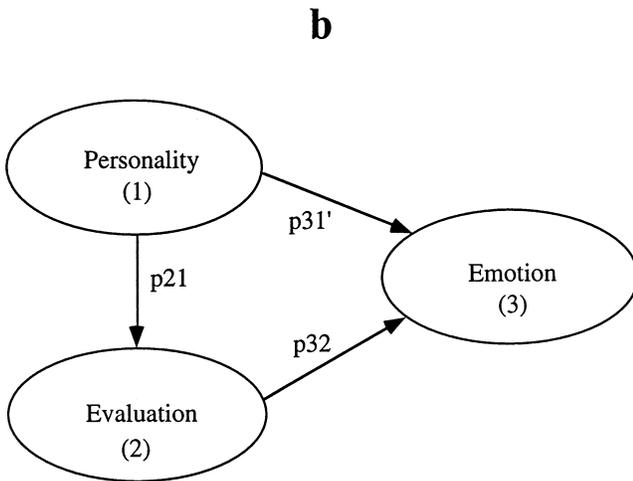


Figure 1b Evaluation as a potential mediator in the personality-emotion relationship.

emotion relationship, then path  $p31'$  should not differ significantly from 0 (indicating that the relationship between neuroticism and negative affect was completely due to the indirect path through evaluation). If evaluation only partly mediates the personality-emotion relationship, then path  $p31'$  should be significantly reduced when compared to Figure 1a, but the path will remain significantly different from 0 (Baron & Kenny, 1986; Kenny, Kashy, & Bolger, 1998). This finding would indicate that personality was related significantly to self-reported emotion, even after the effect of evaluation is controlled, and therefore likely due to related descriptive components. To further test the mediation hypothesis, we ran the path model presented in Figure 1c. In this

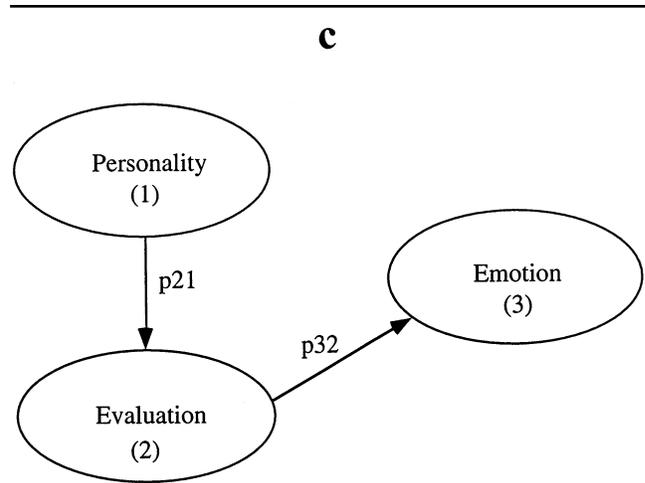


Figure 1c Confirming the mediator hypothesis.

model, path  $p31'$ , the direct effect of neuroticism on negative affect, was not estimated. If the model fit did not change after removing this path, then we could be confident that evaluation fully mediated the personality-emotion relationship.

METHOD

*Participants*

Sample 1 participants were 205 undergraduate students (146 female); Sample 2 participants were 241 undergraduate students (156 female) enrolled in introductory psychology and human development courses at Pennsylvania State University. Both samples completed this study for extra credit toward their final grade.

*Procedures and Measures*

Participants in both samples completed a packet of personality and emotion questionnaires. The packet included the following measures presented in random order:

*Emotion measure.* The Positive Affect Negative Affect Scale Expanded Version (PANAS-X) (Watson & Clark, 1994) measured Negative Affect (NA) and Positive Affect (PA) (Watson, Clark, & Tellegen, 1988). It contained 60 items measuring current emotional states on a 7-point Likert-type scale (0 = not at all, 1 = very slightly, 3 = a moderate amount, 5 = a great deal, 6 = extremely). NA and PA were each measured with 10 items. Alpha coefficients for both of these scales indicated that they are highly reliable ( $r = .89$ ,  $r = .85$ , respectively) (Watson, Clark, & Tellegen, 1988).

*Personality measures.* Multiple measures of extraversion and neuroticism were used. The Revised NEO

Personality Inventory (NEO PI-R) (Costa & McCrae, 1991) is a commonly used measure of the five-factor model that has demonstrated acceptable reliability and validity. Each personality dimension was measured with 48 items (six facet subscales consisting of 8 items each). Participants responded to each item using a 5-point Likert-type rating scale (1 = *strongly disagree*, 3 = *neutral*, 5 = *strongly agree*). Only the Neuroticism (NEO-N) and Extraversion (NEO-E) scales were used in the present study. Neuroticism was measured with the Anxiety, Hostility, Depression, Self-Consciousness, Impulsiveness, and Vulnerability facet subscales of the NEO PI-R; Extraversion was measured with Warmth, Gregariousness, Assertiveness, Activity, Excitement-Seeking, and Positive Emotions facet subscales. Alpha coefficients for both of these scales indicated that they are highly reliable ( $r = .92$ ,  $r = .89$ , respectively) (Costa & McCrae, 1991).

The Saucier Personality Scale (Saucier, 1994) is a measure that was designed to separate the evaluative and descriptive aspects of personality ratings. The scale contains five dimensions, four of them reflecting evaluatively neutral personality descriptions and one reflecting evaluation. Each dimension is measured by a set of personality terms on a 5-point Likert-type rating scale (1 = *not at all descriptive of me*, 3 = *moderately descriptive of me*, 5 = *very descriptive of me*). The descriptive component of extraversion was measured by the 16-item Interaction Orientation (IO) scale of the Saucier measure. The descriptive component of neuroticism is measured by the 16-item Affective Orientation (AO) scale. The Saucier Scale also has a 24-item General Evaluation (GE) scale that reflects the degree to which an individual endorses socially desirable traits, independent of description (Saucier, 1994). Alpha coefficients for these three scales indicated that they are highly reliable ( $r = .90$ ,  $r = .86$ , and  $r = .84$ , respectively) (Saucier, 1994).

The Eysenck Personality Inventory (EPI) (Eysenck & Eysenck, 1964) is a 57-item questionnaire that measures neuroticism, extraversion, and desirable response sets with a lie scale. Participants responded to each item on a dichotomous yes-no scale. Only the neuroticism (EPI-N) (24 items) and extraversion (EPI-E) (24 items) scales were employed in this study. Test-retest reliability was measured with elapsed time of 1 year and 9 months. Both scales were highly reliable ( $r = .84$  to  $r = .92$ , respectively, for neuroticism; and  $r = .88$  to  $r = .94$ , respectively, for extraversion) (Eysenck & Eysenck, 1964).

*Evaluation measures.* In addition to the GE scale of the Saucier measure described above, we used two other indicators of evaluation. The Balanced Inventory of Desirable Responding (BIDR) (Paulhus, 1988) is a commonly used self-report measure of self-deception (20 items) and impression management (20 items). Self-

deception (SDE) more closely resembles the psychodynamic concept of defense because it is conceptualized as the unconscious process of deceiving the self to protect against threat; it assesses the stable characteristic of implicitly maintaining a self-protective stance rather than assessing changes or fluctuations in self-protection in response to stimuli in the environment. Impression management (IM) is conceptualized as the conscious deception of others (Paulhus, 1988; Sackeim & Gur, 1979). Participants rated their agreement with the 40 BIDR items on a 7-point Likert-type scale (1 = *not true of me*, 7 = *very true of me*). The scoring key was balanced, and only extreme responses were scored. In both our samples, alpha coefficients indicated that IM ( $r = .73$ ,  $r = .70$ , respectively) and SDE ( $r = .63$ ,  $r = .69$ , respectively) are reliable scales.

#### Data Analyses

Structural equation modeling was used to determine whether evaluation mediated the relationship between neuroticism and NA and between extraversion and PA, respectively. Covariance matrices for measured variables were submitted to confirmatory factor analyses (CFA) and structural equation modeling (SEM) using LISREL VIII (Joreskog & Sorbom, 1993). Standardized solutions are reported.

Four different fit indices are reported to assess the degree to which the hypothesized model was consistent with the observed data. First, we used the chi-square statistic that tests the null hypothesis that the specified theoretical model reproduces the covariance matrix of the observed variables. A significant chi-square indicates that the reproduced covariance matrix is significantly different from the observed covariance matrix. The chi-square, however, is dependent on sample size such that a good model may be significant merely because of a large sample (Bentler, 1990). Differences in the chi-square statistic are useful in determining the relative fit of different models for the same data. Second, we used the Goodness of Fit Index (GFI). This index ranges from 0 (*complete lack of fit*) to 1 (*perfect fit*), except under unusual circumstances with a very poor fit when it can become negative. Unlike the chi-square statistic, the GFI is free from sample size constraints. A GFI near .90 or greater is considered indicative of a good fit. Third, we used the Comparative Fit Index (CFI) (see Bentler, 1990; Bentler & Bonnett, 1980). The CFI is a normed-fit index that evaluates the adequacy of the specified model in relation to the baseline model. The most restricted baseline model (called a null model) is used to calculate the CFI. The CFI coefficients range from 0 to 1, with higher values indicating better fit. The rule of thumb is that a normed fit near .90 or greater indicates that the specified model fits the data well (Bentler & Bonnett, 1980). Fourth, we

used the root mean squared error of approximation (RMSEA) (Steiger, 1990). The RMSEA is a "badness of fit" measure based on the analysis of residuals. Smaller values indicate a better fit. Values less than .10 suggest a good fit; values less than .05 indicate a very good fit (Kelloway, 1998; Steiger, 1990).

## RESULTS

It is typically considered prudent to check the fit of the measurement model for each construct in an analysis before testing the fit of a structural model (Kelloway, 1998). Therefore, we first assessed the measurement models for the evaluation and personality latent constructs. Next, we assessed the path model presented in Figure 1a to determine the total relationship between personality and emotion. Then we tested the path model presented in Figure 1b to determine whether the relationship between personality and emotion was mediated by evaluation. We compared these models to determine whether including evaluation as a mediator improved the model's fit. Finally, we tested the model presented in Figure 1c to determine whether the direct path between personality and emotion could be eliminated without affecting the model's fit.

In all analyses, the personality and evaluation factors were scaled by fixing one of the observed variable loadings for each latent variable to 1.0 (NEO-N, NEO-E, and GE, respectively). We estimated the random measurement error in each observed variable and estimated systematic error by correlating the errors for variables taken from the same questionnaire. The latent emotion factors were indicated by only one observed variable (measured NA and measured PA, respectively); thus, random error was not estimated for these variables.<sup>1</sup>

We used a multisample analysis to assess all measurement and structural models of interest. A multisample analysis examines two or more samples simultaneously and allows for tests of equivalence by constraining all or some parameters to be equivalent (Joreskog & Sorbom, 1993). We first ran all analyses as a multisample analysis without requiring any equivalence between them. We tested the equivalence of the measurement properties by constraining all estimated model parameters to be invariant across samples. Constraining the parameters in this way did not affect the fit of the measurement models in any sample. By demonstrating equivalence of measurement properties, we could assume that the latent variables were characterized by the observed variables in the same way for both samples and that their measurement was reliable. In addition, we tested whether the structural relations between the latent variables in a given structural equation model were equivalent. We constrained all estimated parameters except those representing the residual (unexplained) variance of the latent

variables for each model tested. Once again, these constraints did not significantly affect the fit of any model, allowing us to maintain this equality for all structural equation models maximizing stability in model fit and estimated parameters.

### *Neuroticism and NA Analyses*

The top half of Table 1 gives the correlation matrix for the observed ratings in Sample 1, and the bottom half gives the observed correlation matrix for Sample 2.<sup>2</sup> The correlations between the evaluation measures and the neuroticism scales are negative because the evaluation measures were positively anchored.

A measurement model was specified with two latent factors, one corresponding to neuroticism and the other corresponding to evaluation. Each factor was indicated by three observed variables. The latent neuroticism factor was indicated by NEO-N, EPI-N, and AO. The latent evaluation factor, tapping the extent to which participants responded to the evaluative aspects of a psychological construct, was indicated by GE, IM, and SDE. The measurement properties were constrained to be equivalent across samples. The measurement model reported in Table 2 fit the data well,  $\chi^2(27) = 73.54$ ,  $p < .01$  (GFI = .94, CFI = .95, RMSEA = .09).

Next, we tested the model presented in Figure 1a to examine the simple relationship between neuroticism and NA (i.e., where evaluation does not mediate the relationship). We allowed neuroticism to predict both NA and evaluation but did not allow evaluation to predict NA. Table 3 presents the fit indices for each structural equation model. In this nonmediated model, neuroticism predicted both NA (path  $p31 = .38$ ,  $p < .01$ ) and evaluation (path  $p21 = -.64$ ,  $p < .01$ ).<sup>3</sup>

We then tested the model presented in Figure 1b to examine whether evaluation mediated the relationship between neuroticism and NA by allowing neuroticism to predict evaluation and both evaluation and neuroticism to predict NA. The path from evaluation to NA was significant (path  $p32 = -.60$ ,  $p < .01$ ), as was the path from neuroticism to evaluation (path  $p21 = -.74$ ,  $p < .01$ ). The direct effect from neuroticism to NA was no longer significant when evaluation was allowed to predict NA (path  $p31' = .10$ , *ns*) and was significantly smaller than path  $p31$  ( $z = 9.87$ ,  $p < .01$ ). Furthermore, the mediated model fit the data significantly better than did the nonmediated model,  $\chi^2$  difference(1) = 97.18,  $p < .01$ .

Finally, to test whether the direct path from neuroticism to NA could be eliminated without changing the model fit, we estimated the fully mediated model presented in Figure 1c and compared it to the mediator model reported above. When path  $p31'$  was removed, neuroticism continued to predict evaluation (path  $p21 = -.84$ ,  $p < .01$ ) and evaluation continued to predict NA

**TABLE 1: Zero-Order Correlations for Samples 1 and 2**

	1	2	3	4	5	6	7	8	9	10	11	M	SD
Sample 1													
1. Neuroticism (NEO PI-R)	—											100.76	24.03
2. Neuroticism (Eysenck)	<b>.79**</b>	—										11.85	5.48
3. Affective Orientation	<b>.25**</b>	<b>.21**</b>	—									<b>.52</b>	<b>.52</b>
4. Extraversion (NEO PI-R)	-.29**	-.30**	.04	—								132.05	19.99
5. Extraversion (Eysenck)	-.18*	-.14	-.07	<b>.64**</b>	—							13.56	4.27
6. Interaction Orientation	-.20**	-.18*	-.07	<b>.73**</b>	<b>.56**</b>	—						.30	.81
7. General Evaluation	-.54**	-.49**	.21**	.30**	.05	.12	—					1.05	.40
8. Self-Deception	-.52**	-.43**	.02	.18*	-.05	.12	<b>.41**</b>	—				5.02	2.91
9. Impression Management	-.26**	-.25**	.16*	-.07	-.17*	-.18*	<b>.36**</b>	<b>.41**</b>	—			5.06	3.27
10. Negative Affect	.58**	.55**	.02	-.10	-.02	-.04	-.51**	-.34**	-.26**	—		1.22	1.12
11. Positive Affect	-.23**	-.18*	-.07	.31**	.13	.24**	.23**	.17*	.07	-.18**	—	2.95	1.17
Sample 2													
1. Neuroticism (NEO PI-R)	—											100.33	22.96
2. Neuroticism (Eysenck)	<b>.82**</b>	—										11.99	5.35
3. Affective Orientation	<b>.36**</b>	<b>.29**</b>	—									0.40	0.60
4. Extraversion (NEO PI-R)	-.27**	-.18**	.06	—								132.73	18.20
5. Extraversion (Eysenck)	-.19**	-.16**	-.13	<b>.66**</b>	—							13.92	4.10
6. Interaction Orientation	-.16*	-.13	-.13	<b>.68**</b>	<b>.57**</b>	—						0.31	0.70
7. General Evaluation	-.33**	-.27**	.17*	.32**	-.01	.01	—					1.01	0.38
8. Self-Deception	-.54**	-.43**	-.28**	.28**	.11	.18*	<b>.33**</b>	—				4.96	3.18
9. Impression Management	-.12	-.10	.16*	-.01	-.28**	-.18*	<b>.36**</b>	<b>.34**</b>	—			4.74	3.09
10. Negative Affect	.42**	.48**	.04	-.12	-.02	.02	-.40**	-.30**	-.18**	—		0.99	0.95
11. Positive Affect	-.31**	-.25**	-.04	.30**	.12	.20**	.27**	.21**	.19**	-.10	—	2.73	1.18

NOTE: NEO PI-R = Revised NEO Personality Inventory. Bold numbers represent intercorrelations of all indicators for each construct. \* $p < .05$ , two-tailed. \*\* $p < .01$ , two-tailed.

**TABLE 2: Standardized Parameter Estimates for the Neuroticism-Evaluation Multisample Measurement Model**

Indicator	Neuroticism	Evaluation
Neuroticism (NEO PI-R)	.98	
Neuroticism (Eysenck)	.82	
Affective Orientation	.31	
General Evaluation		.56
Self-Deception		.66
Impression Management		.31

NOTE: NEO PI-R = Revised NEO Personality Inventory.

**TABLE 3: Fit Indices for the Multisample Analyses of the Neuroticism–Negative Affect Models**

	$\chi^2$	df	GFI	CFI	RMSEA
Nonmediated model	213.54	36	.89	.84	.14
Mediator model	116.36	35	.91	.93	.07
Fully mediated model	117.77	36	.91	.93	.10

NOTE:  $\chi^2$  = chi-square statistic, GFI = Goodness of Fit Index, CFI = Comparative Fit Index, RMSEA = root mean squared error of approximation.

(path  $p_{32} = -.64$ ,  $p < .01$ ). The fully mediated model fit the data as well as the mediator model,  $\chi^2$  difference (1) = 1.41, *ns*. Because dropping the path between neuroticism and NA did not result in a significant change in the model’s fit, we retained the fully mediated model as the most parsimonious solution (Kelloway, 1998).

Taken together, this series of SEM analyses provided support for our hypothesis that evaluation fully mediated the neuroticism-NA relationship. The descriptive aspects did not significantly account for any of the relationship between neuroticism and NA.

*Extraversion and PA Analyses*

A measurement model was specified with two latent factors, one corresponding to extraversion and the other corresponding to evaluation. Each factor was indicated by three observed variables. The latent extraversion factor was indicated by NEO-E, EPI-E, and IO. The latent evaluation factor was indicated by GE, IM, and SDE. The measurement properties were constrained to be equivalent across samples. The measurement model reported in Table 4 fit the data well,  $\chi^2(27) = 129.81$ ,  $p < .01$  (GFI = .90, CFI = .88, RMSEA = .09).

We tested the model presented in Figure 1a to examine the total effect of extraversion and PA (i.e., where

**TABLE 4: Standardized Parameter Estimates for the Extraversion-Evaluation Measurement Model**

Indicator	Extraversion	Evaluation
Extraversion (NEO PI-R)	.93	
Extraversion (Eysenck)	.60	
Interaction Orientation	.40	
General Evaluation		.40
Self-Deception		.27
Impression Management		.25

NOTE: NEO PI-R = Revised NEO Personality Inventory.

**TABLE 5: Fit Indices for the Multisample Analyses of the Extraversion-Positive Affect Models**

	$\chi^2$	df	GFI	CFI	RMSEA
Nonmediated model	165.66	36	.89	.86	.09
Mediator model	134.64	35	.91	.89	.08
Fully mediated model	149.69	36	.90	.88	.08

NOTE:  $\chi^2$  = chi-square statistic, GFI = Goodness of Fit Index, CFI = Comparative Fit Index, RMSEA = root mean squared error of approximation.

evaluation does not mediate the relationship). Table 5 presents the fit indices for each structural equation model.<sup>4</sup> In this nonmediated model, extraversion was related to PA (path p31 = .25,  $p < .01$ ) but not to evaluation (path p21 = .19, *ns*).

Next, we tested the model presented in Figure 1b to examine whether evaluation mediated the relationship between extraversion and PA. The path from evaluation to PA was significant (path p32 = .31,  $p < .01$ ), as was the path from extraversion to evaluation (path p21 = .29,  $p < .01$ ). The direct effect from extraversion to PA remained significant (path p31' = .21,  $p < .01$ ) but was considerably smaller than the total effect of extraversion on PA ( $z = 2.50$ ,  $p < .02$ ). Furthermore, the mediated model fit the data significantly better than did the nonmediated model,  $\chi^2$  difference(1) = 31.02,  $p < .01$ .

Finally, to test whether the direct path from extraversion to PA could be eliminated without changing the model fit, we estimated the fully mediated model presented in Figure 1c and compared it to the mediator model reported above. When path p31' was removed, extraversion continued to predict evaluation (path p21 = .44,  $p < .01$ ) and evaluation continued to predict PA (path p32 = .40,  $p < .01$ ) but the fully mediated model did not fit the data as well as the mediator model,  $\chi^2$  difference(1) = 15.05,  $p < .01$ . We retained the mediator model as the model with the best fit.

Taken together, this series of SEM analyses provided support for our hypothesis that evaluation partially

mediated the extraversion-positive affect relationship. The evaluative and descriptive aspects together accounted for the relationship between extraversion and positive affect.

## DISCUSSION

The results of this study clearly demonstrate that evaluation mediated the relationships between neuroticism and negative affect and between extraversion and positive affect. Evaluation fully mediated the neuroticism-negative affect relationship, meaning that the entire relationship was due to the evaluation components shared by the two psychological characteristics. Individuals who endorsed undesirable traits on evaluation measures reported more negative affect and described themselves as more neurotic than did those who did not endorse undesirable traits. When evaluation was controlled, the direct relationship between neuroticism and negative affect disappeared. Evaluation only partially mediated the extraversion-positive affect relationship, meaning that the relationship was due to both evaluative and descriptive components shared by the two psychological characteristics. Individuals who endorsed desirable traits on evaluation measures also reported more positive affect and described themselves as more extraverted than did those who did not endorse such traits, but this did not fully account for the extraversion-positive affect relationship. When evaluation was controlled, the direct relationship between extraversion and positive affect was significantly reduced but remained greater than 0. The increased impact of evaluation in the neuroticism-negative affect relationship may be accounted for by the fact that as predicted, neuroticism was more strongly related to evaluation than was extraversion.

The way in which one interprets these findings depends on whether evaluation is merely a response artifact or a valid component of the personality and emotion constructs. The former view is akin to saying that personality scores are, in part, the result of a tendency to endorse undesirable traits (i.e., we would reverse the direction of path p21 such that concerns over evaluation, in part, influence how individuals respond to neuroticism scales). This perspective would lead to the interpretation that the neuroticism-negative affect relationship is completely spurious because it is due to factors that are not intrinsic to either personality or emotion. Similarly, from this point of view, the true extraversion-positive affect relationship is smaller than that observed because some of the covariance is due to response characteristics that are not essential to either construct.<sup>5</sup>

We would argue, however, that the latter view, one where evaluation is a valid component of personality and

emotion constructs, is more tenable. Evaluation can be viewed as a substantive aspect of personality because it provides valuable social information (e.g., Hogan, 1983) and has social currency (i.e., the degree to which people conform to social norms, including one's willingness to admit undesirable attributes, has social consequences). Furthermore, in this study, the descriptive personality scales (AO and IO) (Saucier, 1994) constructed from supposedly evaluatively neutral terms, each correlated with some evaluation measures, suggesting that it may be practically impossible to completely remove evaluation from the measurement of personality.<sup>6</sup> If neuroticism is intended to measure something maladaptive, then an inability or unwillingness to censor negative experiences (either from one's self or from others) may be an appropriate part of the neuroticism construct. To some extent, a willingness to violate the social norm of pleasantries in favor of reporting negative experiences when they are genuinely felt may be an important aspect of neuroticism. Similarly, emotion can be seen as an interpersonal phenomenon designed to facilitate social communication, and therefore, as with personality, the evaluation component is socially meaningful. From this perspective, the findings of the present study indicate that the neuroticism-negative affect relationship is completely due to the evaluative aspects that both share, suggesting that neurotic individuals may not be more emotional people per se but rather may be more willing to admit undesirable emotional experiences. Individuals who describe themselves as neurotic may have a lower threshold for admitting that they possess negative attributes or that they experience unpleasant feelings, perhaps because of low self-esteem, a propensity toward self-criticism, or a lack of concern for social norms. In contrast, extraverted individuals may indeed be happier in addition to having a tendency to endorse desirable traits. Individuals who describe themselves as extraverted may be more willing to endorse positive characteristics in part because they are confident or because it is important to them to conform to social norms. Either path may lead the extraverted individual to experience more positive affect because sociable people have more pleasant interpersonal contacts, thereby increasing their positive emotional experiences.

Of course, because our data are correlational in nature, we cannot confidently make causal claims. The paths estimated in the structural equation models did represent directional hypotheses but they do not definitively imply causal relationships between the measured variables. For example, if we conceptualize neuroticism and evaluation as distinct but related constructs (rather than conceptualizing evaluation as a component of neuroticism as we have done), then we have demonstrated that evaluation is more important to the prediction of

negative affect than is neuroticism. From this theoretical position, the willingness to endorse negative traits or admit to negative experiences, independent of their descriptive content, was a more powerful predictor of negative affect than were self-descriptions of neuroticism. Alternatively, it is possible that evaluation is a valid component of one personality construct (e.g., neuroticism) but not of the other (e.g., extraversion). In the face of correlational data, we obviously cannot completely disambiguate the possible interpretations. That is the work of future research.

## CONCLUSIONS

The findings reported here suggest that the role of evaluative responding in existing relationships between personality and emotion may be more influential than previously acknowledged. By explicitly identifying evaluation in personality-emotion relationships as we have done, we can better understand how personality and emotion come to be related. Furthermore, exploring evaluation in personality constructs may lead to a better understanding of the mechanisms behind the personality-emotion relationship.

## NOTES

1. Fixing the error term for the emotion variables (Negative Affect [NA] and Positive Affect [PA]) to account for unreliability of the scale as specified in LISREL VIII (Joreskog & Sorbom, 1993) did not affect model fit.

2. Because the Affective Orientation (AO) and Interaction Orientation (IO) descriptive scales correlated with some of the evaluation measures, they cannot be considered purely descriptive nonevaluative measures of personality.

3. AO from the Saucier measure was less strongly correlated with the neuroticism scales from the Revised NEO Personality Inventory (NEO PI-R) and Eysenck measures than these scales were correlated with each other. Because some may argue that this lower correlation indicates that this scale is not measuring the same construct, we reran the structural models without this scale. The results were identical to when the scale was included. Furthermore, because some of the Neuroticism subscales from the NEO PI-R were representative of negative affect (i.e., Anxiety, Hostility, and Depression subscales), we removed these subscales and created a new neuroticism variable containing the remaining subscales. We reran the structural analyses with this new variable. The results were again identical to the original analysis.

4. Because one of the Extraversion subscales from the NEO PI-R represented positive affect (i.e., Positive Emotions subscale), we removed this subscale and created a new extraversion variable containing the remaining subscales. We reran the structural analyses with this new variable. The results were identical to the original analysis.

5. Some response artifacts are specific to particular questionnaires and may occur because of the scale used or the wording of the items. Multiple indicators of a construct, such as were used for evaluation and personality in this study, reduce the impact of this type of response artifact.

6. Although the descriptive personality scales (AO and IO) (Saucier, 1994) were constructed of evaluatively neutral terms, we found that each correlated with some evaluation measures. For the AO scale, this was consistent with past research (Saucier, 1994). The AO correlated with Peabody's (1967) evaluation factor, indicating that AO is not a purely descriptive measure. This further suggests that evaluation is an intrinsic aspect of emotionality. The IO scale did not correlate with

evaluation in past research (Saucier, 1994); therefore, it is unclear whether IO is a purely descriptive measure.

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