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Neuroticism, Negative Affect, and Negative Affect Instability: Establishing Convergent and Discriminant Validity Using Ecological Momentary Assessment

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Abstract

Few investigations have examined the role of affective instability within a broad model of general personality functioning. The present study employed self-report and ecological momentary assessments (EMA) to examine the relations between self-reported Five-Factor Model Neuroticism, EMA average negative affect, and EMA negative affect instability. Results suggest that Neuroticism and negative affect instability are related yet distinct constructs, and that Neuroticism better represents average negative affect across time. Results also suggest that negative affect instability is related to low Agreeableness and specific externalizing facets of Neuroticism, such as Angry Hostility and Impulsiveness. The implications of these findings and potential areas for future research are discussed.

Keywords

neuroticism; affective instability; personality; ecological momentary assessment

Negative affect (NA) plays an important role in many forms of Axis I and Axis II psychopathology (Clark, Watson, & Mineka, 1994; Watson, 2005). Models of general personality functioning typically contain a factor (e.g., neuroticism, negative emotionality) that represents a stable predisposition to NA states. Although much research suggests that NA is associated with a range of Axis I (Clark, 2005) and Axis II disorders (Bagby, Costa, Widiger, Ryder, & Marshall, 2005; Lynam & Widiger, 2001), some researchers have argued that affective instability plays a more important role in several forms of psychopathology (e.g., borderline personality disorder; Trull, Solhan, Tragesser et al., 2008) and may not be sufficiently captured by general models of personality (Kamen, Pryor, Gaughan, & Miller, in press; Miller & Pilkonis, 2006). The current study explores the latter claim by examining the relations between average NA, affective instability, and stable traits from the Five-Factor Model (FFM) of personality.

Affective instability has been defined as a dynamic process involving three components: extreme shifts in mood, exaggerated reactivity to environmental stimuli, and an ephemeral,

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fluctuating mood course (Trull, Solhan, Tragesser et al., 2008). Given the complexity of NA instability and its conceptual departure from the more general “predisposition to negative affect states” found in basic personality models, it is possible that these basic models fail to capture an important aspect of psychopathology (Miller & Pilkonis, 2006). In fact, early evidence suggests that affective instability provides unique prediction of functioning even after controlling for Neuroticism (Bagge et al., 2004). One explanation is that while structural models of personality capture average levels of behavior, attitudes, values, desires, and affective states, they neglect the dynamic processes that occur between the individual and the environment over time (e.g., Ormel, Rosmalen, and Farmer, 2004). Ormel et al. (2004), for example, suggest that Neuroticism items typically lack a well-defined time frame; use vague qualifiers of frequency, intensity, and duration; lack relevance/importance; overlap too much with symptoms of depression and anxiety; and are non-informative because Neuroticism reflects a person’s mean level of distress over an extended period of time.

The extent to which NA instability is captured by NA trait terms from general models of personality (e.g., Neuroticism) remains unresolved. Despite conceptual divergences between NA instability and Neuroticism, empirical divergences are inconsistent. For example, Clarkin, Hull, Cantor, and Sanderson (1993) found labile affect, as measured by the semistructured Structured Clinical Interview for DSM-III-R (SCID-II; Spitzer, Williams, Gibbon, & First, 1990), to be nonsignificantly related to the five domains and six Neuroticism facets of the NEO PI. Also using the NEO PI and SCID-II, however, Miller and Pilkonis (2006) found their measure of affective instability (a composite of four interview items) to be significantly positively related to Neuroticism and negatively related to Agreeableness. Similarly, employing two self-report measures (the DAPP-BQ for affective lability and the 4DPT for general personality), van Kampen (2002) found affective lability to be strongly positively related to Neuroticism and Insensitivity (the inverse of NEO PI Agreeableness; see van Kampen, 2002). Each of these studies defined and measured affective instability differently, and all shared several limitations. First, these studies focused solely on Neuroticism. Although nominally Neuroticism would seem to be the seat of negative emotions, other dimensions of the FFM have been shown to be related to concurrent and future negative affective experience (Rolland & De Fruyt, 2003). Second, two of the studies examined personality at the level of the higher-order domain score and not at the level of individual facets; however, resolution is likely to be much better at the facet-level. Lastly, all studies utilized self-report or interview-based measures, which fail to truly represent the dynamic, temporal aspect of affective instability.

More recent research has explored the other NEO PI-R domains in more detail (Kamen et al., in press) and some has addressed the dynamic, temporal aspect of affective instability by employing a new methodology—Ecological Momentary Assessment (EMA; see Trull, Solhan, Tragesser et al., 2008). With respect to relations between NEO PI-R domains and affective instability, results have shown significant interactions between Neuroticism and other domains to predict affective instability, significant relations between Agreeableness and affective instability across two measurement methods (Miller & Pilkonis, 2006; Trull, Solhan, Hallgren et al., 2008), and small to moderate relations between Extraversion, Openness, Conscientiousness, and affective lability/instability (Kamen et al., in press). The use of EMA has also provided new means to address state (aggregated) and trait (Neuroticism) negative affect convergence. Research has generally shown aggregated state and trait negative affect to be strongly related (De Gucht, Fischler, & Heiser, 2004), but in some studies, relations have been moderate (S. Armeli, personal communication, January 7, 2009; Watson, Clark, McIntyre, & Hamaker, 1992). Although recent studies have addressed NEO PI-R domains and the dynamic process of affective instability in more detail, few studies have examined the convergence between aggregated state and trait negative affect and no study has addressed

Neuroticism and affective instability in concert or explored specific facets of NEO PI-R domains outside of Neuroticism.

Current Study

The current study examined the relations between average negative affect (NA), NA instability, and FFM traits. Previous studies focusing on affective instability have used self-report measures (e.g., PAI Borderline scale, Affective Lability Scale; see Kamen et al., in press; Tragesser, Solhan, Schwartz-Mette, & Trull, 2007) or diagnostic interviews (e.g., Structured Clinical Interview for DSM-III-R Personality Disorders; Clarkin et al., 1993; Miller & Pilkonis, 2006), which are limited in that they rely on retrospective recall, lack internal consistency, and do not provide the respondent with time frames (i.e., Over the last week? Month? Year?) or thresholds (i.e., How many times must this experience occur in order for it to be considered “characteristic”). Technological advances in the last several years have enabled the use of electronic diaries for Ecological Momentary Assessment (EMA). This method provides several advantages over self-report methods, including minimizing effects unique to recall and recording more accurate dates and times of events (Piasecki, Hufford, Solhan, & Trull, 2007). EMA also provides better estimates of mean levels of subjective variables (e.g., mood) because they are not influenced by rare but salient moments of extreme experiences (Piasecki et al., 2007).

Although recent investigations have successfully linked affective instability to various forms of psychopathology using this methodology (e.g., borderline personality disorder, Trull, Solhan, Tragesser et al., 2008), none have employed it to examine the relations between trait, state, and labile NA. In sum, the current study used a combination of self-report and EMA methods to build on the previous finding that NA instability and Neuroticism are distinct, yet related constructs (Kamen et al., in press; Miller & Pilkonis, 2006), examined the convergent validity of average NA with Neuroticism, compared average NA and NA instability in their relations to all FFM domains and facets, and explored whether specific forms of NA and NA instability bear differential relations to FFM domains and facets. Understanding where affective-related constructs fit into a general model of personality will provide insight into the assessment of affect-related constructs and corresponding psychopathology.

Method

Participants

Participants were 79 (25 men, 54 women) undergraduate students at a large, Midwestern university recruited through an introductory psychology pool and given course credit for their participation. Although age and race were not reported, the university's undergraduate study body is 82% Caucasian, 7% International, 5% Asian-American, 3% African-American, 2% Hispanic/Latino, and 1% Native American.

Self-Report Measures

NEO Personality Inventory—Revised (NEO PI-R)—The NEO PI-R (Costa & McCrae, 1992) is a 240-item self-report inventory designed to measure the components of personality as outlined by the Five Factor Model. The instrument contains five personality domains: Neuroticism (N), Extraversion (E), Openness (O), Agreeableness (A), and Conscientiousness (C), which each contain six subscales or “facets”. Internal consistencies in the present sample for the N, E, O, A, and C domains were .86, .86, .88, .86, and .87, respectively. Facet scale internal consistencies ranged from .53 (A6: Tender-Mindedness) to .83 (O5: Ideas) with a mean of .68.

Ecological Momentary Assessment Measures

Negative Affect and Affect Variability—NA consisted of several items taken from the PANAS (Watson, Clark, & Tellegen, 1988) (guilty, ashamed, nervous, irritable) as well as several items similar to those on the PANAS, including worried, sad, gloomy, angry, stressed, and overwhelmed. Participants were asked to rate their current affective state using a 5-point Likert scale ranging from 1 (not at all) to 5 (very much) (e.g., At this present moment, I feel...irritable). Average NA across the week was calculated by averaging each participant's responses to NA items at each assessment and then averaging across all assessments. Although few participants completed questionnaires at all 56 time points, there were only missing data between and not within assessments. Thus, averages were calculated across all completed questionnaires. In the current sample, the internal consistency of NA was .93.

Negative affective instability was defined in the current study as “extreme and frequent fluctuations” in NA over time (Trull, Solhan, Hallgren et al., 2008). Because using NA variance as a measure of instability fails to take into account temporal dependency of affect ratings, we used the mean-squared successive difference (MSSD) as a measure of instability. The MSSD takes into account the amplitude and frequency of change as well as the temporal dependency of affect ratings and results in the following equation:

$$MSSD = \frac{1}{N-1} \sum_{i=1}^{N-1} (x_{i+1} - x_i)^2$$

where x indicates the time at i and N indicates the number of assessments. To calculate the average NA instability, MSSDs for each NA item were averaged.

In order to determine if specific types of affect had unique relations to domains and facets of the NEO PI-R, we derived rationally- and empirically-based depressive (DEP), anxious (ANX), and anger (ANG) affect variables using a similar process (i.e., computing both averages and MSSDs for composites of ESM affect items). DEP is a composite of “sadness” and “gloominess.” ANX is a composite of “worry” and “nervousness.” ANG is a composite of “anger” and “irritability.” These scales obtained internal consistencies of .74, .94, and .82, respectively.

Procedure

Participants completed the study in two phases. The first phase took participants approximately one hour and involved completing several computer-based self-report questionnaires. Following the first phase, participants were oriented to Palm Pilot personal digital assistants (PDAs) and given the opportunity to ask questions as well as the experimenter's contact information in case technical support was needed. To maximize compliance, participants were also told that 80% of the questionnaires would need to be completed to receive full credit for their participation. The second phase involved participants carrying around PDAs using Purdue Momentary Assessment Tool (PMAT; details available from the author) software for one week. PDAs signaled and presented participants with questionnaires eight times each day during the hours of noon and midnight. Participants were signaled between the hours of noon and midnight based on the typical college student sleep schedule and because endorsement rates are extremely low in the morning hours. Signals occurred randomly once within each of 8, 90-minute time blocks. Once signaled, participants had up to 5 minutes to initiate responding and up to 2 minutes to complete each question on a questionnaire asking about current mood and several other variables (details from the author). When the questionnaire was completed, the PDA deactivated until the next signal. Participants returned to the lab at the end of one week.

to be debriefed and have their data downloaded. Participants completed an average of 76% (SD = 16%) of the questionnaires.

Statistical Analyses

First, to examine convergent and discriminant validity, relations between EMA average NA, EMA NA instability, and NEO-PI-R domains and facets were examined using zero-order correlations. Second, regression analyses were conducted to examine how much variance in EMA affect variables could be explained by the 30 facets of the NEO PI-R. To further test convergent and discriminant validity, we compared the pattern of personality correlations for EMA average NA to the pattern obtained for EMA NA instability using an intraclass Q-correlation, which accounts for differences in both magnitude and shape. The intraclass Q-correlation is essentially a double-entry correlation in which the 30 facets serve as cases and the variables are EMA average NA and EMA NA instability. Third, relations between NEO-PI-R traits and EMA average affect and affect instability for specific affects (e.g., depressive affect, anxious affect, externalizing affect) were examined using zero-order correlations. Lastly, we explored whether Neuroticism interacted with any of the other FFM domains to predict general or specific types of EMA NA instability using regression analyses.

Results

EMA Negative Affect and Neuroticism Traits

Correlations between EMA NA variables and Neuroticism (N) are presented in Table 1. EMA average NA and NA instability were strongly related—an expected result given the high correlations between the means and mean-squared successive differences. N at the domain level and EMA average NA were significantly and moderately correlated, whereas N and NA instability were not significantly correlated. Results were somewhat different at the facet level, as NA instability was significantly related to two of the six facet scales of N. Both Angry Hostility (N) and Impulsiveness (N) predicted affective instability. Lastly, all interactions between Neuroticism and other domains were nonsignificant (all β s < .08, all p s > .50).

EMA Negative Affect and other Five Factor Model Traits

With respect to the other Five Factor Model domains, average NA and NA instability were significantly negatively related to Agreeableness (A; see Table 1). At the facet level, NA instability was significantly negatively related to Compliance (A4) and marginally significantly negatively related to Altruism (A3) and Self-Discipline (C5). Average NA was significantly positively related to Openness to Feelings (O3), significantly negatively related to Altruism (A3) and Compliance (A4), and marginally significantly negatively related to Straightforwardness (A2), Order (C2), and Self-Discipline (C5).

Although Costa and McCrae (1992) reported only a modest relation between N and A domains ($r = -.25$), Angry Hostility (N2) demonstrated relations of $-.47$, $-.42$, $-.34$, and $-.49$, with A, Trust (A1), Altruism (A3), and Compliance (A4), respectively. Thus, it is possible that A may include variance redundant with the angry and impulsive traits of N. To test this, we conducted hierarchical regression analyses to see if Compliance provided additional unique variance over and above the significant N facets (e.g., Angry Hostility, Impulsiveness). Angry Hostility ($\beta = .20$; $p = .08$) and Impulsiveness ($\beta = .19$; $p = .11$) were entered at Step 1, which accounted for 9% of the variance in EMA NA instability, and Compliance ($\beta = -.25$; $p = .08$) was entered at Step 2, which accounted for an additional 4% of the variance. Thus, it appears that particular aspects of A, such as Compliance and to a lesser extent Altruism, may play a role in predicting NA instability in addition to previously established relations with N facets (e.g., Angry Hostility; Costa & McCrae, 1992), though in the current study this contribution was of marginal significance. Together, the 30 facets of the NEO PI-R accounted for 64% and 56% of the

variance in EMA average NA and affective instability, respectively (see Table 1). Despite some divergences in statistical significance in the facet-level relations, differences in these dependent relations were typically small (Mean $d = .03$, $SD = .16$). Further, the general trait profiles for average NA and NA instability were quite consistent, as evidenced by a double-entry correlation between facet profiles equal to .90.

Specific EMA Negative Affects and Five Factor Model Traits

With regard to specific types of NA (i.e., DEP, ANX, ANG), results were largely consistent with those for average NA and NA instability; double-entry Q-correlations for DEP affect/instability, ANX affect/instability, and ANG affect/instability were .86, .90, and .80, respectively. Average NA and instability evidenced similar relations to personality domains and facets, irrespective of the type of NA. However, with respect to the magnitude of prediction, affect types diverged. That is, NEO PI-R facets best captured DEP affect and instability, followed by ANG and ANX affect/instability (see Table 1 R^2 values). The most marked divergences occurred on Neuroticism and Agreeableness; DEP average and instability were significantly negatively related to Angry Hostility, Impulsiveness, Straightforwardness, Altruism, and Compliance, whereas ANG was only significantly negatively related to Compliance and ANX was not significantly related to any facet.

Discussion

The purpose of the current study was to better understand the relations between average NA, NA instability, and personality traits by using a combination of self-report and EMA methods. Specifically, we sought to test how well EMA NA variables were captured by Five Factor Model domains and facets. Consistent with previous research (De Gucht, Fischler, & Heiser, 2004), convergence between EMA NA variables was strong. However, as noted previously, much of their convergence could be attributed to how they were operationalized (i.e., shared method variance or similarities between means and MSSDs). With respect to the convergence between affective instability and NEO PI-R domains, results indicated that EMA NA instability marginally converged with Neuroticism. This finding is consistent with previous research suggesting affective instability and Neuroticism are distinct yet related constructs (Kamen et al, in press; Miller & Pilkonis, 2006). Additionally, both EMA NA variables were significantly related to Agreeableness and EMA average NA was significantly related to Neuroticism. However, they converged only moderately well and contrary to previous research (Trull, Solhan, Hallgren et al., 2008), domains failed to interact with Neuroticism to improve prediction of affective instability. Still, as low Agreeableness represents a proclivity towards outer-focused, antagonistic interactions, significant relations between Agreeableness and NA instability indicate that NA instability may be part of having an aggressive, impulsive, or antisocial interpersonal style, and that Agreeableness may also index affect-related constructs. Despite these significant relations, the fact that construct convergence was only moderate provides some support for previous claims that affect-related constructs are not sufficiently captured by general models of personality at the domain level (Kamen et al, in press; Miller & Pilkonis, 2006).

At the facet level, the 30 facets consistently obtained stronger relations with average negative affect than negative affect instability. However, divergences between EMA NA variables in their relations to NEO PI-R facets were typically small and the high double-entry correlation provides little evidence for their discriminant validity. Altogether the facets predicted an appreciable amount of variance in both EMA NA variables, which suggests general models of personality can, in part, capture affect-related variables. Individually, however, only several facets were significantly related to EMA NA variables and relations were moderate in effect. However, the fact that specific facets from both Neuroticism (Angry Hostility, Impulsiveness)

and Agreeableness (Altruism, Compliance) predicted affective instability is interesting given that these facets are indicators of outer-focused, rather than inner-focused (i.e., Depression, Anxiety, Self-consciousness), aspects of N and antisocial aspects of A. These specific relations suggest that impulsive, antisocial facets of general models of personality may be important in capturing affective instability.

With respect to specific types of EMA NA, one might expect DEP, ANX, and ANG to be most strongly related to their corresponding NEO PI-R facets (e.g., Depression (N3), Anxiety (N1), Angry Hostility (N2), respectively). However, current results and emerging data (see Trull, Solhan, Hallgren et al., 2008) suggest this may not be the case. That is, EMA affect and instability and NEO PI-R domain and facets have been shown to be relatively non-specific markers of each other (Trull, Solhan, Hallgren et al., 2008) and our results showed no evidence of divergence between domains or facets and their relations to their corresponding negative affects. Thus, while the NEO PI-R appeared to be a sufficient index of general EMA affect and instability, its ability to discriminate between specific types of mean NA and NA instability is yet to be demonstrated.

Limitations and Future Directions

Several limitations are worth noting. First, the current study focused on between-individual (i.e., trait-level), rather than within-individual (i.e., state-level), observations; thus, the small sample size may have impaired our ability to detect significant differences. This level of comparison was chosen, however, because our primary research questions involved comparisons at the trait level rather than comparisons across levels of measurement. Still, future studies should attempt to use larger samples so as to maximize their ability to detect what appear to be small differences between EMA negative affect variables. Second, EMA variables were based on responses over only one week. As a result, our assessment of average NA may not represent trait-level NA—a disconnect potentially responsible for the moderate relation between average NA and Neuroticism. Assessing individuals across longer periods of time (e.g., one month) would be useful in future studies in order to gain better estimates of average NA. Third, because our sample consisted of only undergraduates, it is possible that they did not achieve the range of average NA or instability typical in more disordered populations. Examining EMA negative affect and instability in concert with a general model of personality in clinical populations may provide insight into these measures' coverage of more extreme negative affect and instability.

Despite the limitations of the study, these findings have important implications for how we measure affect-related constructs. Previous research emphasizing the shortcomings of general models of personality in assessing affect-related constructs (Eid & Diener, 2004; Miller & Pilkonis, 2006; Ormel et al., 2004) may be premature. While Neuroticism may only capture parts of affect-related constructs, the shortcomings of general models of personality may have been overstated because other domains and their subordinate facets were heretofore neglected. While Extraversion has been utilized as a proxy for positive affect, Agreeableness has garnered little attention in terms of NA despite its significant relations to affective instability (Miller & Pilkonis, 2006). The results for Agreeableness suggest that it is not only an interpersonal dimension, but also an affective dimension. Specifically, it appears to capture the antagonistic, oppositional disregard for others' feelings that can accompany unstable feelings of depression, anxiety, and anger. Thus, future studies of affect in the context of general, trait models of personality would be prudent to include all domains and facets.

The current results demonstrate that affective instability is distributed across several domains of the Five-Factor Model and that affective instability is not necessarily a unitary construct. We conclude that the complexity of affect-related constructs can be better understood within

the context of general models of personality if multiple domains and facets are utilized, but that they still are not fully captured or understood within this framework.

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Table 1

Means, Standard Deviations, and Correlations

	NA			DEP			ANX			ANG		
	Mean	SD	Avg.	Instab.	Avg.	Instab.	Avg.	Instab.	Avg.	Instab.	Avg.	Instab.
EMA Average NA	1.45	.32	1									
EMA NA Instability	.79	.75	.62***	1								
EMA Average DEP	1.36	.38	.78***	.51***	1							
EMA DEP Instability	.68	.83	.55***	.91***	.63***	1						
EMA Average ANX	1.46	.39	.88***	.53***	.56***	.39***	1					
EMA ANX Instability	.83	.84	.60***	.90***	.40***	.75***	.39***	1				
EMA Average ANG	1.45	.36	.87***	.61***	.58***	.52***	.68***	.53***	1			
EMA ANG Instability	.87	.82	.54***	.89***	.39***	.76***	.42***	.72***	.68***	1		
Neuroticism	17.85	2.32	.27*	.18	.23*	.23*	.20 [†]	.16	.19	.07		
Anxiety	3.23	.50	.14	.08	.11	.14	.10	.11	.05	-.05		
Angry Hostility	2.75	.60	.33***	.24*	.38***	.27*	.18	.18	.25*	.15		
Depression	2.91	.64	.17	.07	.09	.08	.15	.10	.10	.01		
Self-Consciousness	3.04	.58	.08	-.02	-.05	-.01	.10	.02	.06	-.03		
Impulsiven.	3.28	.54	.29**	.23*	.36**	.30**	.15	.14	.24*	.19 [†]		
Vulnerability	2.64	.49	.11	.14	.07	.20 [†]	.13	.14	.08	-.004		
Extraversion	20.88	2.10	.13	.10	.09	.05	.12	.06	.14	.12		
Warmth	3.88	.45	-.07	.004	-.14	-.02	-.05	.04	-.01	.01		
Gregariousn.	3.35	.70	.13	.11	.09	.06	.17	.11	.09	.09		
Assertiveness	3.15	.59	.13	.06	.06	-.05	.08	-.03	.17	.16		
Activity	3.20	.47	.14	.12	.16	.13	.08	.03	.16	.11		
Excitement-Seeking	3.68	.54	.14	.06	.27*	.13	.09	.04	.05	-.004		
Positive Emotions	3.62	.45	.02	.01	-.14	-.08	.04	.06	.08	.07		
Openness	20.36	2.24	.14	.04	.13	.03	.12	.04	.19 [†]	.08		
Fantasy	3.32	.62	.12	.12	.12	.09	.11	.11	.17	.15		
Aesthetics	3.23	.74	.06	.04	-.003	.001	.07	.05	.09	.04		

	NA			DEP			ANX			ANG		
	Mean	SD	Avg.	Instab.	Avg.	Instab.	Avg.	Instab.	Avg.	Instab.	Avg.	Instab.
Feelings	3.71	.46	.31**	.14	.19 [†]	.11	.18	.29**	.24*	.07		
Actions	2.96	.41	.01	-.01	.16	.11	-.05	.02	.03	.03		
Ideas	3.54	.67	.19 [†]	.03	.30**	.05	-.02	.13	.20 [†]	.07		
Values	3.62	.56	-.13	-.18	-.25*	-.23*	-.10	-.13	.003	-.06		
Agreeableness	20.02	2.07	-.31**	-.23*	-.53***	-.28*	-.13	-.15	-.18	-.13		
Trust	3.36	.62	-.12	-.07	-.25*	-.12	.00	-.05	.01	.05		
Straightforw.	3.09	.52	-.22 [†]	-.18	-.46***	-.23*	-.07	-.06	-.11	-.12		
Altruism	3.88	.41	-.28*	-.19 [†]	-.45***	-.27*	-.13	-.19 [†]	-.19 [†]	-.10		
Compliance	3.04	.58	-.37***	-.31**	-.44***	-.30**	-.23*	-.20 [†]	-.30**	-.26*		
Modesty	3.24	.55	-.14	-.05	-.37***	-.12	-.04	-.05	-.08	-.01		
Tender-Mindedness	3.52	.45	.01	.06	.02	.03	.10	-.01	.01	.07		
Conscientious.	20.08	2.12	-.18	-.13	-.19 [†]	-.16	-.17	-.16	-.24*	-.09		
Competence	3.60	.44	-.07	-.01	-.05	-.06	-.10	-.15	-.03	.10		
Order	3.18	.60	-.19 [†]	-.14	-.14	-.12	-.13	-.08	-.26*	-.13		
Dutifulness	3.55	.49	-.10	-.12	-.18	-.13	-.16	-.12	-.15	-.09		
Achievem.-Striving	3.40	.50	.01	.04	.01	.02	-.002	-.01	-.08	.01		
Self-Discipline	3.27	.54	-.20 [†]	-.21 [†]	-.22 [†]	-.29**	-.19	-.19 [†]	-.25*	-.13		
Deliberation	3.08	.57	-.14	-.06	-.15	-.05	-.11	-.10	-.17	-.08		
R ² using all facets			.64	.56	.78	.65	.47	.55	.62	.54		

Note. N = 79; EMA = Ecological Momentary Assessment; NA = Negative Affect

[†] p ≤ .10

* p ≤ .05

** p ≤ .01

*** p ≤ .001